

National Aeronautics and Space Administration



**Headquarters**

Washington, DC 20546-0001

Reply to attn. of: Office of Communications

October 18, 2022

John Greenewald, Jr.  
The Black Vault, Inc.  
27305 W. Live Oak Rd., Suite 1203  
Castaic, CA 91384-4520  
[john@greenewald.com](mailto:john@greenewald.com)

Re: FOIA Tracking Number 21-HQ-F-00603

Dear Mr. Greenewald:

This is our sixth and final interim response to your Freedom of Information Act (FOIA) request to the National Aeronautics and Space Administration (NASA), the clarified version of which was received in this office on July 22, 2021. As further discussed, this is also our final response to your FOIA request, as all responsive records have now been produced. In sum, you requested the following:

*ALL emails, with any level of classification (list of NASA personnel below), which contain the following keywords:*

*“Unidentified Aerial” and/or  
“Unidentified Flying” and/or  
“UAP” and/or  
“UFO” and/or  
“Unidentified Spacecraft” and/or  
“Unidentified aircraft” and/or  
“UAPTF”*

*PLEASE INCLUDE ALL ATTACHMENTS TO EMAILS FOUND . . . search the [following] e-mail boxes, with the time frames in the parentheses:*

- *Mike Gold, Acting Associate Administrator, Office of International and Interagency Relations (November 2019 - May 2021)*
- *Joel Montalbano, International Space Station (ISS) Program Manager (January 1, 2020, through the date of processing the request)*

- *Margaret Kieffer, Director of the Export Control and Interagency Liaison Division (January 1, 2017 - the date of processing this request)*
- *Suzanne Gillen, Former Associate Administrator for Legislative Affairs (January 1, 2017 - January 20, 2021)*
- *Dr. Ravi Kumar Kopparapu, Research AST, Planetary Studies (August 1, 2015 - the date of processing this request)*
- *Sandra E. Connelly, Deputy Associate Administrator (January 1, 2020 - the date of processing this request)*
- *Karen Feldstein, Associate Administrator for International and Interagency Relations (January 1, 2016 - the date of processing this request)*
- *Dr. Michael New, Deputy Associate Administrator for Research (June 1, 2018 - the date of processing this request)*
- *Dr. Paul Hertz, Astrophysics Division Director (April 1, 2000 - the date of processing this request)*
- *Bhavya Lal, Senior Advisor for Budget and Finance (January 1, 2020 - the date of processing this request)*
- *Thomas Zurbuchen, NASA Science Associate Administrator (June 11, 2021 - the date of processing this request)*

Our previous responses dated October 6, 2021, January 11, 2022, March 25, 2022, July 19, 2022, and September 16, 2022 notified you that we tasked NASA's Office of Information Technology (IT) to search the email accounts of the above-named officials using the key words and date ranges you specified. That search located voluminous records as further explained in the fee section below. The September 16 response provided you with 370 pages of records from the account of Dr. Ravi Kumar Kopparapu and notified you that we continue to process remaining records which will be issued to you on a rolling basis.

At this time, we have completed the processing of this request. The enclosed records are from the accounts of Ravi Kumar Kopparapu, Michael New, Karen Feldstein, Bhavya Lal, and Margret Kieffer. This is our final response to your FOIA request, as all responsive records have now been produced.

As noted above, we completed processing the enclosed portion of responsive records. We reviewed them under the FOIA to determine whether they may be disclosed to you. Based on that review this office is providing the following:

331 page(s) are released in full (RIF); <sup>1</sup>  
348 page(s) are released in part (RIP);  
9 page(s) are withheld in full (WIF);  
472 page(s) are duplicate copies of material already processed.

NASA redacted from the enclosed documents certain information pursuant to the following FOIA exemptions:

#### **Exemption 5, 5 U.S.C. § 552(b)(5)**

Exemption 5 protects “inter-agency or intra-agency memorandums or letters which would not be available by law to a party other than an agency in litigation with the agency.” 5 U.S.C. § 552(b)(5). Courts interpret Exemption 5 to incorporate three primary privileges: the attorney work-product privilege, the attorney-client privilege, and the deliberative process privilege. NASA invokes the deliberative process privilege in this instance.

The deliberative process privilege is intended to protect the decision-making process of government agencies and to encourage frank discussion of legal and policy issues. The scope of the privilege covers documents reflecting advisory opinions, recommendations, and deliberations comprising part of a process by which government decisions and policies are formulated. To qualify for the deliberative process privilege, a document must be both “pre-decisional” and “deliberative.” Documents are pre-decisional when they precede an agency decision and are prepared in order to assist an agency in arriving at its decision. Documents are deliberative when they comprise part of the process by which government decisions are made. The type of records/information NASA withheld under this exemption consists of draft documents, portions of emails containing analyses, and recommendations and/or opinions expressed by employees. NASA considered the foreseeable harm that would result from the release of this information and determined that its release would hinder the decision-making process, create a chilling effect on internal deliberations, lead to uninformed decision-making, and public confusion. Please note that as a matter of administrative discretion, I released certain information falling under the umbrella of this exemption.

#### **Exemption 6, 5 U.S.C. § 552(b)(6)**

Exemption 6 allows withholding of “personnel and medical files and *similar files* the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.” 5 U.S.C. § 552(b)(6)(emphasis added). NASA invokes exemption 6 to protect unpublished NASA cell phone numbers, personal phone numbers, the names and contact information of third parties as well as any information that could identify such individuals.

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<sup>1</sup> All page counts are approximate numbers.

### **Referral**

Additionally, we referred 3 pages to the Office of the Secretary of Defense (OSD), 3 pages to the European Space Agency (ESA) and 4 pages to the United States Navy. OSD, ESA, and the Navy will process those pages under the FOIA and respond to you directly. Should you wish to contact that entity, their information is available at the following website:

<https://www.esd.whs.mil/FOID>

<https://www.esa.int/Services/Contacts>

<https://www.cnrc.navy.mil/About/Freedom-of-Information-Act/>

### **Fees**

Provisions of the FOIA allow us to recover part of the cost of complying with your request. The fees that may be assessed to process a FOIA request vary depending on the category into which the FOIA requester falls. 5 U.S.C. § 552(a)(4)(A)(ii)(I),(II),(III). Pursuant to the NASA implementing regulations, 14 C.F.R. § 1206.507(b), media requesters will be charged for duplication only, although the first 100 pages are free. Duplication costs thereafter are charged at a rate of \$0.15 per page. You have now been provided with a total of 602 pages. You have agreed to pay the estimated fee total of \$382.50 for the remaining records.

### **Appeal**

You have the right to appeal this response. Your appeal must be received within 90 days of the date of our final response. Please send your appeal to:

Administrator  
NASA Headquarters  
Executive Secretariat  
ATTN: FOIA Appeals  
MS 9R17  
300 E Street S.W.  
Washington, DC 2054

Both the envelope and letter of appeal should be clearly marked, "Appeal under the Freedom of Information Act." You must also include a copy of your initial request, the adverse determination, and any other correspondence with the FOIA office. In order to expedite the appellate process and ensure full consideration of your appeal, your appeal should contain a brief statement of the reasons you believe this initial determination should be reversed. Additional information on submitting an appeal is set forth in the NASA FOIA regulations at 14 C.F.R. § 1206.700.

### Assistance and Dispute Resolution Services

If you have any questions, please feel free to contact me at [Alyssa.k.bias@nasa.gov](mailto:Alyssa.k.bias@nasa.gov) or (202) 358-4664. For further assistance and to discuss any aspect of your request you may also contact:

Stephanie Fox  
FOIA Public Liaison  
Freedom of Information Act Office  
NASA Headquarters  
300 E Street, S.W., 5P32  
Washington D.C. 20546  
Phone: 202-358-1553  
Email: [Stephanie.K.Fox@nasa.gov](mailto:Stephanie.K.Fox@nasa.gov)

Additionally, you may contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services it offers. The contact information for OGIS is as follows: Office of Government Information Services, National Archives and Records Administration, 8601 Adelphi Road-OGIS, College Park, Maryland 20740-6001, e-mail at [ogis@nara.gov](mailto:ogis@nara.gov); telephone at 202-741-5770; toll free at 1-877-684-6448; or facsimile at 202-741-5769.

**Important:** Please note that contacting any agency official including the undersigned, NASA's Chief FOIA Public Liaison, and/or OGIS is not an alternative to filing an administrative appeal and does not stop the 90 day appeal clock.

Sincerely,



Alyssa Bias  
Government Information Specialist

This document is made available through the declassification efforts  
and research of John Greenewald, Jr., creator of:

# The Black Vault



The Black Vault is the largest online Freedom of Information Act (FOIA) document clearinghouse in the world. The research efforts here are responsible for the declassification of hundreds of thousands of pages released by the U.S. Government & Military.

**Discover the Truth** at: <http://www.theblackvault.com>

**From:** [Kathryn E. L. Denning](#)  
**To:** [Jason Wright](#); [Hector Socas-Navarro](#)  
**Cc:** [Jacob Haqq Misra](#); [STEVEN DICK](#); [Anamaria Berea](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Eghigian, Greg](#); [\(b\) \(6\)](#); [Julia DeMarines](#); [Chelsea Haramia](#); [Margaret Turnbull](#); [Franck Marchis](#); [Clément Vidal](#); [Steve Croft](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)](#)[Science Collaborator]  
**Subject:** RE: [EXTERNAL] IAA PC SETI UFO text  
**Date:** Saturday, May 8, 2021 4:29:26 PM

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Hi All:

Sorry to take a while to weigh back in. I think this discussion has been extremely useful, and thanks, Jason, for shepherding.

Over the last couple of weeks I have chatted a bit with several other colleagues, and I am now looping in Steve Croft, who has expressed an interest in this conversation. (Steve, hi – it was a long journey to get to the present draft, but I’m not forwarding all the prior correspondence in this thread.)

At the risk of taking a step backwards, here is my current thinking, which I hope speaks to some of the questions a couple of people have asked.

I made an inquiry about the rejected abstracts which kicked off the larger conversation on the IAA list, because I wanted some information that would help us separate out

- the larger question of defining SETI’s edges, which has both pragmatic and philosophical aspects
- the practical question which has concerned some colleagues on this list, i.e. what is actually being rejected and exactly why?

Obviously, this query of mine was “iffy” because refereeing processes are not public. However, I thought that the current circumstances warranted an inquiry about the contents of that particular black box, because

- the specific rejection of UAP abstracts was mentioned by the committee’s Chair over an open list, in a way that generated debate
- there is the *practical* question (what sorts of abstracts are *actually* being submitted and rejected?) as well as the *principle* question (what sorts of abstracts *should* be rejected, and why?)

If there isn’t really a practical problem currently, that can shape our approach to the principle question.

There is an entangled issue of “audience”, i.e. who do we imagine will be reading this Statement which would be posted on our website? E.g. Do we imagine that it would be the authors of rejected abstracts? UFO/UAP researchers? Astronomers? Students? Journalists? General SETI community list members who may have opinions but aren’t necessarily active researchers? I’m not sure we’re all thinking along the same lines.

Anyway, my understanding now, for whatever this is worth, is that the recently rejected abstracts were few in number and pretty clearly out of the ballpark. That is, it does not seem that these were

papers grounded in solid scientific method with reasonable interpretation, and it sounds as though there were problems of coherence as well as scope.

The question of “how exactly are abstracts for IAA SETI meetings actually refereed?” is also hovering over this conversation – good questions have been raised about that. Historically, I believe, it has been by subcommittee at in-person IAA meetings in March in Paris, which is why I don’t know anything about the process – as a Canadian academic, there’s no way I can participate in that, as well as go to a fall meeting to present a paper. I don’t know details of how this is being done now, or will be done in future, given the remote transformation of work lately. I also do not know how much latitude the IAA SETI committee has in terms of deciding how this process is conducted, or how much is dictated by IAA rules. That is something that we can inquire about, and probably should, particularly given that newer Committee members may not have this information, or know how to become involved in refereeing if they wish to be. This inquiry does not have to be coupled with this UFO/UAP issue, however.

So, about our current draft at:

<https://docs.google.com> (b) (6)

I’m close to signing it, but I’m not quite there.

I’ve just added some comments there, and have another observation to make.

I think this paragraph is giving me the most pause:

*Regardless, this committee’s exclusion of research into UFOs from its activities does not stem out of any judgement that such research is necessarily inappropriate or unscientific. The committee emphasizes that work on UFOs is not taboo, and that there is no ban on membership on the committee for those who do such work. This committee appreciates work to rigorously, scientific study of UFOs, including their societal impact.*

*Like all premises in science, our position that UFOs are not relevant to studies of alien technology is open to revision if the evidentiary conditions can be met. Given the committee’s areas of expertise, we are not in a position to judge which claims for UFOs being extraterrestrial in origin have scientific merit and which do not. Until other scientific experts can confirm that UFO research meets the evidential requirement, the committee will continue to focus its activities to its current scope of research, i.e. the astronomy-based search for evidence of extraterrestrial intelligence and closely related topics.*

Pragmatically speaking, I think this is inviting multiple lines of contestation... both from IAA SETI members (some of whom will *never* want to expand the scope) and from any UFO researchers who might be paying close attention (e.g. there are people with science degrees who some consider experts, who do say that the evidential requirement *has* been met). I appreciate that this is making a statement about logical principles, but I think we don’t have to spell out the conditions for a future change in scope. If something UFO-related is discovered and documented to a highly compelling scientific standard, the future Committee can deal with that.

So, here is a suggested edit:

*Although this committee does not generally include research into UFOs/UAP in its activities, we do not assert that all such research is necessarily inappropriate or unscientific, or that Committee members should never individually engage in such work. Although as a committee, we do not collectively evaluate the scientific merit of claims about UFOs being extraterrestrial in origin, we do appreciate the value of such scientific reviews and assessments. Collectively, our activities focus on the astronomy-based search for evidence of extraterrestrial intelligence and closely related topics.*

Sorry if these suggestions / observations disrupt an emerging consensus...

Cheers all,  
KD

....

On Thu, May 6, 2021 at 6:24 AM Jason Wright <(b) (6)> wrote:  
Hi, all. An update:

In our straw poll to assess how close we are we have:

6 Sign as is: Anamaria, Jason, Hector, Greg, Steve, and Franck

2 Do not sign: Jacob and Ravi

6 Have not voted: Kathryn, Klara, Clément, Maggie, Chelsea, Julia.

We are also waiting on comments from Kathryn and Klara, who asked for more time.

Jason

**From:** [Jason Wright](#)  
**To:** [Kathryn E L Denning](#)  
**Cc:** [Hector Socas-Navarro](#); [Jacob Haqq Misra](#); [STEVEN DICK](#); [Anamaria Berea](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Eghigian, Greg](#); [\(b\) \(6\)](#); [Julia DeMarines](#); [Chelsea Haramia](#); [Margaret Turnbull](#); [Franck Marchis](#); [Clément Vidal](#); [Steve Croft](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)](#)[Science Collaborator]  
**Subject:** Re: [EXTERNAL] IAA PC SETI UFO text  
**Date:** Monday, May 10, 2021 8:25:53 AM

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Thanks for these detailed thoughts, Kathryn! Some thoughts in response:

On Sat, May 8, 2021 at 4:28 PM Kathryn E L Denning <[\(b\) \(6\)](#)> wrote:

There is an entangled issue of “audience”, i.e. who do we imagine will be reading this Statement which would be posted on our website? E.g. Do we imagine that it would be the authors of rejected abstracts? UFO/UAP researchers? Astronomers? Students? Journalists? General SETI community list members who may have opinions but aren’t necessarily active researchers? I’m not sure we’re all thinking along the same lines.

For what it's worth, I had imagined that the current text was primarily a statement of principles for committee members and the members of the community list, to serve as a starting point for the more detailed discussions we envision. My secondary audience is the general public.

Anyway, my understanding now, for whatever this is worth, is that the recently rejected abstracts were few in number and pretty clearly out of the ballpark. That is, it does not seem that these were papers grounded in solid scientific method with reasonable interpretation, and it sounds as though there were problems of coherence as well as scope.

That's good to know. At the moment, would you say that it would seem that the committee is erring on the side of being inclusive, since as we've seen there have been some UFO-related abstracts in the past that were presumably of higher quality than these.

So, here is a suggested edit:

*Although this committee does not generally include research into UFOs/UAP in its activities, we do not assert that all such research is necessarily inappropriate or unscientific, or that Committee members should never individually engage in such work. Although as a committee, we do not collectively evaluate the scientific merit of claims about UFOs being extraterrestrial in origin, we do appreciate the value of such scientific reviews and assessments. Collectively, our activities focus on the astronomy-based search for evidence of extraterrestrial intelligence and closely related topics.*

I do like this revised version, with the caveat that I might not include the emphasized "all" because it can be read as a judgement that most UFO research fails this test (which I suspect is true but, as you say, invites debate). Unless I read objections in this thread (e.g. unless people will withdraw their approval if it's included) I'll incorporate it.

Sorry if these suggestions / observations disrupt an emerging consensus...

On the contrary, I think sharpening our meaning may help with consensus. Thanks for your input!

Cheers all,

KD

....

On Thu, May 6, 2021 at 6:24 AM Jason Wright <(b) (6)> wrote:

Duplicate email chain - already processed

## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

1 page(s) containing duplicate information is/are held in the file.

**From:** [Julia De Marines](#)  
**To:** [Kathryn E L Denning](#)  
**Cc:** [Anamaria Berea](#); [Chelsea Haramia](#); [Clément Vidal](#); [Eghigian, Greg](#); [Franck Marchis](#); [Hector Socas-Navarro](#); [Julia DeMarines](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Margaret Turnbull](#); [STEVEN DICK](#); [Steve Croft](#); [\(b\) \(6\)](#); [\(b\) \(6\)](#); [\(b\) \(6\)](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)](#)[Science Collaborator]  
**Subject:** Re: [EXTERNAL] IAA PC SETI UFO text  
**Date:** Monday, May 10, 2021 1:23:14 PM

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A quick chime in from me.

My last final is today and then my brain can think about this. I'm still here but hyper focused on school at the moment.

Best,  
Julia

On Mon, May 10, 2021 at 9:09 AM Kathryn E L Denning <[\(b\) \(6\)](#)> wrote:

Hi All,

Thanks Jason, Clément, Greg: all helpful input.

A couple of additional practical observations:

I've been on the committee since 2004-5 and in that time there has been a significant shift in members and expansion in size, as well as time marching on and external situations changing. I do think that some members have personally historically held, and may still hold, an A position, although others have ranged through B and C.

From what I know of the present committee, I reckon there will be a full spectrum of opinion between A-D with the majority coming down in B-C. But there's only one way to find out the distribution for sure, and that's to ask. I expect that some members will be set in their opinions, and others will be more flexible and/or more curious to learn about the current state of UFO/UAP work, though not necessarily able to devote much time/attention to it. (If I were doing a questionnaire, I'd be asking people not just to vote for one of A-D, but about how strongly they agree/disagree with each statement, and why.)

I think one important difference between B and C in pragmatic terms is about the potential consequences of a C position, i.e. whether or not one is willing to adopt a "C" position may depend on risk aversion and similar factors, rather than pure logic. E.g.

- Some members who have had to fight for the recognition of the scientific legitimacy of SETI and who have borne the consequences of a confusion between SETI and low-

quality UFO work, or who may have to defend this committee's work to scientific peers, may strongly prefer B. There may be a generational effect here.

- Implementing a "C" position requires members to place a lot of trust in referees.

Anyway, in reality, refereeing is a service performed by a few individuals, with their own opinions, and thus any position taken will probably not be implemented with exactitude – but that doesn't mean we shouldn't try for some more clarity.

Cheers,  
KD

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**From:** Eghigian, Greg <(b) (6)>  
**Sent:** Monday, May 10, 2021 11:16 AM  
**To:** (b) (6) Clément Vidal <(b) (6)>  
**Cc:** Kathryn E L Denning <(b) (6)> Hector Socas-Navarro  
<(b) (6)> (b) (6) STEVEN DICK <(b) (6)>  
Anamaria Berea (b) (6) ; Kopparapu, Ravi Kumar (GSFC-6990)  
<ravikumar.kopparapu@nasa.gov>; (b) (6) Julia DeMarines  
<(b) (6)> Chelsea Haramia <(b) (6)> Margaret  
Turnbull <(b) (6)> Franck Marchis <(b) (6)> Steve Croft  
<(b) (6)>  
**Subject:** Re: [EXTERNAL] IAA PC SETI UFO text

Hi Everyone,

A few comments on the most recent exchange.

I like the general thrust of Kathryn's draft paragraph (though, stylistically, I agree with Jason that one need not highlight "all," and there are two uses of the term "collectively" one after the other that requires revision). The more economical one can be in a statement such as this, the more effective it is.

I sympathize with Kathryn's point of not wanting to write a statement that only serves to promote contestation. Contentiousness is perhaps inevitable to some degree – and it can often be quite appropriate and productive – but I do think there is no need to unduly weigh in on issues that require addressing in other settings.

To my mind, I think Clément's comments serve to reinforce the idea that we need to be sparing in our wordsmithing: say only what needs to be said here. Personally, I think when it comes to the spectrum of positions Clément outlines, position B (outside the scope of IAA) is the most compelling. Others, however, may see it differently.

In any event, though, I think the discussion that has been going on among us demonstrates that there is a need at some point in the future for IAA SETI scholars to concertededly study, evaluate, and discuss the field's relationship to UFOs/UAPs and UFO/UAP investigation. I'm not sure whether this should be part of the general statement or not. It's clear, however, that we are not trying to be – and clearly can't be – the last word on this matter, and that should be communicated (I read Jason's comments as saying just this very thing).

Greg

Greg Eghigian

Professor of History

Penn State University

Department of History

108 Weaver Building

Penn State University

University Park, PA 16802

USA

Email: (b) (6)

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**From:** Jason Wright <(b) (6)>  
**Date:** Monday, May 10, 2021 at 8:37 AM  
**To:** Clément Vidal <(b) (6)>  
**Cc:** Kathryn E L Denning <(b) (6)> Hector Socas-Navarro  
<(b) (6)> <(b) (6)> STEVEN DICK  
<(b) (6)> Anamaria Berea <(b) (6)> "Kopparapu, Ravi  
Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, Greg Eghigian  
<(b) (6)> <(b) (6)> <(b) (6)> Julia DeMarines  
<(b) (6)> Chelsea Haramia <(b) (6)> Margaret  
Turnbull <(b) (6)> Franck Marchis <(b) (6)> Steve Croft  
<(b) (6)>  
**Subject:** Re: [EXTERNAL] IAA PC SETI UFO text

On Mon, May 10, 2021 at 5:36 AM Clément Vidal <(b) (6)> wrote:

Hi all,

Thanks for your inquiry into the abstracts and the insightful comments, Kathryn. I agree that your new paragraph is an improvement. I'm not ready to sign the document yet, even with your modifications, because it still lacks clarity and consistency.

Hi, Clément. Thanks for this.

I think the lack of clarity and consistency you have identified is actually intentional: we are following a two-pronged approach where here we here briefly and loosely define the *current* state of affairs (that UFO abstracts are generally excluded as out of scope but have been occasionally accepted), and recommend that another committee do the necessary work to establish clear and consistent rules regarding scope of the committee and UFOs.

- The key question is: Should we consider UFO/UAV research? Here is a spectrum of positions:

- A. Never, this has always been pseudoscience (gist of reason 1)
- B. Never, this is outside the scope and expertise of IAA (but other organizations can/should do it). (reason 2)
- C. Exceptionally (e.g. if good science and data is behind)
- D. Always (UFO/UAV phenomena are common, so the systematic examination of them under the ETI hypothesis should become routine and part of IAA's mission)

I think we can summarize this document as trying to convey "B is the current principle, with some historical exceptions, but there is a contingent that would like the larger committee to adopt C, and we recommend another committee to study that".

The main problem is that the possibility C. is loosely and vaguely opened in the current document. This is reflected in sometimes confusing and self-contradictory statements.

NO: "a document explaining the exclusion of such work"

YES: "explaining under what circumstances UFO abstracts could be accepted"

This is not really a contradiction. The first statement you quote is background describing the purpose of this ad hoc committee, and the purpose of its output. The second is part of its recommendation for the scope of another committee, which *could* do such a thing.

YES: "our position that UFOs are not relevant to studies of alien technology is open to revision if the evidentiary conditions can be met"

NO: "we are not in a position to judge which claims for UFOs being extraterrestrial in origin have scientific merit and which do not."

Does Kathryn's revision of these statements help?

To sum up, to make the document more consistent, I'd either make the exclusion stricter and clearer (i.e. stick to positions A. and B.); or better articulate the possibility of exceptions (position C).

Yes, this is also Ravi's and Jacob's position. Our compromise is to leave this activity and judgement for the *next* committee.

Does this distinction and Kathryn's edit bring the document up to where you would be comfortable signing on?

One suggestion I'll repeat, which I think will help sharpen this document, would be for Jacob, Ravi, and potentially Clément and others to draft a minority report laying out their position. This would allow more of the perspectives shared here to be brought back to the

committee, and help clear some of the muddle that our attempts at consensus have generated.

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-----  
Jason T Wright  
Professor of Astronomy & Astrophysics

Director, Penn State Extraterrestrial Intelligence Center

Acting Director, Center for Exoplanets and Habitable Worlds

NEID Instrument Team Project Scientist

he/him/his

<https://sites.psu.edu/astrowright/>

[@Astro\\_Wright](#)

--

**Julia DeMarines (she/her)**

PhD Student UC Berkeley | [Earth and Planetary Science Department](#) |  
Berkeley SETI Research Center | [Breakthrough Listen Lab](#) |  
National Geographic | [Explorer](#) | [Grosvenor Teacher Fellow](#) |  
BMS Institute of Science | [Research Scientist](#) |  
2019 AGU Voices of Science | [Advocate](#) |  
Ad Astra Academy | [Education Manager](#) |  
SAGANet.org | [Co-Founder](#) |

[Space in Your Face!](#)  
[JuliaDeMarines.com](#)

-(b) (6)

"The Universe is a pretty big place, it's bigger than anything anyone has ever dreamed of before. So if it's just us, seems like an awful waste of space." - Carl Sagan (Contact)

**From:** [Clément Vidal](#)  
**To:** [Jason Wright](#); [Kathryn E. L. Denning](#); [Hector Socas-Navarro](#); [Jacob Haqq Misra](#); [STEVEN DICK](#); [Anamaria Berea](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Eghigian, Greg](#); [\(b\) \(6\)](#); [Julia DeMarines](#); [Chelsea Haramia](#); [Margaret Turnbull](#); [Franck Marchis](#); [Steve Croft](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)](#)[Science Collaborator]  
**Subject:** Re: [EXTERNAL] IAA PC SETI UFO text  
**Date:** Tuesday, May 11, 2021 7:23:56 AM

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Hi Jason,

Thanks for your clarifying replies. I somehow did miss the layered aspect of the document and the intention of creating a new ad hoc committee when I focused on re-reading the document itself (and not the whole discussion thread). Sorry about that. But this may still reflect some lack of clarity of the document as it stands, which may be clouded by our awareness of all the "meta" discussion of this thread.

Taking into account your replies, and in the spirit of Greg's recommendation to spare in our wordsmithing and remain economical, here is my current understanding of the core message:

- Recently, UFO abstracts were submitted and were rejected as out of scope
- This triggered discussions among IAA SETI PC members
- Historically and presently, UFO/UAP research has almost always been outside the scope and expertise of IAA SETI (see statement below).
- However, a contingent would like the larger committee to slightly widen the scope by making exceptions to this rule (e.g. when good data is available and good science is conducted).
- As a compromise, we recommend the creation of a new ad hoc committee to do the necessary work to establish clear and consistent rules regarding the scope of the committee in relation to UFOs/UAPs.
- In any case, IAA SETI is not trying to claim – and clearly can't claim – the last word on the relationship between SETI and UFOs/UAPs.

So, concretely, I'd propose to simply delete the following two paragraphs (even the updated version of Kathryn). They bring more confusion and potential points of contestation than anything else, and what comes before is much clearer.

Regardless, this committee's exclusion of research into UFOs from its activities does not stem out of any judgement that such research is necessarily inappropriate or unscientific. The committee emphasizes that work on UFOs is not taboo, and that there is no ban on membership on the committee for those who do such work. This committee appreciates work to rigorously, scientific study of UFOs, including their societal impact.

Like all premises in science, our position that UFOs are not relevant to studies of alien technology is open to revision if the evidentiary conditions can be met. Given the committee's areas of expertise, we are not in a position to judge which claims for UFOs being extraterrestrial in origin have scientific merit and which do not. Until other scientific experts can confirm that UFO research meets the evidential requirement, the committee will continue to focus its activities to its current scope of research, i.e.

the astronomy-based search for evidence of extraterrestrial intelligence and closely related topics.

We may instead end the statement along the lines of the humble words proposed by Greg: In any case, IAA SETI is not trying to claim – and clearly can't claim – the last word on the relationship between SETI and UFOs/UAPs.

With these edits, I'd be comfortable signing on.  
What do you think?

Thanks for your patience and perseverance!  
Best,  
Clément Vidal.

---

<http://www.clemvidal.com> | [@clemvidal](#)  
[TEDx](#) | [Book](#) | [Patreon](#) | [Blog](#) | [EDU](#)  
Center Leo Apostel, Vrije Universiteit Brussel  
Krijgskundestraat 33. 1160 Brussels, Belgium  
Tel: +(b) (6)

**From:** Jason Wright  
**To:** Kathryn E L Denning  
**Cc:** Clément Vidal; Hector Socas-Navarro; Jacob Haqq Misra; STEVEN DICK; Anamaria Berea; Kopparapu, Ravi Kumar (GSFC-6990); Eghigian, Greg; (b) (6); Julia DeMarines; Chelsea Haramia; Margaret Turnbull; Franck Marchis; Steve Croft; Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]  
**Subject:** Re: [EXTERNAL] IAA PC SETI UFO text  
**Date:** Tuesday, May 11, 2021 1:44:02 PM  
**Attachments:** IAA SETI PC ToR - Google Docs.pdf

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Because it's come up in the comments, here are the existing Terms of Reference for the committee:

<https://iaaseti.org/en/terms-reference/>

and I'm attaching the draft ToR that Claudio sent around with the draft charter last fall (email to PC members on Dec. 7, 2020).

Jason

On Tue, May 11, 2021 at 12:37 PM Kathryn E L Denning <(b) (6)> wrote:

Thanks Jason and Clément. I'll add comments in the doc at <https://docs.google.com/document/d/198Cs6C05m3x50l51-hS4uNznuctojU1mJgW0spJDBYU/edit>

---

**From:** Jason Wright <(b) (6)>  
**Sent:** Tuesday, May 11, 2021 10:39 AM  
**To:** Clément Vidal <(b) (6)>  
**Cc:** Kathryn E L Denning <(b) (6)> Hector Socas-Navarro <(b) (6)> Jacob Haqq Misra <(b) (6)> STEVEN DICK <(b) (6)> Anamaria Berea <(b) (6)> Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>; Eghigian, Greg <(b) (6)> <(b) (6)> Julia DeMarines <(b) (6)> Chelsea Haramia <(b) (6)> Margaret Turnbull <(b) (6)> Franck Marchis <(b) (6)> Steve Croft <(b) (6)>  
**Subject:** Re: [EXTERNAL] IAA PC SETI UFO text

Hi, all.

Thank you, Clément, for your analysis which I think has crystalized the discussion well.

Sensing no broad opposition to Kathryn's edits from those who have already signed on, I

have incorporated them (although if people agree with Clément's argument that they should come out let me know). My sense is that a majority (though perhaps only a bare majority) of the subcommittee would sign on as-is, and that we can continue to discuss and edit it.

Separately, I have produced an alternative report which I think may garner more support.

Based on Clément's summary, and in the spirit of not saying more than is necessary to accomplish our task, this new alternative report is a statement of how this conversation has gone, and the various positions that have been staked out. This also addresses Kathryn's issue of audience: the audience here is simply the Permanent Committee.

To the degree that it simply and accurately reflects the status of our discussion, I think it could garner a supermajority or perhaps even unanimous support. It is on page 3 of the general Google Doc (which is where you should comment or make suggestions), but I'm reproducing it below. **Jacob and Ravi**, I'm particularly interested in whether you'd sign on to this statement.

In response to an online discussion on the community list regarding the rejection of UFO-related abstracts at a Permanent Committee meeting, this ad hoc subcommittee met to draft a document explaining the position of the permanent committee on the topic, and to recommend further actions.

There was considerable discussion and difference of opinion in the subcommittee on both the nature of UFO research and its propriety for the Permanent Committee. Many members' positions were nuanced, but broadly speaking many felt that UFO studies were inherently inconsistent with the work of the committee and out of scope; others felt that UFO studies should be included if they could satisfy certain criteria for scientific rigor and relevance to the Permanent Committee's goals.

Complicating the conversation was the fact that certain UFO-related abstracts have been accepted in the past, and the strong desire from some members to lay out explicit criteria under which they would be accepted in the future.

All or nearly all of the subcommittee supported the Permanent Committee examining these potentially contentious issues in more detail, through polling of the membership, defining the scope of the committee more precisely, and having more guidance regarding the acceptance criteria for abstracts.

A majority of the subcommittee supported the following positions:

- UFO studies can, in principle, be conducted well and have significant scientific value
- UFO studies are generally out of scope for the Permanent Committee
  - One reason is that the PC has historically focused on astronomical and social aspects of SETI, which use different methods (astronomy and social science) than employed in UFO studies
  - Another reason is that UFO studies in general have not met the necessary evidentiary criteria for demonstrating that UFOs might have anything to do with alien technology
- There is no bar or prejudice against any PC member who, in addition to their work relevant to the PC, also engages in UFO-related research

Therefore, a majority of the subcommittee recommends that the Permanent Committee

- Change the wording of the scope of the committee in its terms of reference to read that it “examines topics related to the possible existence of extant or extinct intelligent and/or technological life having arisen beyond Earth.” [i.e. strike “all” from “all topics”]
- Add to the terms of reference a UFO exclusion reading “the committee’s work excludes studies of UFOs or Unidentified Aerial Phenomena”
- Convene a subcommittee or subcommittees charged with some or all of the following:
  - Defining the scope of work of the Permanent Committee
  - Formalizing the process by which abstracts are accepted or rejected
  - Polling Permanent Committee members on their positions regarding UFO research
  - Exploring the boundaries between UFO research and SETI, in particular the extent to which they complement or diverge from one another
  - Considering and making recommendations regarding whether to uphold, modify, or remove the exclusion on UFO research. This could include laying out specific criteria whereby UFO abstracts would be accepted.

A minority of the subcommittee objects to a categorical bar against UFO-related

research at the present time, even paired with a recommendation that the Permanent Committee re-examine that bar in the near future, and advises the PC to reject the first two recommendations.

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Jason T Wright  
Professor of Astronomy & Astrophysics

Director, Penn State Extraterrestrial Intelligence Center

Acting Director, Center for Exoplanets and Habitable Worlds

NEID Instrument Team Project Scientist

he/him/his

<https://sites.psu.edu/astrowright/>

[@Astro\\_Wright](#)

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Jason T Wright  
Professor of Astronomy & Astrophysics  
Director, Penn State Extraterrestrial Intelligence Center  
Acting Director, Center for Exoplanets and Habitable Worlds  
NEID Instrument Team Project Scientist

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<https://sites.psu.edu/astrowright/>

[@Astro\\_Wright](#)

## **International Academy of Astronautics**

### **SETI Permanent Committee**

#### **Terms of Reference**

The Search for Extraterrestrial Intelligence (SETI) Permanent Committee examines all topics related to the possible existence of extant or extinct intelligent and/or technologically capable life having arisen beyond Earth. These topics include, but are not limited to, remote sensing of advanced extraterrestrial life through observable manifestations of technology (technosignatures), procedures and protocols in publicly communicating the potential discovery of advanced extraterrestrial life and legal and social issues surrounding potential contact with advanced extraterrestrial life. Special attention is paid to international and interdisciplinary issues and activities, including media and education.

The underlying science of the study of life in the universe includes relevant astrophysical and astronomical phenomena, the nature and distribution of the biogenic elements and compounds, the formation of life-bearing planets, the origin and evolution of biological systems, complex life and intelligence, and the emergence of technological civilizations. The science and technology of SETI itself includes the development of search strategies, and the underlying intellectual foundation, the design, development, construction and operation of telescopes and signal detection systems, studies of their future location in space or on the surfaces of other planets or natural satellites, mitigation of interference from human technology, e.g. radio frequency interference or optical reflections from satellite constellations, the archiving of SETI data, and analysis of search results.

The SETI Permanent Committee leads discussion of the implications of detecting evidence of advanced extraterrestrial life: for example, in the areas of philosophy, historical analogs, anthropology, legal, political and institutional issues, sociology, psychology and theology, and interactions with the media and the educational system. All issues concerning possible future transmissions from Earth deliberately intended to communicate with extraterrestrial life will also be included. In addressing many of these questions, the SETI Permanent Committee collaborates with the International Institute of Space Law and other relevant international organizations. The SETI PC promotes the interest and direct involvement of a diverse body of students and scholars in its work, primarily through the support of organised outreach and educational activities.

The SETI Permanent Committee seeks learned papers for presentation at the SETI sessions of the International Astronautical Congress, publishes the best of these papers in *Acta Astronautica* or elsewhere, generates and conducts, or support special Academy conferences or studies on important topics, and plays a proactive role in the continuing study of advanced extraterrestrial life, intelligence and technology. Where appropriate, the SETI Permanent Committee collaborates with other committees of the Academy and the Federation, with the Bioastronomy Commission of the International Astronomical Union, and other national and international bodies and societies with an interest in SETI.

**From:** Jason Wright  
**To:** Kathryn E L Denning  
**Cc:** STEVEN DICK; Eghigian, Greg; (b) (6) Clément Vidal; Hector Socas-Navarro; Anamaria Berea; Kopparapu, Ravi Kumar (GSFC-6990); (b) (6) Julia DeMarines; Chelsea Haramia; Margaret Turnbull; Franck Marchis; Steve Croft; Hagg-Misra, Jacob D. (GSFC-6062)[Science Collaborator]  
**Subject:** Re: [EXTERNAL] IAA PC SETI UFO text  
**Date:** Wednesday, May 12, 2021 1:54:15 PM

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On Wed, May 12, 2021 at 1:42 PM Kathryn E L Denning <(b) (6)> wrote:

A more general comment, following on from something Jason said about drifting outside one's training: SETI tends to encourage big thinking across disciplinary lines, which is often a good thing, but I have often seen some overconfidence/overreach from SETI thinkers along the lines of this XKCD comic: <https://xkcd.com/435/> So yeah, we should take this question of expertise seriously.

Cheers,

KD

Along those lines, and to put a sharper point on it for your amusement:  
<https://xkcd.com/793/>  
<https://www.smbc-comics.com/comic/2012-03-21>

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Jason T Wright  
Professor of Astronomy & Astrophysics  
Director, Penn State Extraterrestrial Intelligence Center  
Acting Director, Center for Exoplanets and Habitable Worlds  
NEID Instrument Team Project Scientist  
he/him/his  
<https://sites.psu.edu/astrowright/>  
[@Astro\\_Wright](#)

**From:** Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]  
**To:** Kopparapu, Ravi Kumar (GSFC-6990); Tran, Lina (GSFC-670.0)[SGT INC]; Hatfield, Miles S. (GSFC-130.0)  
[TELOPHASE CORP]; Barry, Caela E. (GSFC-690.0)[ADNET SYSTEMS INC]; Landau, Elizabeth R (HQ-1864)[ASRC  
FEDERAL SYSTEM SOLUTIONS]; Tiedeken, Staci L. (GSFC-690.0)[ADNET SYSTEMS INC]; Gran, Rani C. (GSFC-  
1300); Jenny Marder Fadoul; Hoover, Rachel L. (ARC-DO)  
**Subject:** Re: Book club!  
**Date:** Thursday, May 13, 2021 3:34:39 PM

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Got both docs. Thanks, Ravi.

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

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**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Thursday, May 13, 2021 at 3:26 PM  
**To:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>, "Tran, Lina (GSFC-670.0)[SGT INC]" <lina.tran@nasa.gov>, "Hatfield, Miles S. (GSFC-130.0) [TELOPHASE CORP]" <miles.s.hatfield@nasa.gov>, "Barry, Caela E. (GSFC-690.0)[ADNET SYSTEMS INC]" <caela.e.barry@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>, "Tiedeken, Staci L. (GSFC-690.0)[ADNET SYSTEMS INC]" <staci.l.tiedeken@nasa.gov>, "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>, "Thompson, Jay R (JPL-1867)[JPL Employee]" <Jay.R.Thompson@jpl.nasa.gov>, Jenny Marder Fadoul (b) (6) "Hoover, Rachel L. (ARC-DO)" <rachel.hoover@nasa.gov>, "Lonnie Shekhtman (via Google Drive)" (b) (6)  
**Subject:** Re: Book club!

And here is a draft email we wanted to send to Leslie Kean.

I request you all not to share either this attached document, or the one I sent in my earlier email beyond this group.

Thank you  
Ravi

---

**From:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Date:** Friday, May 7, 2021 at 10:06 AM  
**To:** "Tran, Lina (GSFC-670.0)[SGT INC]" <lina.tran@nasa.gov>, "Hatfield, Miles S. (GSFC-130.0) [TELOPHASE CORP]" <miles.s.hatfield@nasa.gov>, "Barry, Caela E. (GSFC-690.0)[ADNET

SYSTEMS INC]" <caela.e.barry@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>, "Tiedeken, Staci L. (GSFC-690.0)[ADNET SYSTEMS INC]" <staci.l.tiedeken@nasa.gov>, "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>, "Thompson, Jay R (JPL-1867)[JPL Employee]" <Jay.R.Thompson@jpl.nasa.gov>, Jenny Marder Fadoul (b) (6) "Hoover, Rachel L. (ARC-DO)" <rachel.hoover@nasa.gov>, "Lonnie Shekhtman (via Google Drive)" (b) (6) Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Subject:** Book club!

Adding Ravi to this invite, plus attaching a scientific analysis article written by Prof. James McDonald in 1969 of some UFO cases.

From Ravi: "He was a member of National Science Academy and his methodology is the one I try to emulate in scientifically investigating UFOs. You don't have to read all of it, but the intro is good. You may see some of my comments in there which you can ignore if you want."

\*\*\*

For next week, y'all: "[How the Pentagon Started Taking U.F.O.s Seriously.](#)"

Plus, this related piece by a fabulous exoplanet scientist, [Ravi Kopparapu](#), in my division: '[Unidentified Aerial Phenomena,' Better Known as UFOs, Deserve Scientific Investigation](#)'

Don't miss out!

See you soon,  
Lonnie

Leaving your reading recommendations here:

<https://docs.google.com/documen> (b) (6)

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## Microsoft Teams meeting

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To  
Hon. Sen. Marco Rubio

We are scientists with decades of research experience in different disciplines at various academic and governmental institutions including NASA, University at Albany (SUNY), and Blue Marble Space Institute of Science. We are writing to you regarding the availability of recorded data on the recently reported Navy UAP (Unidentified Aerial Phenomena), and to request your support in providing access to any UAP data (current or prior) to the scientific community as long as this would not compromise our national security interests.

We would like to first thank you for your leadership and efforts for including language about UAP in the draft bill of Intelligence Authorization Act for fiscal year 2021. This is a great first step in bringing UAP into the scientific purview, and not relegate it to undeserved taboo that is prevalent within the science community and some in the general public. To avoid any premature conclusions, we as scientists insist on strict agnosticism about the nature of UAP and suggest an approach that is purely rational: UAP represents observations that are puzzling and waiting to be explained. Just like any other science discovery.

UAP are a worldwide occurrence, and several other countries have studied them. There is a lot of speculation around them in both academic and non-academic circles. Much of this speculation tends to misidentify known phenomena as UAP, while others will outright dismiss all UAP by assuming that every such phenomena must be explainable. The primary reason for all this confusion is due to lack of a rigorous scientific analysis.

Our proposal to scientifically study UAP phenomena is not new. Scholars such as Dr. Carl Sagan, Dr. J. Allen Hynek, Dr. James McDonald, Dr. Robert Hall and Dr. Robert Baker were involved in research during the 1960s to understand the nature of UAP. A systematic investigation is essential in order to bring the phenomena into mainstream science. For this to happen, collection of hard data is paramount to establishing any credibility to provide an explanation of the phenomena.

We sincerely (1) request you to help us in declassifying and making available any data related to UAP, such as imagery, videos, electromagnetic spectra so that we scientists can analyze and study the phenomena. (2) we would greatly appreciate any encouraging statements from government officials to conduct scientific investigations of UAP from traditionally trained academics at U.S institutions, so that the taboo is minimized and more of us can participate in thorough and community coordinated UAP investigations providing them legitimacy to this topic. There is a crucial advantage when multiple scientists with expertise in multiple disciplines work on the same problem, so that unique perspectives can help understand the nature of the data involved. We would be happy to discuss in person (or virtually) and outline the kind of data we are requesting.

**Sincerely**

**Ravi Kopparapu (Planetary Scientist, NASA Goddard Space Flight Center)**

**Jacob Haqq-Misra (Research Scientist, Blue Marble Space Institute of Science)**

**Matthew Szydagis (Associate Professor, UAlbany SUNY Dept. of Physics)**

**Kevin H. Knuth (Associate Professor of Physics, UAlbany SUNY Dept. of Physics)**

Dear Ms. Kean,

I am Ravi Kopparapu, a planetary scientist at NASA Goddard Space Flight Center. I, along with my colleague Jacob Haqq-Misra who is a senior research investigator at Blue Marble Space Institute of Science, are writing to you to initiate a discussion regarding common interests in UFOs/UAPs. We are traditional scientists, with backgrounds in astrophysics, planetary science, meteorology, and astrobiology. We would like to immediately assure you that we are not writing to you in the hopes of engaging in an alien-UAP connection. Being trained as traditional scientists, we are not able to reach that particular conclusion (or *any* conclusion) regarding the nature of UAPs. Our goal is to obtain your perspective regarding observations of UAPs, and possibly engage with us in studying the nature of UAPs using scientific methods that we use in our daily jobs.

Several years ago, we both read your book "UFOs: Generals, Pilots, and Government Officials Go on the Record." Your book was the one that made us consider the subject of UAP seriously. Over the years, we have discussed on how to approach this subject scientifically. We realized the "taboo" nature of this topic is quite strong in academia. Our discussions led us to write an article in the Scientific American, explaining our views and potential pathways to investigate UFOs. We firmly believe in the "militant agnostic" approach that you suggested in your book. It is not just a belief, but it is literally how we do our day jobs as scientists.

We are attempting to gauge interest in the scientific community, as we think there are several others who might be interested but may not be more open about their views for various reasons. Taboo certainly is one, but the lack of reliable publicly available data is another. As scientists, our sense of the world around us comes from the data collected. In this respect, there seems to be a dearth of dependable data collection. Without it, it would be nearly impossible to 'buy-in' even those who are on the 'fence'. We hope to discuss this and several issues with you.

Thank you  
Ravi & Jacob

**From:** Kathryn E L Denning  
**To:** Hector Socas-Navarro; Kopparapu, Ravi Kumar (GSFC-6990)  
**Cc:** STEVEN DICK; Jason Wright; Eghigian, Greg; Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]; Clément Vidal; Anamaria Berea; (b) (6) Julia DeMarines; Chelsea Haramia; Margaret Turnbull; Franck Marchis; Steve Croft  
**Subject:** RE: [EXTERNAL] IAA PC SETI UFO text  
**Date:** Thursday, May 13, 2021 9:12:32 PM

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I love revisiting Cosmos too :) But interesting how Sagan's "p.s." there is much less exuberant than his early recordings: <https://www.youtube.com/watch?v=cQeOp7a8QMI>

I hear you, Hector. So many people believe in alien life (<https://glocalities.com/latest/reports/majority-of-humanity-say-we-are-not-alone-in-the-universe>) and have reasons other than empirical astronomy for their belief – and we're really not positioned to address the vast majority of those lines of thought.

---

**From:** Hector Socas-Navarro <(b) (6)>  
**Sent:** Wednesday, May 12, 2021 3:09 PM  
**To:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Cc:** Kathryn E L Denning <(b) (6)> STEVEN DICK <(b) (6)> Jason Wright <(b) (6)> Eghigian, Greg <(b) (6)> Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator] <(b) (6)> Clément Vidal <(b) (6)> Anamaria Berea <(b) (6)> (b) (6) Julia DeMarines <(b) (6)> Chelsea Haramia <(b) (6)> Margaret Turnbull <(b) (6)> Franck Marchis <(b) (6)> Steve Croft <(b) (6)>  
**Subject:** Re: [EXTERNAL] IAA PC SETI UFO text

LOL, thanks for the laughs Jason

I have a comment that is not directly related to these documents but the overall scenario. We have been centering this discussion around UFOs but I worry about the broader implications of being too open in the research interests of this community, to the point that anything with some vague cultural association to alien intelligence may be considered within the scope of SETI. For instance some people claim that they regularly have telepathic communication with aliens. It may sound physically implausible but they are certainly entitled to the same argument of "advanced alien technology looks like magic". So where do we draw the line? In my opinion, sticking to astronomy is a good idea. I also believe that we should consider if the alien association is well motivated and not just popular culture.

On a side note, I just rewatched episode 12 of Carl Sagan's COSMOS for a public talk tomorrow. That's the episode in which he talks about SETI, I found it very touching especially after the collapse of Arecibo. Here is something he said in the update (10 years later) and it's still true now, 40 years later:

<https://youtu.be/f77B2gRZhSo?t=3422>

Cheers!

Hector

On Wed, May 12, 2021 at 7:22 PM Kopparapu, Ravi Kumar (GSFC-6990)

<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

I like Steve's question! And I like Kathryn's second suggestion ("establishing collaborative relationships with some outside the PC – e.g. a PC subcommittee that liaises with external experts and annually reports back to the PC, could work well. This might be a good first step.")

As Jason alluded to, as a rule, I do not venture into a new field on my own. I was a physicist in Gravitational-wave astronomy, then moved to planetary and exoplanet science, and did that only working with experts in the field. It did take time and it will take time. So, the ideas proposed by Steve and Kathryn would be a good start.

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**From:** Kathryn E L Denning <(b) (6)>  
**Date:** Wednesday, May 12, 2021 at 1:43 PM  
**To:** STEVEN DICK <(b) (6)> Jason Wright <(b) (6)>  
**Cc:** "Eghigian, Greg" <(b) (6)> "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)> Clément Vidal <(b) (6)> Hector Socas-Navarro <(b) (6)> Anamaria Berea <(b) (6)> Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, <(b) (6)> <(b) (6)> Julia DeMarines <(b) (6)> Chelsea Haramia <(b) (6)> Margaret Turnbull <(b) (6)> Franck Marchis <(b) (6)> Steve Croft <(b) (6)>  
**Subject:** RE: [EXTERNAL] IAA PC SETI UFO text

Hi All,

Thanks for the good points and question, Greg, Jason, Steve.

Some info and some observations:

I'm updating my own annotated list of IAA SETI members (main list is here <https://iaaseti.org/en/members/>) – having a bit of trouble with the files so I don't have the full file to share, but here's the gist:

On the subject of expertise in our 96 members:

Outside astronomy: we do have a few people from fields other than astronomy: several biologists,

several social scientists, several communications experts, several humanities scholars (history, philosophy), several lawyers, several artists. Of this group, some of us probably have expertise in some aspects of UFO/UAPs, but from what I know, I wouldn't say it's a current major focus for any of us, and many of us don't work in that area at all. E.g. there are psychologists, sociologists, and anthropologists who work a lot in these areas – I can think of a few – but I don't think any of our current member social scientists do. (Al Harrison did, but his expertise hasn't been replaced since his passing.)

On the astronomy / physics / engineering front, the disciplines where most of our members come from: adding to Jason's comment, most of our members primarily work in areas like stellar astrophysics, cosmology, radio astronomy, masers, neutron stars, galaxies, etc. Overall, not the local ballpark, but rather, its opposite, exactly because SETI has usually focused on distant horizons and the big picture. Some exceptions, of course, e.g. particle physics, electrical engineering, instrumentation, software, etc.

There's also the question of who could or would take the time to develop new expertises: we have members at junior, mid, senior, and emeritus career stages, but realistically, at each level there are barriers to devoting much attention to a new field with questionable returns and reputational risk. More so in some countries than others – and this is an international committee.

So yeah, as Steve says: to really address this in the SETI PC, we would need some additional expertise, I think.... We could do that either by

- adding members, OR
- establishing collaborative relationships with some outside the PC -- e.g. a PC subcommittee that liaises with external experts and annually reports back to the PC, could work well. This might be a good first step.

A more general comment, following on from something Jason said about drifting outside one's training: SETI tends to encourage big thinking across disciplinary lines, which is often a good thing, but I have often seen some overconfidence/overreach from SETI thinkers along the lines of this XKCD comic: <https://xkcd.com/435/> So yeah, we should take this question of expertise seriously.

Cheers,  
KD

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**From:** STEVEN DICK <(b) (6)>  
**Sent:** Wednesday, May 12, 2021 12:47 PM  
**To:** Jason Wright <(b) (6)>  
**Cc:** Eghigian, Greg <(b) (6)> <(b) (6)> Kathryn E L Denning  
<(b) (6)> Clément Vidal <(b) (6)> Hector Socas-Navarro  
<(b) (6)> Anamaria Berea <(b) (6)> Kopparapu, Ravi Kumar  
(GSFC-6990) <ravikumar.kopparapu@nasa.gov>; <(b) (6)> Julia DeMarines

<(b) (6)> Chelsea Haramia <(b) (6)> Margaret Turnbull  
<(b) (6)> Franck Marchis <(b) (6)> Steve Croft  
<(b) (6)> (b) (6)

**Subject:** Re: [EXTERNAL] IAA PC SETI UFO text

Well said, Jason. I think Clement has laid out the options very well in his May 10 e-mail. I am not opposed to his position C, considering UFO/UAV research if there is good science and data behind it. Then the question becomes should we do that without appropriately and professionally evaluating the data (given your last paragraph), or recommend expanding the PC with appropriate expertise. That is the question, and it's a big one.

Steve

Steven J. Dick  
21406 Clearfork Ct  
Ashburn, VA 20147  
(b) (6) (cell)  
(b) (6)

**Space, Time, and Aliens: Collected Works on Cosmos and Culture**

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**Classifying the Cosmos.** <https://link.springer.com/book/10.1007/978-3-030-10380-4>

**Website** <http://stevenjdick.com/index.html>

On May 12, 2021, at 10:57 AM, Jason Wright <(b) (6)> wrote:

My opinion:

I think as physicists we astronomers have a tendency (to a fault) to drift outside our training in many matters; we are trained pretty broadly. That said, I think it's important when moving into a field where expertise already exists to work closely with that expertise.

Solar System SETI, for instance, is presumably within the purview of the PC but I'm not sure we have very many planetary scientists with the appropriate background to conduct it. That being said, planetary science is closely related to astronomy: many of us astronomers teach it at the 101 level in our jobs, and it uses many of the same

methods and instruments as the rest of astronomy. As such we are well qualified to evaluate, at least roughly, work done in the field, and to weigh in on matters involving it. And if it became a major priority, we could presumably seamlessly add such expertise to the PC with people who "speak our language."

I don't think this is true for UFOlogy. Beyond some rough knowledge of the properties of detector technology and the physics of astronautics, I don't know if I could tell good work from very sophisticated hucksterism. For instance, if someone gave me raw gun camera footage, I don't think I could confidently analyze and interpret it because the camera, the detector, and the image processing are very different from the sort of thing we do in astronomy (there is a lot of on-chip image processing going on that we don't do in astronomy, the camera is moving along many axes, I have no experience with how various phenomena typically and atypically appear, etc.)

Greg, you know what sorts of experts could do good work in the field. Is the list we have in the statement a good summary?

On Wed, May 12, 2021 at 9:15 AM Eghigian, Greg <(b) (6)> wrote:

Hi All,

I posted this in the comments of Jacob's and Ravi's draft, but I'm posting here as well.

I find Jacob's and Ravi's draft minority report very intriguing. As a non-astronomer, however, I'd like to make an observation and get some clarification from everyone.

I've been under the impression that a key element in the majority draft is the argument that IAA SETI scholars – whose background and training are chiefly (wholly?) in astronomy and related fields – are not qualified to assess terrestrial UFO reports and evidence, i.e. that this kind of stuff falls under the jurisdiction of other disciplines. The minority draft report would seem to me to take issue with this, assuming that IAA SETI scholars are in fact qualified to make these assessments.

My question for the group then is, is there in fact a disagreement on this point? Or am I missing something? (Perhaps Jacob and Ravi are addressing this issue in the final sentence of their draft?)

Best,  
Greg

Greg Eghigian  
Professor of History  
Penn State University

Department of History  
108 Weaver Building  
Penn State University  
University Park, PA 16802  
USA  
Email: (b) (6)

---

**From:** Jacob Haqq Misra <(b) (6)>  
**Date:** Tuesday, May 11, 2021 at 3:01 PM  
**To:** (b) (6) <(b) (6)>  
**Cc:** Kathryn E L Denning <(b) (6)> Clément Vidal  
<(b) (6)> Hector Socas-Navarro <(b) (6)>  
'(b) (6)' <(b) (6)> STEVEN DICK  
<(b) (6)> Anamaria Berea <(b) (6)>  
"Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>,  
Greg Eghigian <(b) (6)> '(b) (6)'  
<(b) (6)> Julia DeMarines <(b) (6)>  
Chelsea Haramia <(b) (6)> Margaret Turnbull  
<(b) (6)> Franck Marchis <(b) (6)> Steve  
Croft <(b) (6)>  
**Subject:** Re: [EXTERNAL] IAA PC SETI UFO text

Thanks Jason for this updated text! I like it much better, but I still would not feel comfortable signing. I just circulated a "minority report" document, as per your suggestion, that describes a different position. There is certainly some overlap between the minority report and your text, but they are not entirely compatible.

On Tue, May 11, 2021 at 1:41 PM Jason Wright <(b) (6)> wrote:

Duplicate email chain - already processed



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Request #: 21-HQ-F-00603

4 page(s) containing duplicate information is/are held in the file.

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Beatriz Villarroel](#)  
**Cc:** [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#); [lars.mattsson@su.se](mailto:lars.mattsson@su.se)  
**Subject:** Re: [EXTERNAL]  
**Date:** Saturday, May 15, 2021 2:34:43 PM

---

Hi Beatriz,

Thank you for your comments.

Regarding the UNESCO approach, I think the majority report is not restricting the academic freedom of researchers to do UFO research. It is just that the IAA-SETI PC (Permanent Committee) is not interested in doing it. They do not have any problem if *individual* members of the committee do it on their own. Our report is urging that SETI researchers should consider doing it because of the reasons outlined in our minority report.

I guess Jacob can explain about the terms of reference. I think it is a good idea to expand the intro a bit.

Regarding the methodology, we fully agree with you about the data-driven approach and not stress on anecdotal experiences. Have you read our [Scientific American article](#) on UFOs?

We are waiting for the majority report and this report to be published simultaneously. That timeline is independent of the Pentagon UFO report. We need to find out what is the timescale for both the reports. Ideally, I want both the reports to be published before the Pentagon report.

Jacob, should we ask the timescale for these reports? I guess it would be good to find out. I don't see anyone changing their positions.

Thanks

Ravi

---

**From:** Beatriz Villarroel (b) (6)  
**Date:** Saturday, May 15, 2021 at 12:39 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
(b) (6)  
**Subject:** Re: [EXTERNAL]

Hi Ravi and Jacob!

I've read through the document. I'm 100% in agreement with you on the discussion.

I'm wondering about a few things:

Could it be helpful to argue that the current norm on excluding UAPs goes against UNESCO recommendations on academic freedom for the scientists? Even if IAA SETI writes a document for community norms, a good document will adhere to the norms of the "higher" organs such as the

UN, etc.

I'm wondering if one could make the introduction slightly longer and explain better the "terms of reference" before discussing the bullet points.

How about if you include examples on what is serious vs non-serious research on UAPs? For example, data-driven searches for UAPs should be fine. Anecdotal testimonies I'd avoid touching at all (but possibly collect into a giant database).

Are you waiting to make the report public until 1st of June 2021, when Pentagon will publish a new UFO report? It could be a good moment, and possibly you could include one paragraph summarizing their UFO reports until now?

All the best,  
Beatriz.

Den ons 12 maj 2021 kl 19:31 skrev Beatriz Villarroel (b) (6) :

Thanks a lot, Ravi! That sounds great. :)

//B.

Den ons 12 maj 2021 kl 19:01 skrev Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>:

Hi Beatriz,

That sounds great! I enquired about the student who can help. Looks like they are committed somewhere else. I may have another student in mind but let me find out. In the meantime, perhaps I could help you so that I know the scope and details of the project. And when a student comes over, I could help them with your guidance.

Few weeks to month timescale looks good.

Best

Ravi

---

**From:** Beatriz Villarroel (b) (6)

**Date:** Wednesday, May 12, 2021 at 1:27 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
(b) (6)

**Subject:** Re: [EXTERNAL]

Thanks a lot!

From the document I sent you, please ignore Section 2 & 3 of the document we sent, as they are only notes for ourselves. :) Section 4.1. is also missing, and the Discussion, ofc. :)

We are going to need a few weeks to get started with the actual scientific analysis -- mostly because of more workshops and travels -- but I am really looking forward :)  
I'll however send you some comments and ideas on your paper draft over the weekend.

//B.

Den ons 12 maj 2021 kl 18:09 skrev Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>:

Thanks Beatriz, here is the draft that Jacob put together.

<https://docs.google.com> (b) (6)  
(b) (6)

---

**From:** Beatriz Villarroel (b) (6)  
**Date:** Wednesday, May 12, 2021 at 12:56 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL]

**From:** Clément Vidal  
**To:** Jason Wright; Kathryn E.L. Denning; Hector Socas-Navarro; Jacob Haqq Misra; STEVEN DICK; Anamaria Berea; Kopperapu, Ravi Kumar (GSFC-6990); Eghigian, Greg; (b) (6) Julia DeMarines; Chelsea Haramia; Margaret Turnbull; Franck Marchis; Steve Croft; Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]  
**Subject:** [EXTERNAL] Re: IAA PC SETI UFO Minority Report  
**Date:** Monday, May 17, 2021 9:23:42 AM

---

Hi All,

I think you're making an excellent case for SETA on Earth. Scientifically and logically it makes total sense. It would be stupid for ETs to send artefacts in the whole solar system except on Earth, and it would be stupid for us to look for artefacts in the whole solar system except on Earth. This area of the search space deserves to be investigated. If there were no UFO investigations, this would be a no-brainer.

The core issue under consideration however is not scientific, but institutional and policy-related. There are two core constraints:

- (a) Preserve the legitimacy and scientific integrity of scientific SETI.
- (b) Preserve the limited resources of the small astrobiology/SETI community.

The SETA on Earth you propose is actually a research program. It might for example:

- Examine past and presently incoming UFO/UAP reports and data. This might be a growing haystack where there is a needle.
- Start fresh with SETA on Earth with standard scientific method / data. This needs not to focus on UFOs/UAPs.

Both efforts require a lot of resources (e.g. interdisciplinary scholars and additional experts). To satisfy (a), I think it would make most sense to do like big companies do when they want to experiment new things without risking to damage the main brand, i.e. to create a spin-off. In this case, a SETA spinoff would not risk the credibility/integrity of existing SETI institutions. If successful, the new spinoff could be later integrated as part of standard SETI institutions and research programs.

In the meantime, as the majority report suggests, placing a high threshold -however vaguely it is defined- on UFOs/UAPs abstracts would preserve the current resources and integrity (constraints (a) & (b)). In my view, the opening to consider exceptionally UFO/UAP abstracts is already a great step forward in comparison to an exclusion of this possibility without any justification.

I hope this helps a bit...  
Clément.

On Tue, 11 May 2021 at 20:43, Jacob Haqq Misra <(b) (6)> wrote:

Hi All,

I am branching this into a new email thread to not confuse the other ongoing discussion. Please see the link below for the "minority report" drafted by myself and Ravi. This is intended to represent an alternative position from the "majority report" being discussed by many of you.

Please take a look and provide any feedback you like, either on the document itself or in this email thread. If you agree with the contents, feel free to add your name to the list of authors:

<https://docs.google.com/>(b) (6)

(b) (6)

Jacob

--

Clément Vidal.

---

<http://www.clemvidal.com> | [@clemvidal](#)

[TEDx](#) | [Book](#) | [Patreon](#) | [Blog](#) | [EDU](#)

Center Leo Apostel, Vrije Universiteit Brussel

Krijgskundestraat 33. 1160 Brussels, Belgium

Tel: +(b) (6)

**From:** Kathryn E L Denning  
**To:** Jason Wright; Kopparapu, Ravi Kumar (GSFC-6990); STEVEN DICK; Eghigian, Greg; Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]; Clément Vidal; Hector Socas-Navarro; Anamaria Berea; (b) (6) Julia DeMarines; Chelsea Haramia; Margaret Turnbull; Franck Marchis; Steve Croft  
**Subject:** [EXTERNAL] RE: IAA PC UFO Report  
**Date:** Monday, May 17, 2021 2:26:38 PM

---

Thanks Jason. I made a couple of small edit suggestions, but I'm happy with this.

Jason, you might want to check in with the Exec before sending this to the whole committee. They may have some preferences regarding timing, i.e. they might have other issues they are trying to deal with.

n.b. PC members may not accurately gauge our collective qualifications to address this, i.e. it may be that some members think we have all the in-house expertise necessary, even if we don't really. I guess we'll see how that plays out. That question of available expertise within the committee could be answered by a members survey.

Cheers all,  
KD

---

**From:** Jason Wright <(b) (6)>  
**Sent:** Monday, May 17, 2021 10:28 AM  
**To:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>; Kathryn E L Denning <(b) (6)>; STEVEN DICK <(b) (6)>; Eghigian, Greg <(b) (6)>; Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator] <(b) (6)>; Clément Vidal <(b) (6)>; Hector Socas-Navarro <(b) (6)>; Anamaria Berea <(b) (6)>; (b) (6) <(b) (6)>; Julia DeMarines <(b) (6)>; Chelsea Haramia <(b) (6)>; Margaret Turnbull <(b) (6)>; Franck Marchis <(b) (6)>; Steve Croft <(b) (6)>  
**Subject:** IAA PC UFO Report

OK, I think we have all but converged!

Having confirmed with Jacob that the alternative text I wrote is fair and accurate, I have composed a longer document. It uses the alternative text as an introduction, namely a description of the process, our disagreement, and two competing sets of recommendations for the PC. My intention is that this is the *consensus* part of the document.

It is followed by two reports, a majority report and a minority report.

You can find it here:

<https://docs.google.com> (b) (6)  
(b) (6)

**Jacob and Ravi**, I have made some minor edits to your document and altered the title to maintain parallelism and symmetry with the other one. I hope this is OK—feel free to change things back.

By my count we have:

8 of us are happy with the majority report (names are on it)

2 of us are happy with the minority report (names are on it)

3 of us have not weighed in: **Klara, Maggie, Julia**. Also Steve Croft has been added to the group, so that's 4.

**Clément** objects to one paragraph in the majority report, but others feel it is important to keep, so I've kept it.

**All**: I've made minor edits to things so please look the whole thing over and let me know if you object to anything, otherwise I'll assume you are happy to keep your names where they are.

Unless I hear an objection I'll plan on a deadline of **Friday May 21** for submitting this to the PC.

--

-----  
Jason T Wright  
Professor of Astronomy & Astrophysics  
Director, Penn State Extraterrestrial Intelligence Center  
Acting Director, Center for Exoplanets and Habitable Worlds  
NEID Instrument Team Project Scientist  
he/him/his  
<https://sites.psu.edu/astrowright/>  
[@Astro\\_Wright](#)

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: Canceled: Book club!  
**Date:** Monday, May 17, 2021 2:37:53 PM

---

Ok great! Thank you.

---

**From:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]"  
<lonnie.shekhtman@nasa.gov>  
**Date:** Monday, May 17, 2021 at 2:30 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Canceled: Book club!

Hey Ravi,

Yep, this is just the writers meeting. Weird that you and Andrea got the invite. I took you off of it. And that it says "Canceled." Anyway, I have some calendar stuff to figure out ...

I'll follow up with you, though, after we brainstorm on your behalf.

Lonnie

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Monday, May 17, 2021 at 2:15 PM  
**To:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: Canceled: Book club!

Hi Lonnie,

For my clarity, is this just you and others meeting, or do you want me to join as well? I have no problem joining, just wanted to make sure I am not a third wheel in your meeting.

---

**From:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]"  
<lonnie.shekhtman@nasa.gov>  
**Date:** Monday, May 17, 2021 at 11:24 AM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Jones, Andrea J. (GSFC-6900)" <andrea.j.jones@nasa.gov>, "Lonnie Shekhtman (via Google Drive)"

(b) (6)

**Subject:** Canceled: Book club!

Since we didn't really get to delve into the UFO story last week, we'll do it this week. Also, we'll talk more amongst ourselves about Ravi's predicament.

\*\*\*

For next week, y'all: "[How the Pentagon Started Taking U.F.O.s Seriously.](#)"

Plus, this related piece by a fabulous exoplanet scientist, [Ravi Kopparapu](#), in my division: "['Unidentified Aerial Phenomena,' Better Known as UFOs, Deserve Scientific Investigation](#)"

Don't miss out!

See you soon,  
Lonnie

Leaving your reading recommendations here:

<https://docs.google.com> (b) (6)

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---

**From:** [Jones, Nancy N. \(GSFC-1300\)](#)  
**To:** [Johnson, Alana R. \(HQ-DG000\)\[ASRC FEDERAL SYSTEM SOLUTIONS\]](#); [Fox, Karen C. \(GSFC-1300\)](#); [Handal, Joshua A. \(HQ-DG000\)\[ASRC FEDERAL SYSTEM SOLUTIONS\]](#); [Hautaluoma, Grey \(HQ-NA020\)](#); [New, Michael H. \(HQ-DA000\)](#)  
**Subject:** Re: Technosignatures Re: [EXTERNAL] Inquiry from Washington Post about your paper  
**Date:** Tuesday, May 18, 2021 12:32:43 PM

---

I sent Ravi an email asking for a debrief. I will let you know when I hear from him.

Thanks,  
Nancy

---

On: 18 May 2021 12:11, "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <[alana.r.johnson@nasa.gov](mailto:alana.r.johnson@nasa.gov)> wrote:

Thanks for the heads up, Nancy.

The SMD HQ SME for technosignatures is Michael New. I am adding him here for awareness.

This unfolded quickly, so I doubt anyone in comms facilitate the interview with Ravi, but are we able to get a wrap up from him?

Thanks!  
Alana

*Are you a journalist covering the Ingenuity Mars Helicopter or the Perseverance Mars rover, please fill out our media request form at <https://bit.ly/mars-landing-media>.*

**Alana R. Johnson**

Senior Communications Specialist, PAAC V Contract

Planetary Science Division

[alana.r.johnson@nasa.gov](mailto:alana.r.johnson@nasa.gov)

o: (202) 358-1501 | c: (b) (6)

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---

**From:** "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>

**Date:** Tuesday, May 18, 2021 at 12:00 PM

**To:** "Fox, Karen C. (GSFC-1300)" <[karen.c.fox@nasa.gov](mailto:karen.c.fox@nasa.gov)>, "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <[alana.r.johnson@nasa.gov](mailto:alana.r.johnson@nasa.gov)>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <[joshua.a.handal@nasa.gov](mailto:joshua.a.handal@nasa.gov)>, "Hautaluoma, Grey (HQ-NA020)" <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>

**Subject:** Fwd: [EXTERNAL] Inquiry from Washington Post about your paper

All,

I am out of the office today so I am checking email off and on. I just read through this email exchange between one of our scientists, Ravi, and a reporter at the Washington Post.

Based on the email, the scientist did an interview with Post this morning. Ravi was the author of a paper looking for technosignatures on habitable planets. We did a story on it in February. The reporter wanted to know about his paper because of the recent UFO stories.

Nancy

---

Begin Forwarded Message:

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)"  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Inquiry from Washington Post about your paper  
**Date:** 18 May 2021 11:08  
**To:** "Deily, Mary-Ellen" (b) (6)  
**Cc:** "Andreoli, Claire (GSFC-1300)" <[claire.andreoli@nasa.gov](mailto:claire.andreoli@nasa.gov)>, "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>

Hi Mary-Ellen,  
That is good. My phone number is (b) (6)  
Thanks  
Ravi

---

**From:** "Deily, Mary-Ellen" (b) (6)  
**Date:** Tuesday, May 18, 2021 at 11:07 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)"  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Inquiry from Washington Post about your paper

Thank you, Ravi. What if I call you in 15 minutes or so?

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Sent:** Tuesday, May 18, 2021 11:06 AM  
**To:** Deily, Mary-Ellen (b) (6)  
**Subject:** Re: [EXTERNAL] Inquiry from Washington Post about your paper

CAUTION: EXTERNAL SENDER

Hi Mary-Ellen,

Sure, I would be happy to talk. This article that I wrote last year might also be relevant:

<https://www.scientificamerican.com/article/unidentified-aerial-phenomena-better-known-as-ufos-deserve-scientific-investigation/>  
[scientificamerican.com]

I am free today except from 2-3pm.

Ravi

---

**From:** "Deily, Mary-Ellen" (b) (6)  
**Date:** Tuesday, May 18, 2021 at 10:57 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)"  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL] Inquiry from Washington Post about your paper

Dear Dr. Kopparapu,

I read about your recent paper on technosignatures and hoped to talk to you about it. Obviously, the recent spate of news stories about UFOs has piqued my (and others') curiosity. I'm hoping to find an interesting and perhaps different take on what's going on, and your paper -- which I learned of through a SETI Institute tweet -- caught my attention.

Would you have a few minutes to chat? I'd love to get your perspective on this or tips on who else I should contact. My cellphone number is 571-265-9705. (I'm working from home.)

Thank you,

Mary-Ellen Deily

Multiplatform editor

The Washington Post, Opinions department

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Jones, Nancy N. \(GSFC-1300\)](#)  
**Cc:** [Andreoli, Claire \(GSFC-1300\)](#)  
**Subject:** Re: [EXTERNAL] Inquiry from Washington Post about your paper  
**Date:** Tuesday, May 18, 2021 12:40:00 PM

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Hi Nancy,

The interview was about our [recent papers](#) on Technosignature science, and UAPs (or UFOs). They asked about differences between biosignatures and technosignatures, and how the search would be done. I talked about JWST and other potential missions. They were asking if I could write an article in the Washington Post about how scientists should approach the study of UFOs, based [on our last year's article in Scientific American](#). This WaPo article would be for non-scientific audience. They wanted a draft (or at least few paragraphs of a text) to show it to their editors by Thursday this week, and if they like it, then they might publish it after some edits. I plan to write this article with my co-author of the above Scientific American article, Jacob Haqq-Misra. I will send a draft to you, Claire, Paul Mahaffy, Stephanie Getty, Charles Malespin (my direct supervisor in 699) and Scott Guzewich (Associate lab chief of 699). This is the same steps I went through for my SciAm article as well.

Thanks  
Ravi

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Tuesday, May 18, 2021 at 12:24 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Cc:** "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>  
**Subject:** Re: [EXTERNAL] Inquiry from Washington Post about your paper

Hello Ravi,

Can you please give Claire and I a debrief on how the interview went? What were some of the questions? Was there a particular slant to the interview?

Thanks  
Nancy

---

On: 18 May 2021 11:08, "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov> wrote:

Hi Mary-Ellen,  
That is good. My phone number is (b) (6)  
Thanks  
Ravi

---

**From:** "Deily, Mary-Ellen" <(b) (6)>  
**Date:** Tuesday, May 18, 2021 at 11:07 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: [EXTERNAL] Inquiry from Washington Post about your paper

Thank you, Ravi. What if I call you in 15 minutes or so?

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**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Sent:** Tuesday, May 18, 2021 11:06 AM  
**To:** Deily, Mary-Ellen (b) (6)  
**Subject:** Re: [EXTERNAL] Inquiry from Washington Post about your paper

CAUTION: EXTERNAL SENDER

Hi Mary-Ellen,  
Sure, I would be happy to talk. This article that I wrote last year might also be relevant:  
<https://www.scientificamerican.com/article/unidentified-aerial-phenomena-better-known-as-ufos-deserve-scientific-investigation/> [scientificamerican.com]

I am free today except from 2-3pm.  
Ravi

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**From:** "Deily, Mary-Ellen" (b) (6)  
**Date:** Tuesday, May 18, 2021 at 10:57 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** [EXTERNAL] Inquiry from Washington Post about your paper

Dear Dr. Kopparapu,  
I read about your recent paper on technosignatures and hoped to talk to you about it. Obviously, the recent spate of news stories about UFOs has piqued my (and others') curiosity. I'm hoping to find an interesting and perhaps different take on what's going on, and your paper -- which I learned of through a SETI Institute tweet -- caught my attention.  
Would you have a few minutes to chat? I'd love to get your perspective on this or tips on who else I should contact. My cellphone number is (b) (6) I'm working from home.)  
Thank you,  
Mary-Ellen Deily  
Multiplatform editor  
The Washington Post, Opinions department

**From:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: UAP  
**Date:** Wednesday, May 19, 2021 9:12:55 AM

---

Hey Ravi –

I was writing you a long email, but then I thought let's just talk. I'm going to call you in a minute ...

Lonnie

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 19, 2021 at 8:58 AM  
**To:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: UAP

Thanks Lonnie. I was going to write to you about another thing. Yesterday, I was contacted by a Washington Post reporter who wanted to talk about Technosignatures and UFOs. Towards the end, they asked me to write about an article about UFOs from a scientist's perspective. The reporter wanted to initially see a draft and send it to their editor, and if they like it, they want to publish it (after some edits) before this month. So the deadline is pretty short. I need to give a draft by tomorrow.

I already wrote a draft and I am waiting from my co-author Jacob Haqq-Misra to finalize it. I will send you the draft once we have it ready.

My main worry is (b) (5)

(b) (5)

(b) (5)

I wrote all of this in my draft and

will send you soon.

Ravi

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**From:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]"

<lonnie.shekhtman@nasa.gov>

**Date:** Wednesday, May 19, 2021 at 8:42 AM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Subject:** UAP

Now it's everywhere. I think it's a good time to be digging for data.

<https://www.washingtonpost.com/nation/2021/05/17/ufo-sightings-navy-ryan-graves/>

[https://www.vice.com/en/article/z3xnkx/watch-a-navy-pilot-explain-his-encounter-with-a-ufo?utm\\_source=email&utm\\_medium=editorial&utm\\_content=daily&utm\\_campaign=210517](https://www.vice.com/en/article/z3xnkx/watch-a-navy-pilot-explain-his-encounter-with-a-ufo?utm_source=email&utm_medium=editorial&utm_content=daily&utm_campaign=210517)

**From:** Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]  
**To:** Kopparapu, Ravi Kumar (GSFC-6990)  
**Date:** Wednesday, May 19, 2021 9:50:21 AM

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I would not even say something like this: (b) (5)

(b) (5)

UAP (b) (5)

**From:** [Guzewich, Scott D. \(GSFC-6990\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Mahaffy, Paul R. \(GSFC-6900\)](#)  
**Cc:** [Getty, Stephanie A. \(GSFC-6900\)](#); [Malespin, Charles A. \(GSFC-6990\)](#); [Domagal-goldman, Shawn D. \(GSFC-6930\)](#); [Jones, Nancy N. \(GSFC-1300\)](#); [Andreoli, Claire \(GSFC-1300\)](#); [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: Washington Post article draft  
**Date:** Thursday, May 20, 2021 8:47:04 AM

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Ravi,

I think you struck a nice tone and have some good points! I'll leave it to those above me to decide what else needs to be done for legalities

Scott

Scott D. Guzewich  
Associate Lab Chief, Planetary Environments Laboratory Code 699  
NASA Goddard Spaceflight Center, Greenbelt, MD  
(301) 286-1542

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 19, 2021 at 12:34 PM  
**To:** "Mahaffy, Paul R. (GSFC-6900)" <paul.r.mahaffy@nasa.gov>  
**Cc:** "Getty, Stephanie A. (GSFC-6900)" <stephanie.a.getty@nasa.gov>, "Malespin, Charles A. (GSFC-6990)" <Charles.A.Malespin@nasa.gov>, Scott Guzewich <scott.d.guzewich@nasa.gov>, "SHAWN (GSFC-6990) DOMAGAL-GOLDMAN" <shawn.goldman@nasa.gov>, "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>, "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Washington Post article draft

Hi Paul, Stephanie, Charles, Scott, Shawn, Nancy, Claire and Lonnie,

I was contacted by a Washington Post reporter yesterday to talk about Technosignatures and UAPs. The summary of that discussion resulted in them asking me to write an article for the Post related to UAP (or UFOs), to provide a scientist's perspective. If you remember, this was similar to the one I wrote last year for [Scientific American](#). I wrote a draft of the article and attached with this email. Please let me know if you have any comments or suggestions (or concerns). I tried to stick to science and availability of data.

My co-author is a colleague of mine at Blue Marble Space Institute of Science, Jacob Haqq-Misra.

Thank you

Ravi

--

Ravi kumar Kopparapu

NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

**From:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: Washington Post article draft  
**Date:** Thursday, May 20, 2021 9:02:30 AM

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OK, go for it.

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 19, 2021 at 5:06 PM  
**To:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: Washington Post article draft

Hmm.....that is certainly a possibility. And I indeed should consider this carefully.  
Here is my thought: I cannot please everyone, right? He is a member of NAS and was well-respected in his field. And from what I have heard from my colleagues, they barely remember him or don't have a negative opinion about him. On the SciAm article, I did not get any negative feedback about it (In fact, the editor appreciated mentioning Hynek, Mc Donald and others). But as you said, this is a public article. Let's see how it goes. I am trusting that the scientific community is not 'that' careless.

---

**From:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Date:** Wednesday, May 19, 2021 at 5:02 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

I'm not questioning his integrity at all. I'm just trying to bulletproof. Do you think that anyone would read your story and say: "Your inspiration is THAT kook?" If not, you're all good.

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

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**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 19, 2021 at 4:47 PM  
**To:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: Washington Post article draft

Ok.

Allen Hynek is more well-known than James Mc Donald. In fact, every sensational history channel UFO series has his name portrayed by some actor, and there was an even a dedicated series about him and his work on Project Blue Book.

James Mc Donald reputation may have taken a hit, but his science is absolutely solid. His science is what I want to highlight here. He was not like some others whose science is bad and because of that the reputation too ka hit. His *hypothesis* is aliens, but he never went 'overboard' with it. I mean, he is the one scientist that everyone should pay attention to, if they want to perform science of UFOs.

Ravi

---

**From:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Date:** Wednesday, May 19, 2021 at 4:39 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

No not because of suicide, per se. But because it seems like his reputation took a hit due to his UFO work, and that he was pro the ET hypothesis. He's not a household name like Carl Sagan, so I don't even know if it makes sense to cite him in a general-interest pub. I also don't know much about Allen Hynek – don't remember his story from the New Yorker article.

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 19, 2021 at 4:29 PM  
**To:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>

**Subject:** Re: Washington Post article draft

Thanks Lonnie, A quick question. Why do you think mentioning James Mc Donald is a bit iffy?  
Because he committed suicide?

---

**From:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]"

<lonnie.shekhtman@nasa.gov>

**Date:** Wednesday, May 19, 2021 at 4:25 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Subject:** Re: Washington Post article draft

Hi Ravi,

There are a lot of good ideas in here. I have some thoughts in the attached.

Lonnie

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Date:** Wednesday, May 19, 2021 at 12:34 PM

**To:** "Mahaffy, Paul R. (GSFC-6900)" <paul.r.mahaffy@nasa.gov>

**Cc:** "Getty, Stephanie A. (GSFC-6900)" <stephanie.a.getty@nasa.gov>, "Malespin, Charles A. (GSFC-6990)" <Charles.A.Malespin@nasa.gov>, "Guzewich, Scott D. (GSFC-6990)" <scott.d.guzewich@nasa.gov>, "Domagal-goldman, Shawn D. (GSFC-6930)" <shawn.goldman@nasa.gov>, "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>, "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0) [ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>

**Subject:** Washington Post article draft

Hi Paul, Stephanie, Charles, Scott, Shawn, Nancy, Claire and Lonnie,

I was contacted by a Washington Post reporter yesterday to talk about Technosignatures and UAPs. The summary of that discussion resulted in them asking me to write an article for the Post related to UAP (or UFOs), to provide a scientist's perspective. If you remember, this was similar to the one I wrote last year for [Scientific American](#) . I wrote a draft of the article and attached with this email.

Please let me know if you have any comments or suggestions (or concerns). I tried to stick to science and availability of data.

My co-author is a colleague of mine at Blue Marble Space Institute of Science, Jacob Haqq-Misra.

Thank you

Ravi

--

Ravi kumar Kopparapu

NASA Goddard Space Flight Center

Greenbelt, MD 20771

email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Jacob Haqq Misra](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Subject:** Re: [EXTERNAL] Re: FW: Washington Post article draft  
**Date:** Thursday, May 20, 2021 9:33:51 AM

---

Ok thank you. I am trying to stress less on the Navy videos and more on the general UAP phenomena because it looks some of the Navy videos have some convincing explanations. If we focus on that, the genuine ones (like the Mc Donald's cases) may or will also be categorized as explainable without any thought. It is a sweeping generalization people make. There are two aspects to the Navy videos: the testimonies of the pilots of some really weird UFOs in 2004 (I don't think we have data or videos for that), and 2015/2019 videos which could be explainable. A lot of people (including scientists who dismiss them) combine these two and dismiss them, and others on other side also confuse these events.

Navy videos may have highlighted the UAPs, but the more I look at them, the more I think that they are explainable. I don't understand the intent of releasing or leaking grainy, edited videos that could be explainable that obfuscate genuine UFO cases. This gives ammunition to critics to broad-brush ALL the UFO phenomena. UFOs are a much broader, worldwide phenomena than focusing on these videos. This is the point I think we should highlight.

---

**From:** Jacob Haqq Misra <(b) (6)>  
**Date:** Thursday, May 20, 2021 at 8:56 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: [EXTERNAL] Re: FW: Washington Post article draft

Sure, I just added some text in the second paragraph from the end. I mentioned FOIA, but you can delete it if you would prefer not to talk about it.

On Thu, May 20, 2021 at 8:21 AM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Great! Can you include your last paragraph point in the text? I am trying to edit the document already.

And yes, I want to keep Mc Donald. He has done more to UFO science than anyone. He deserves credit.

<https://docs.google.com> (b) (6)

Ravi

From: Jacob Haqq Misra <(b) (6)>  
Date: Thursday, May 20, 2021 at 8:17 AM  
To: "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
Cc: "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>

Subject: [EXTERNAL] Re: FW: Washington Post article draft

Okay thanks! These are some good comments, especially about rearranging some of the content.

I have no problem including James McDonald, but if we must remove mention of him we can. He is still mentioned in the SciAm article.

I also agree we can explain a bit more about the kind of data that is needed. We can talk about how most data is limited in terms of recorded observations, and often eyewitness testimony is the only way to cross-validate. But in other areas of science, we are able to compare multiple independent measurements.

On Wed, May 19, 2021 at 4:48 PM Kopparapu, Ravi Kumar (GSFC-6990)

<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)<mailto:ravikumar.kopparapu@nasa.gov>> wrote:

One of our science writer sent these comments. I will update our google draft accordingly. My guess is this is the only detailed comment from NASA side we will get. Others are just approvers. I asked for further clarification on her reservations about Mc Donald (she did mention some time ago he committed suicide because no one believed him).

She responded:

No not because of suicide, per se. But because it seems like his reputation took a hit due to his UFO work, and that he was pro the ET hypothesis. He's not a household name like Carl Sagan, so I don't even know if it makes sense to cite him in a general-interest pub. I also don't know much about Allen Hynek – don't remember his story from the New Yorker article.

I said I am not worried because he is the one scientist everyone should pay attention to, if they want to do science of UFOs.

From: "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]"

<[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)<mailto:lonnie.shekhtman@nasa.gov>>

Date: Wednesday, May 19, 2021 at 4:25 PM

To: "Kopparapu, Ravi Kumar (GSFC-6990)"

<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)<mailto:ravikumar.kopparapu@nasa.gov>>

Subject: Re: Washington Post article draft

Hi Ravi,

There are a lot of good ideas in here. I have some thoughts in the attached.

Lonnie

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

From: "Kopparapu, Ravi Kumar (GSFC-6990)"  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)<mailto:ravikumar.kopparapu@nasa.gov>>  
Date: Wednesday, May 19, 2021 at 12:34 PM  
To: "Mahaffy, Paul R. (GSFC-6900)"  
<[paul.r.mahaffy@nasa.gov](mailto:paul.r.mahaffy@nasa.gov)<mailto:paul.r.mahaffy@nasa.gov>>  
Cc: "Getty, Stephanie A. (GSFC-6900)"  
<[stephanie.a.getty@nasa.gov](mailto:stephanie.a.getty@nasa.gov)<mailto:stephanie.a.getty@nasa.gov>>, "Malespin, Charles A. (GSFC-6990)" <[Charles.A.Malespin@nasa.gov](mailto:Charles.A.Malespin@nasa.gov)<mailto:Charles.A.Malespin@nasa.gov>>, "Guzewich, Scott D. (GSFC-6990)" <[scott.d.guzewich@nasa.gov](mailto:scott.d.guzewich@nasa.gov)<mailto:scott.d.guzewich@nasa.gov>>, "Domagal-goldman, Shawn D. (GSFC-6930)"  
<[shawn.goldman@nasa.gov](mailto:shawn.goldman@nasa.gov)<mailto:shawn.goldman@nasa.gov>>, "Jones, Nancy N. (GSFC-1300)"  
<[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)<mailto:nancy.n.jones@nasa.gov>>, "Andreoli, Claire (GSFC-1300)"  
<[claire.andreoli@nasa.gov](mailto:claire.andreoli@nasa.gov)<mailto:claire.andreoli@nasa.gov>>, "Shekhtman, Lonnie (GSFC-690.0) [ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)<mailto:lonnie.shekhtman@nasa.gov>>  
Subject: Washington Post article draft

Hi Paul, Stephanie, Charles, Scott, Shawn, Nancy, Claire and Lonnie,

I was contacted by a Washington Post reporter yesterday to talk about Technosignatures and UAPs. The summary of that discussion resulted in them asking me to write an article for the Post related to UAP (or UFOs), to provide a scientist's perspective. If you remember, this was similar to the one I wrote last year for Scientific American<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.scientificamerican.com%2Farticle%2Funidentified-aerial-phenomena-better-known-as-ufos-deserve-scientific-investigation%2F&data=04%7C01%7Cravikumar.kopparapu%40nasa.gov%7C42415f265bab40c1af4508d91b0423ef%7C7005d45845be48ae8140d43da96dd17b%7C0%7C0%7C637570527013804107%7CUnknown%7CTWFpbGZsb3d8eyJWljoIMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTil6lk1haWwiLCJXVCi6Mn0%3D%7C1000&sdata=PPdGbbKoRYukMgsalZEB2SCe40YPGiicLf4JqhTf%2BY%3D&reserved=0>>  
<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.scientificamerican.com%2Farticle%2Funidentified-aerial-phenomena-better-known-as-ufos-deserve-scientific-investigation%2F&data=04%7C01%7Cravikumar.kopparapu%40nasa.gov%7Cdd18e0e4aac04ecc1e0308d91b893ba5%7C7005d45845be48ae8140d43da96dd17b%7C0%7C0%7C637571098493776>>

[922%7CUnknown%7CTWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Ikk1haWwiLCJXVCi6Mn0%3D%7C1000&sdata=Ee7b6%2F5dDg1p9Ua2DuMm9OIFF9t1%2FIDeF4YN1pcZU1U%3D&reserved=0>>](#) . I wrote a draft of the article and attached with this email. Please let me know if you have any comments or suggestions (or concerns). I tried to stick to science and availability of data.

My co-author is a colleague of mine at Blue Marble Space Institute of Science, Jacob Haqq-Misra.

Thank you

Ravi

--

Ravi kumar Kopparapu

NASA Goddard Space Flight Center

Greenbelt, MD 20771

email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)<mailto:ravikumar.kopparapu@nasa.gov>

<mailto:[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)<mailto:ravikumar.kopparapu@nasa.gov>>

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Request #: 21-HQ-F-00603

4

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 k(4)     k(5)     k(6)     k(7)

Description of Document withheld: Internal Draft article containing comments

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Eghigian, Greg](#)  
**Cc:** [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Subject:** Washington Post article on UFOs  
**Date:** Thursday, May 20, 2021 9:52:42 AM  
**Attachments:** [WaPo\\_ver2.docx](#)

---

Dear Greg,

We were recently contacted by a Washington Post reporter to talk about Technosignatures and UAPs. The summary of that discussion resulted in them asking us to write an article for the Post related to UAP (or UFOs), to provide a scientist's perspective. This is similar to the one that we wrote last year for [Scientific American](#) . Our draft of the article is attached with this email. We would greatly appreciate your comments on this one. Currently, this draft is in the NASA review process chain of approval.

Thank you  
Ravi

--

Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](mailto:Kopparapu, Ravi Kumar (GSFC-6990))  
**To:** [Malespin, Charles A. \(GSFC-6990\)](mailto:Malespin, Charles A. (GSFC-6990))  
**Subject:** Re: Washington Post article draft  
**Date:** Thursday, May 20, 2021 9:57:44 AM

---

Thanks Charles!

---

**From:** "Malespin, Charles A. (GSFC-6990)" <Charles.A.Malespin@nasa.gov>  
**Date:** Thursday, May 20, 2021 at 9:56 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

Ravi,

This looks good to me. I will of course defer to the HQ people on what is ok to say and what isn't, but I cant imagine they have issues with this draft. Nice job!

Charles

-----  
Charles A Malespin  
Chief, Planetary Environments Lab (Code 699)  
NASA Goddard Space Flight Center  
301-614-6042 (o), (b) (6) (c)  
<https://science.gsfc.nasa.gov/solarsystem/planetaryenvironments>

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Thursday, May 20, 2021 at 9:12 AM  
**To:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>, "Mahaffy, Paul R. (GSFC-6900)" <paul.r.mahaffy@nasa.gov>  
**Cc:** "Getty, Stephanie A. (GSFC-6900)" <stephanie.a.getty@nasa.gov>, "charles.a.malespin@nasa.gov" <Charles.A.Malespin@nasa.gov>, "Guzewich, Scott D. (GSFC-6990)" <scott.d.guzewich@nasa.gov>, "Domagal-goldman, Shawn D. (GSFC-6930)" <shawn.goldman@nasa.gov>, "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: Washington Post article draft

Hi Nancy,  
Thank you.

Yes, I do remember and is the reason I sent this article as well to all of you. I can send a final draft once I have approval from all of you in this email. Thank you to those who have already responded.  
Ravi

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Thursday, May 20, 2021 at 9:10 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Mahaffy, Paul R. (GSFC-6900)" <paul.r.mahaffy@nasa.gov>  
**Cc:** "Getty, Stephanie A. (GSFC-6900)" <stephanie.a.getty@nasa.gov>, "Malespin, Charles A. (GSFC-6990)" <Charles.A.Malespin@nasa.gov>, "Guzewich, Scott D. (GSFC-6990)" <scott.d.guzewich@nasa.gov>, "Domagal-goldman, Shawn D. (GSFC-6930)" <shawn.goldman@nasa.gov>, "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: Washington Post article draft

Hi Ravi,

When you have the final copy, I will send it to HQ so that they can have a look before it goes to the Washington Post. If you recall, we sent the Scientific American article to HQ as well.

Thanks,  
Nancy

--

*Nancy Neal Jones  
Senior Communications Manager  
Solar System Exploration Division  
NASA's Goddard Space Flight Center  
Office of Communications  
Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 19, 2021 at 12:34 PM  
**To:** "Mahaffy, Paul R. (GSFC-6900)" <paul.r.mahaffy@nasa.gov>  
**Cc:** "Getty, Stephanie A. (GSFC-6900)" <stephanie.a.getty@nasa.gov>, "Malespin, Charles A. (GSFC-6990)" <Charles.A.Malespin@nasa.gov>, "Guzewich, Scott D. (GSFC-6990)" <scott.d.guzewich@nasa.gov>, "Domagal-goldman, Shawn D. (GSFC-6930)" <shawn.goldman@nasa.gov>, "Nancy N. Jones" <nancy.n.jones@nasa.gov>, "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Washington Post article draft

Hi Paul, Stephanie, Charles, Scott, Shawn, Nancy, Claire and Lonnie,

I was contacted by a Washington Post reporter yesterday to talk about Technosignatures and UAPs.

The summary of that discussion resulted in them asking me to write an article for the Post related to UAP (or UFOs), to provide a scientist's perspective. If you remember, this was similar to the one I wrote last year for [\*Scientific American\*](#) . I wrote a draft of the article and attached with this email. Please let me know if you have any comments or suggestions (or concerns). I tried to stick to science and availability of data.

My co-author is a colleague of mine at Blue Marble Space Institute of Science, Jacob Haqq-Misra.

Thank you

Ravi

--

Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)



**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Domagal-goldman, Shawn D. \(GSFC-6930\)](#); [Mahaffy, Paul R. \(GSFC-6900\)](#)  
**Cc:** [Getty, Stephanie A. \(GSFC-6900\)](#); [Malespin, Charles A. \(GSFC-6990\)](#); [Guzewich, Scott D. \(GSFC-6990\)](#); [Jones, Nancy N. \(GSFC-1300\)](#); [Andreoli, Claire \(GSFC-1300\)](#); [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: Washington Post article draft  
**Date:** Thursday, May 20, 2021 10:23:49 AM

---

Hi Shawn,

Thank you. Excellent point! Lonnie also suggested the exact same thing on moving up that paragraph. I will do so.

Ravi

---

**From:** "Domagal-goldman, Shawn D. (GSFC-6930)" <shawn.goldman@nasa.gov>  
**Date:** Thursday, May 20, 2021 at 10:22 AM  
**To:** "Mahaffy, Paul R. (GSFC-6900)" <paul.r.mahaffy@nasa.gov>, "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Cc:** "Getty, Stephanie A. (GSFC-6900)" <stephanie.a.getty@nasa.gov>, "Malespin, Charles A. (GSFC-6990)" <Charles.A.Malespin@nasa.gov>, "Guzewich, Scott D. (GSFC-6990)" <scott.d.guzewich@nasa.gov>, "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>, "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0) [ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: Washington Post article draft

Ravi,

I enjoyed reading this and thinks it makes excellent points and is perfect for the target audience. I think a little more clarity is needed in the paragraph that begins (b) (5)

(b) (5)

The other thing I'd suggest is moving that paragraph up. The point you are making in that section is more important than the history laid out in the paragraph above, and for this

(b) (5)

shawn

-----  
Shawn Domagal-Goldman  
he/him/his  
Branch Chief, Planetary Systems Lab (Code 693)  
NASA Goddard Space Flight Center

Note - If you receive an email from me on nights and/or weekends, that doesn't mean I expect you to read it or reply at that time. If its urgent and I need an immediate reply, I'll be sure to let you know. Otherwise, please read/reply when you can during whatever your working hours happen to be.

---

**From:** Mahaffy, Paul R. (GSFC-6900) <paul.r.mahaffy@nasa.gov>  
**Sent:** Thursday, May 20, 2021 9:57 AM  
**To:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Cc:** Getty, Stephanie A. (GSFC-6900) <stephanie.a.getty@nasa.gov>; Malespin, Charles A. (GSFC-6990) <Charles.A.Malespin@nasa.gov>; Guzewich, Scott D. (GSFC-6990) <scott.d.guzewich@nasa.gov>; Domagal-goldman, Shawn D. (GSFC-6930) <shawn.goldman@nasa.gov>; Jones, Nancy N. (GSFC-1300) <nancy.n.jones@nasa.gov>; Andreoli, Claire (GSFC-1300) <claire.andreoli@nasa.gov>; Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC] <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: Washington Post article draft

Ravi,

This is well written. I have no further suggestions or concerns.

Regards.

Paul

\*\*\*\*\*

Paul Mahaffy  
Director, Solar System Exploration Division  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771

science.gsfc.nasa.gov/solarsystem  
\*\*\*\*\*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 19, 2021 at 12:34 PM  
**To:** Paul Mahaffy <paul.r.mahaffy@nasa.gov>  
**Cc:** "Getty, Stephanie A. (GSFC-6900)" <stephanie.a.getty@nasa.gov>, "Malespin, Charles A. (GSFC-6990)" <Charles.A.Malespin@nasa.gov>, "Guzewich, Scott D. (GSFC-6990)" <scott.d.guzewich@nasa.gov>, "Domagal-goldman, Shawn D. (GSFC-6930)" <shawn.goldman@nasa.gov>, "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>, "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0) [ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Washington Post article draft

Hi Paul, Stephanie, Charles, Scott, Shawn, Nancy, Claire and Lonnie,

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My co-author is a colleague of mine at Blue Marble Space Institute of Science, Jacob Haqq-Misra.

Thank you

Ravi

--

Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

From: [REDACTED]  
To: [REDACTED]  
Sent: [REDACTED]

Hi [REDACTED],

On Thu May 18 2021 at 10:25 AM [REDACTED] wrote:  
[REDACTED]

From: [REDACTED]  
To: [REDACTED]  
Cc: [REDACTED]



Duplicate email chain - already processed

**From:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: Washington Post article draft  
**Date:** Thursday, May 20, 2021 3:18:24 PM

---

Nice changes!

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Thursday, May 20, 2021 at 12:01 PM  
**To:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>, "Mahaffy, Paul R. (GSFC-6900)" <paul.r.mahaffy@nasa.gov>  
**Cc:** "Getty, Stephanie A. (GSFC-6900)" <stephanie.a.getty@nasa.gov>, "Malespin, Charles A. (GSFC-6990)" <Charles.A.Malespin@nasa.gov>, "Guzewich, Scott D. (GSFC-6990)" <scott.d.guzewich@nasa.gov>, "Domagal-goldman, Shawn D. (GSFC-6930)" <shawn.goldman@nasa.gov>, "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: Washington Post article draft

Hi Nancy,  
I am attaching a final version of the draft. Thank you I"> for those who gave comments.  
Best  
Ravi

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Thursday, May 20, 2021 at 9:10 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Mahaffy, Paul R. (GSFC-6900)" <paul.r.mahaffy@nasa.gov>  
**Cc:** "Getty, Stephanie A. (GSFC-6900)" <stephanie.a.getty@nasa.gov>, "Malespin, Charles A. (GSFC-6990)" <Charles.A.Malespin@nasa.gov>, "Guzewich, Scott D. (GSFC-6990)" <scott.d.guzewich@nasa.gov>, "Domagal-goldman, Shawn D. (GSFC-6930)" <shawn.goldman@nasa.gov>, "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: Washington Post article draft

Hi Ravi,

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Thanks,  
Nancy

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 19, 2021 at 12:34 PM  
**To:** "Mahaffy, Paul R. (GSFC-6900)" <paul.r.mahaffy@nasa.gov>  
**Cc:** "Getty, Stephanie A. (GSFC-6900)" <stephanie.a.getty@nasa.gov>, "Malespin, Charles A. (GSFC-6990)" <Charles.A.Malespin@nasa.gov>, "Guzewich, Scott D. (GSFC-6990)" <scott.d.guzewich@nasa.gov>, "Domagal-goldman, Shawn D. (GSFC-6930)" <shawn.goldman@nasa.gov>, "Nancy N. Jones" <nancy.n.jones@nasa.gov>, "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Washington Post article draft

Hi Paul, Stephanie, Charles, Scott, Shawn, Nancy, Claire and Lonnie,

I was contacted by a Washington Post reporter yesterday to talk about Technosignatures and UAPs. The summary of that discussion resulted in them asking me to write an article for the Post related to UAP (or UFOs), to provide a scientist's perspective. If you remember, this was similar to the one I wrote last year for [Scientific American](#). I wrote a draft of the article and attached with this email. Please let me know if you have any comments or suggestions (or concerns). I tried to stick to science and availability of data.

My co-author is a colleague of mine at Blue Marble Space Institute of Science, Jacob Haqq-Misra.

Thank you  
Ravi

--

Ravi kumar Kopparapu

NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

Over the past few years, UAP (Unidentified Aerial Phenomena, more commonly known as Unidentified Flying Objects or UFOs) have been reported in the [news repeatedly](#). The most obvious question everyone wants to know is, *what are they?* But these sightings are by definition *unidentified*, so asking "What are UFOs?" will only lead to speculative answers that bring us no closer to understanding them. Instead, we should be asking "how can we figure out what UFOs are?" Framing this question with active inquiry in mind would allow a science-based approach to investigate the identity of UAPs. And there-in lies the problem.

The language of scientists is data. But without access to full data, it is nearly impossible to verify or explain any observation. The lack of robust data, including the lack of access to some existing data, is the central problem for scientific study of UAPs. Science is unforgiving. Data is the authority. Our feelings and opinions are irrelevant.

But in recent decades, the scientific study of UAP has become a taboo. A precipitating point may have been the Condon report, commissioned by the US Air Force and conducted at the University of Colorado in the late 1960s, which stated that "...nothing has come from the study of UFOs....that has added to scientific knowledge." This led to the close of the ongoing Air Force-led UAP investigation named Project Blue Book. Prominent critics, such as Prof. Allen Hynek, an Ohio State astronomer, who served as a consultant on the Project Blue Book, argued that the work done in the Condon report was "inadequate" and "poorly organized." Since then, little to no interest has been given by the scientific community in the investigation of UAP. A big driver of this is a self-perpetuating cycle of this being viewed as a taboo topic. Once scientists ignored the subject, this created a vacuum of knowledge that was filled by conspiracy theories and sensational claims. In a few cases, some scientists that did engage in this topic were viewed by other scientists as putting conclusions before data, a troubling reversal of the scientific method. This in turn fueled the taboo culture, driving away trained scientists, creating a never-ending-cycle of prohibiting any scientific study of the subject.

UAP investigation by the scientific community is not new. Distinguished scientists like Carl Sagan, James Mc Donald, Allen Hynek thought that UAP should be investigated scientifically. Project Blue Book examined several hundred UAP cases from the 1950s and 60s. About 700 of the more than 12,000 cases remained "unidentified" at the close of the project, although Hynek later argued that the number of unresolved cases should have been higher. Astronomer Carl Sagan recognized the need for scientists to discuss this problem, which already had widespread popular interest, and co-organized a symposium of American Association for the Advancement of Science (AAAS) in 1969 titled "[UFOs: A Scientific Debate](#)." Sagan remained skeptical of the extraterrestrial hypothesis and would demand extraordinary evidence to justify such a claim; however, he also saw the scientific study of UAP as a valuable way to teach the broader public about how science is done. Most notably, the late Prof. James McDonald, a member of National Academy Sciences, conducted a rigorous analysis of a few UAP cases that Project Blue Book highlighted as unexplainable. His presentation at the AAAS symposium, titled "[Science in Default](#)," is one of the best scientific examinations of UAP cases. The discerning methods, evidence-based investigation, and an approach that considers all the available data (rather than cherry picking

one instance of an event) used in this document provides a template of how trained scientists can investigate UAP.

Lack of reliable data is another crucial reason why the scientific community gave little attention to UAP. Most UAP sightings result in very limited data, usually video recordings from a single angle that can only be cross-validated with eyewitness testimony. Some UAP sightings were also observed on radar, which could assist in determining their identity. Without robust or credible data, UAP studies will always be viewed as fringe science and will never be able to come into the mainstream. No amount of grainy video snippets will help in de-mystifying the broader phenomena. Systematic collection of new data, or the availability of existing data, is paramount. While analyzing such data, strict agnosticism should be advocated to ensure an unbiased scientific approach. The recent declassification of UAP videos by the Navy brought the topic of UAPs out from the shadows of tabloid news and onto front page articles. While some of these events seem to have possible explanations based on snippets of edited images and videos, the history of UFO scientific studies in the U.S is not limited to these videos, and reminds us to not paint the whole phenomena with one broad brush. This is not a U.S-specific occurrence, nor is it limited to observations by U.S armed forces. Commercial pilots have also reported seeing UAP. There may not be a single explanation to *all* such observations.

A notable aspect surrounding the media coverage of the U.S Navy videos is the absence of scientific or expert opinion, in addition to government officials and witness testimonials. If we truly want to understand what UAPs really are, then we need to engage the mainstream scientific community in a concerted effort to study them. This should include the involvement of experts and scientists trained in scientific methodology in such investigations. Make data available to them. Speak their language. Remove any taboos surrounding free scientific inquiry of UFOs. Because, ultimately, understanding UAP is a science problem.

*The views and opinions expressed in this article are those of the authors and are not necessarily those of NASA or their employers.*

**From:** Deily, Mary-Ellen  
**To:** Kopparapu, Ravi Kumar (GSFC-6990)  
**Subject:** Re: [EXTERNAL] Inquiry from Washington Post about your paper  
**Date:** Thursday, May 20, 2021 4:07:48 PM

---

Excellent. Thank you, Ravi. I'll keep my fingers crossed that NASA lets it through.  
Mary-Ellen

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Sent:** Thursday, May 20, 2021 4:05 PM  
**To:** Deily, Mary-Ellen (b) (6)  
**Subject:** Re: [EXTERNAL] Inquiry from Washington Post about your paper

Hi Mary-Ellen,  
My draft article is in review with NASA HQ. I will update you as soon as I hear from them.  
Best  
Ravi

---

**From:** "Deily, Mary-Ellen" (b) (6)  
**Date:** Tuesday, May 18, 2021 at 12:48 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: [EXTERNAL] Inquiry from Washington Post about your paper

I'll take a look shortly. Thank you.

Get Outlook for Android [[gcc02.safelinks.protection.outlook.com](mailto:gcc02.safelinks.protection.outlook.com)]

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Sent:** Tuesday, May 18, 2021 12:44:20 PM  
**To:** Deily, Mary-Ellen (b) (6)  
**Subject:** Re: [EXTERNAL] Inquiry from Washington Post about your paper

Hi Mary-Ellen,  
Thank you for talking with me today.  
I am attaching the document written by Prof. James Mc Donald back in the 60s about the scientific study of UFOs. The introduction is where he advocates for scientists to pay attention, and the rest of the document is about how he himself investigated few cases using scientific method. I included some of my own notes in the document when reading it. Please ignore the notes if you are not interested.

Here is Jacob Haqq-Misra's email: (b) (6)

Best  
Ravi

---

**From:** "Deily, Mary-Ellen" (b) (6)  
**Date:** Tuesday, May 18, 2021 at 11:57 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Cc:** "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>, "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Subject:** Re: [EXTERNAL] Inquiry from Washington Post about your paper

<https://www.washingtonpost.com/outlook/2020/12/31/breakthrough-listen-seti-technosignatures/> [[gcc02.safelinks.protection.outlook.com](mailto:gcc02.safelinks.protection.outlook.com)]  
[[gcc02.safelinks.protection.outlook.com](mailto:gcc02.safelinks.protection.outlook.com)]

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[[gcc02.safelinks.protection.outlook.com](mailto:gcc02.safelinks.protection.outlook.com)]

BLC-1 probably isn't an extraterrestrial signal. It's still an exciting step in the search for life on other planets. - The Washington Post  
[[gcc02.safelinks.protection.outlook.com](mailto:gcc02.safelinks.protection.outlook.com)]  
[[gcc02.safelinks.protection.outlook.com](mailto:gcc02.safelinks.protection.outlook.com)]

Now, however, the long desert of opportunity may finally be giving way to a new era of growth. In 2015, Internet billionaire Yuri Milner pledged \$100 million to create Breakthrough Listen, a next ...

<http://www.washingtonpost.com>

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>

Sent: Tuesday, May 18, 2021 11:08 AM

To: Deily, Mary-Ellen (b) (6)

Cc: Andreoli, Claire (GSFC-1300) <claire.andreoli@nasa.gov>; Jones, Nancy N. (GSFC-1300) <nancy.n.jones@nasa.gov>

Subject: Re: [EXTERNAL] Inquiry from Washington Post about your paper

Duplicate email chain - already processed



**From:** [Jacob Haqq Misra](#)  
**To:** [Eghigian, Greg](#)  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\); \(b\) \(6\)](#) [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Subject:** Re: [EXTERNAL] Re: Washington Post article on UFOs  
**Date:** Friday, May 21, 2021 8:58:21 AM

---

Thanks Greg! These are helpful comments.

On Fri, May 21, 2021 at 8:55 AM Eghigian, Greg <(b) (6)> wrote:

Ravi and Jacob,

Attached is that last draft you sent me with my comments inserted. Really fascinating piece and eminently reasonable.

Best,

Greg

Greg Eghigian

Professor of History

Penn State University

Department of History

108 Weaver Building

Penn State University

University Park, PA 16802

USA

Email: (b) (6)

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**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Date:** Friday, May 21, 2021 at 8:25 AM  
**To:** Greg Eghigian <(b) (6)>  
**Cc:** "(b) (6)" <(b) (6)>

**Subject:** Re: [EXTERNAL] Re: Washington Post article on UFOs

Hi Greg,

Thanks, please take a look at **\*this\*** attached updated version.

Best

Ravi

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**From:** "Eghigian, Greg" <(b) (6)>

**Date:** Friday, May 21, 2021 at 8:23 AM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>

**Subject:** [EXTERNAL] Re: Washington Post article on UFOs

Sure, Ravi. I'll have a look at this today.

Best,

Greg

Greg Eghigian

Professor of History

Penn State University

Department of History

108 Weaver Building

Penn State University

University Park, PA 16802

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**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Date:** Thursday, May 20, 2021 at 9:53 AM  
**To:** Greg Eghigian <(b) (6)>  
**Cc:** "(b) (6)" <(b) (6)>  
**Subject:** Washington Post article on UFOs

Dear Greg,

We were recently contacted by a Washington Post reporter to talk about Technosignatures and UAPs. The summary of that discussion resulted in them asking us to write an article for the Post related to UAP (or UFOs), to provide a scientist's perspective. This is similar to the one that we wrote last year for *Scientific American*. Our draft of the article is attached with this email. We would greatly appreciate your comments on this one. Currently, this draft is in the NASA review process chain of approval.

Thank you

Ravi

--

Ravi kumar Kopparapu

NASA Goddard Space Flight Center

Greenbelt, MD 20771

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Over the past few years, UAP (Unidentified Aerial Phenomena, more commonly known as Unidentified Flying Objects or UFOs) have been reported in the [news repeatedly](#). The most obvious question everyone wants to know is, *what are they?* But these sightings are by definition *unidentified*, so asking "What are UFOs?" will only lead to speculative answers that bring us no closer to understanding them. Instead, we should be asking "how can we figure out what UFOs are?" Framing this question with active inquiry in mind would allow a science-based approach to investigate the identity of UAPs. And there-in lies the problem.

The language of scientists is data. But without access to full data, it is nearly impossible to verify or explain any observation. The lack of robust data, including the lack of access to some existing data, is the central problem for scientific study of UAPs. Science is unforgiving. Data is the authority. Our feelings and opinions are irrelevant.

But in recent decades, the scientific study of UAP has become a [taboo](#). A precipitating point may have been the Condon report, commissioned by the US Air Force and conducted at the University of Colorado in the late 1960s, which stated that "...nothing has come from the study of UFOs....that has added to scientific knowledge." This led to the close of the ongoing Air Force-led UAP investigation named Project Blue Book. Prominent critics, such as Prof. Allen Hynek, an Ohio State astronomer, who served as a consultant on the Project Blue Book, argued that the work done in the Condon report was "inadequate" and "poorly organized." Since then, little to no interest has been given by the scientific community in the investigation of UAP. A big driver of this is a self-perpetuating cycle of this being viewed as a taboo topic. Once scientists ignored the subject, this created a vacuum of knowledge that was filled by conspiracy theories and sensational claims. In a few cases, some scientists that did engage in this topic were viewed by other scientists as putting conclusions before data, a troubling reversal of the scientific method. This in turn fueled the taboo culture, driving away trained scientists, creating a never-ending-cycle of prohibiting any scientific study of the subject.

UAP investigation by the scientific community is not new. Distinguished scientists like Carl Sagan, James Mc Donald, Allen Hynek thought that UAP should be investigated scientifically. Project Blue Book examined several hundred UAP cases from the 1950s and 60s. About 700 of the more than 12,000 cases remained "unidentified" at the close of the project, although Hynek later argued that the number of unresolved cases should have been higher. Astronomer Carl Sagan recognized the need for scientists to discuss this problem, which already had widespread popular interest, and co-organized a symposium of American Association for the Advancement of Science (AAAS) in 1969 titled "[UFOs: A Scientific Debate](#)." Sagan remained skeptical of the extraterrestrial hypothesis and would demand extraordinary evidence to justify such a claim; however, he also saw the scientific study of UAP as a valuable way to teach the broader public about how science is done. Most notably, the late Prof. James McDonald, a member of National Academy Sciences, conducted a rigorous analysis of a few UAP cases that Project Blue Book highlighted as unexplainable. His presentation at the AAAS symposium, titled "[Science in Default](#)," is one of the best scientific examinations of UAP cases. The discerning methods, evidence-based investigation, and an approach that considers all the available data (rather than cherry picking

**Commented [EG1]:** I think it's safe to say that the scientific study of UFOs as authentic alien technology has been surrounded by an aura of unacceptability and ridicule since the start in the 1940s. The scientific study of UFOs in order to debunk ET claims, however, has been seen as legitimate since at least Donald Menzel's work in the field.

**Commented [EG2]:** I must admit, I've always seen these criticisms made about the Condon Committee's work, but I've never come across the details about what exactly was wrong with its methods. I'm not doubting the claim, but I would like to see more specifics.

**Commented [EG3]:** This is actually not true. It's only true of physical scientists. Since 1970, there has been a great deal of research conducted by social scientists and scholars in the humanities.

one instance of an event) used in this document provides a template of how trained scientists can investigate UAP.

Lack of reliable data is another crucial reason why the scientific community gave little attention to UAP. Most UAP sightings result in very limited data, usually video recordings from a single angle that can only be cross-validated with eyewitness testimony. Some UAP sightings were also observed on radar, which could assist in determining their identity. Without robust or credible data, UAP studies will always be viewed as fringe science and will never be able to come into the mainstream. No amount of grainy video snippets will help in de-mystifying the broader phenomena. Systematic collection of new data, or the availability of existing data, is paramount. While analyzing such data, strict agnosticism should be advocated to ensure an unbiased scientific approach. The recent declassification of UAP videos by the Navy brought the topic of UAPs out from the shadows of tabloid news and onto front page articles. While some of these events seem to have possible explanations based on snippets of edited images and videos, the history of UFO scientific studies in the U.S is not limited to these videos, and reminds us to not paint the whole phenomena with one broad brush. This is not a U.S-specific occurrence, nor is it limited to observations by U.S armed forces. Commercial pilots have also reported seeing UAP. There may not be a single explanation to *all* such observations.

**Commented [EG4]:** Actually, the UAP videos that first came out in 2017 – I'm not sure about the recent one – apparently were never "declassified," because they were never "classified," but rather always "unclassified." That doesn't mean they weren't under some level of security control. But that (deliberate?) confusion has led many to project nefarious intentions to the Navy.

A notable aspect surrounding the media coverage of the U.S Navy videos is the absence of scientific or expert opinion, in addition to government officials and witness testimonials. If we truly want to understand what UAPs really are, then we need to engage the mainstream scientific community in a concerted effort to study them. This should include the involvement of experts and scientists trained in scientific methodology in such investigations. Make data available to them. Speak their language. Remove any taboos surrounding free scientific inquiry of UFOs. Because, ultimately, understanding UAP is a science problem.

*The views and opinions expressed in this article are those of the authors and are not necessarily those of NASA or their employers.*

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Eghigian, Greg](#)  
**Cc:** [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Subject:** Re: [EXTERNAL] Re: Washington Post article on UFOs  
**Date:** Friday, May 21, 2021 9:12:32 AM  
**Attachments:** [mcdonald aaas 69.pdf](#)

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Thanks Greg, These are really great comments. Particularly the clarification about social scientists research on UAP. We will make clear that point.

Regarding the details about the criticism on the Condon report, I am attaching a report by James Mc Donald ("Science in Default") where he chose few cases and discussed them in depth, comparing and contrasting with Condon report conclusions. Contrary to the popular opinion that we have been hearing from many physical scientists, Condon report did not say that the vast majority of the cases are explainable. Mc Donald makes this point explicitly in this report that

*"...of the roughly 90 cases that it specifically confronts, over 30 are conceded to be unexplained. With so large a fraction of unexplained cases. With so large a fraction of unexplained cases..... it is far from clear how Dr. Condon felt justified in concluding that the study indicated "that further extensive study of UFOs probably cannot be justified in the expectation that science will be advanced thereby."*

~33% is not vast majority, and we would not accept such conclusion in our everyday science jobs. So why are our colleagues making that conclusion in this case?

Jacob and I are trying to highlight this report by James Mc Donald, who was NAS member (meteorologist, not an astronomer for a change) and we want our scientist critics to read this report carefully. We cannot forget or ignore history. I have included my own comments on this draft, so please feel free to ignore them if you wish.

Best  
Ravi

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**From:** "Eghigian, Greg" <(b) (6)>  
**Date:** Friday, May 21, 2021 at 8:57 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Subject:** Re: [EXTERNAL] Re: Washington Post article on UFOs

Ravi and Jacob,

Attached is that last draft you sent me with my comments inserted. Really fascinating piece and eminently reasonable.

Best,  
Greg

Greg Eghigian  
Professor of History  
Penn State University

Department of History  
108 Weaver Building  
Penn State University  
University Park, PA 16802  
USA  
Email: (b) (6)

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# Science in Default:

## Twenty-Two Years of Inadequate UFO Investigations

American Association for the Advancement of Science, 134th Meeting

General Symposium, Unidentified Flying Objects

James E. McDonald, Professor of Atmospheric Sciences

The University of Arizona

Tucson, Arizona

December 27, 1969

No scientifically adequate investigation of the UFO problem has been carried out during the entire 22 years that have now passed since the first extensive wave of sightings of unidentified aerial objects in the summer of 1947. Despite continued public interest, and despite frequent expressions of public concern, only quite superficial examinations of the steadily growing body of unexplained UFO reports from credible witnesses have been conducted in this country or abroad. The latter point is highly relevant, since all evidence now points to the fact that UFO sightings exhibit similar characteristics throughout the world.

Charging inadequacy of all past UFO investigations, I speak not only from a background of close study of the past investigations, but also from a background of three years of rather detailed personal research, involving interviews with over five hundred witnesses in selected UFO cases, chiefly in the U. S. In my opinion, the UFO problem, far from being the nonsense problem that it has often been labeled by many scientists, constitutes a problem of extraordinary scientific interest.

The grave difficulty with essentially all past UFO studies has been that they were either devoid of any substantial scientific content, or else have lost their way amidst the relatively large noise-content that tends to obscure the real signal in the UFO reports. The presence of a percentually large number of reports of misidentified natural or technological phenomena (planets, meteors, and aircraft, above all) is not surprising, given all the circumstances surrounding the UFO problem. Yet such understandable and usually easily recognized instances of misidentification have all too often been seized upon as a sufficient explanation for all UFO reports, while the residue of far more significant reports (numbering now of order one thousand) are ignored. I believe science is in default for having failed to mount any truly adequate studies of this problem, a problem that has aroused such strong and widespread public concern during the past two decades. Unfortunately, the present climate of thinking, above all since release of the latest of a long series of inadequate studies, namely, that conducted under the direction of Dr. E. U. Condon at the University of Colorado, will make it very difficult to secure any new and more thorough investigations, yet my own examination of the problem forces me to call for just such new studies. I am enough of a realist to sense that, unless the present AAAS UFO Symposium succeeds in making the scientific community aware of the seriousness of the UFO problem, little immediate response to any call for new investigation is likely to appear.

In fact, the over-all public and scientific response to the UFO phenomena is itself a matter of substantial scientific interest, above all in its social-psychological aspects. Prior to my own investigations, I would never have imagined the wide spread reluctance to report an unusual and seemingly inexplicable event, yet that reluctance, and the attendant reluctance of scientists to exhibit serious interest in the phenomena in question,

are quite general. One regrettable result is the fact that the most credible of UFO witnesses are often those most reluctant to come forward with a report of the event they have witnessed. A second regrettable result is that only a very small number of scientists have taken the time and trouble to search out the nearly puzzling reports that tend to be diluted out by the much larger number of trivial and non-significant UFO reports. The net result is that there still exists no general scientific recognition of the scope and nature of the UFO problem.

Within the federal government, official responsibility for UFO investigations has rested with the Air Force since early 1948. Unidentified aerial objects quite naturally fall within the area of Air Force concern, so this assignment of responsibility was basically reasonable. However, once it became clear (early 1949) that UFO reports did not seem to involve advanced aircraft of some hostile foreign power, Air Force interest subsided to relatively low levels, marked, however, by occasional temporary resurgence of interest following large waves of UFO reports, such as that of 1952, or 1957, or 1965.

A most unfortunate pattern of press reporting developed by about 1953, in which the Air Force would assert that they had found no evidence of anything "defying explanation in terms of present-day science and technology" in their growing files of UFO reports. These statements to the public would have done little harm had they not been coupled systematically to press statements asserting that "the best scientific facilities available to the U. S. Air Force" had been and were being brought to bear on the UFO question. The assurances that substantial scientific competence was involved in Air Force UFO investigations have, I submit, had seriously deleterious scientific effects. Scientists who might otherwise have done enough checking to see that a substantial scientific puzzle lay in the UFO area were misled by these assurances into thinking that capable scientists had already done adequate study and found nothing. My own extensive checks have revealed so slight a total amount of scientific competence in two decades of Air Force-supported investigations that I can only regard the repeated asseverations of solid scientific study of the UFO . problem as the single most serious obstacle that the Air Force has put in the way of progress towards elucidation of the matter

I do not believe, let me stress, that this has been part of some top- secret coverup of extensive investigations by Air Force or security agencies; I have found no substantial basis for accepting that theory of why the Air Force has so long failed to respond appropriately to the many significant and scientifically intriguing UFO reports coming from within its own ranks. Briefly, I see grand foulup but not grand coverup. Although numerous instances could be cited wherein Air Force spokesmen failed to release anything like complete details of UFO reports, and although this has had the regrettable consequence of denying scientists at large even a dim notion of the almost incredible nature of some of the more impressive Air Force-related UFO reports, I still feel that the most grievous fault of 22 years of Air Force handling of the UFO problem has consisted of their repeated public assertions that they had substantial scientific competence on the job.

Close examination of the level of investigation and the level of scientific analysis involved in Project Sign (1948-9), Project Grudge (1949- 52), and Project Bluebook (1953 to date), reveals that these were, viewed scientifically, almost meaning less investigations. Even during occasional periods (e.g., 1952) characterized by fairly active investigation of UFO cases, there was still such slight scientific expertise involved that there was never any real chance that the puzzling phenomena encountered in the most significant UFO cases would be elucidated. Furthermore, the panels, consultants, contractual studies, etc., that the Air Force has had working on the UFO problem over the past 22 years have, with essentially no exception, brought almost negligible scientific scrutiny into the picture. Illustrative examples will be given.

The Condon Report, released in January, 1968, after about two years of Air Force-supported study is, in my opinion, quite inadequate. The sheer bulk of the Report, and the inclusion of much that can only be viewed as "scientific padding", cannot conceal from anyone who studies it closely the salient point that it represents an examination of only a tiny fraction of the most puzzling UFO reports of the past two decades, and that its level of scientific argumentation is wholly unsatisfactory. Furthermore, of the roughly 90 cases that it

specifically confronts, over 30 are conceded to be unexplained. With so large a fraction of unexplained cases (out of a sample that is by no means limited only to the truly puzzling cases, but includes an objectionably large number of obviously trivial cases), it is far from clear how Dr. Condon felt justified in concluding that the study indicated "that further extensive study of UFOs probably cannot be justified in the expectation that science will be advanced thereby."

I shall cite a number of specific examples of cases from the Condon Report which I regard as entirely inadequately investigated and reported. One at Kirtland AFB, November 4, 1957, involved observations of a wingless egg-shaped object that was observed hovering about a minute over the field prior to departure at a climb rate which was described to me as faster than that of any known jets, then or now. The principal witnesses in this case were precisely the type of witnesses whose accounts warrant closest attention, since they were CAA tower observers who watched the UFO from the CAA tower with binoculars. Yet, when I located these two men in the course of my own check of cases from the Condon Report, I found that neither of them had even been contacted by members of the University of Colorado project! Both men were fully satisfied that they had been viewing a device with performance characteristics well beyond any thing in present or foreseeable aeronautical technology. The two men gave me descriptions that were mutually consistent and that fit closely the testimony given on Nov. 6, 1957, when they were interrogated by an Air Force investigator. The Condon Report attempts to explain this case as a light-aircraft that lost its way, came into the field area, and then left. This kind of explanation runs through the whole Condon Report, yet is wholly incapable of explaining the details of sightings such as that of the Kirtland AFB incident. Other illustrative instances in which the investigations summarized in the Condon Report exhibit glaring deficiencies will be cited. I suggest that there are enough significant unexplainable UFO reports just within the Condon Report itself to document the need for a greatly increased level of scientific study of UFOs.

That a panel of the National Academy of Sciences could endorse this study is to me disturbing. I find no evidence that the Academy panel did any independent checking of its own; and none of that 11-man panel had any significant prior investigative experience in this area, to my knowledge. I believe that this sort of Academy endorsement must be criticized; it hurts science in the long run, and I fear that this particular instance will ultimately prove an embarrassment to the National Academy of Sciences.

The Condon Report and its Academy endorsement have exerted a highly negative influence on clarification of the long-standing UFO problem; so much, in fact, that it seems almost pointless to now call for new and more extensive UFO investigations. Yet the latter are precisely what are needed to bring out into full light of scientific inquiry a phenomenon that could well constitute one of the greatest scientific problems of our times.

Some examples of UFO cases conceded to be unexplainable in the Condon Report and containing features of particularly strong scientific interest: Utica, N.Y., 6/23/55; Lakenheath, England, 8/13/56; Jackson, Ala., 11/14/56; Norfolk, Va., 8/30/57; RB-47 case, 9/19/57; Beverly Mass., 4/22/66; Donnybrook, N.D., 8/19/66; Haynesville, La., 12/30/66; Joplin, Mo., 1/13/67; Colorado Springs, Colo., 5/13/67.

Some examples of UFO cases considered explained in the Condon Report for which I would take strong exception to the argumentation presented and would regard as both unexplained and of strong scientific interest: Flagstaff, Ariz., 5/20/50; Washington, D. C., 7/19/52; Bellefontaine, O., 8/1/52; Haneda AFB, Japan, 8/5/52; Gulf of Mexico, 12/6/52; Odessa, Wash., 12/10/52; Continental Divide, N.M., 1/26/53; Seven Isles, Quebec, 6/29/54; Niagara Falls, N.Y., 7/25/57; Kirtland AFB, N.M., 11/4/57; Gulf of Mexico, 11/5/57; Peru, 12/30/66; Holloman AFB, 3/2/67; Kincheloe AFB, 9/11/67; Vandenberg AFB, 10/6/67; Milledgeville, Ga., 10/20/67.

### Illustrative Cases

The following treats in detail the four principal UFO cases referred to in my Symposium talk. They are

presented as specific illustrations of what I regard as serious shortcomings of case-investigations in the Condon Report and in the 1947-69 Air Force UFO program. The four cases used as illustrations are the following :

1. RB-47 case, Gulf Coast area, Sept. 19, 1957
2. Lakenheath RAF Station, England, August 13-14, 1956
3. Haneda AFB, Japan, August 5-6, 1952
4. Kirtland AFB, New Mexico, Nov. 4, 1957

My principal conclusions are that scientific inadequacies in past years of UFO investigations by Air Force Project Bluebook have not been remedied through publication of the Condon Report, and that there remain scientifically very important unsolved problems with respect to UFOs. The investigative and evaluative deficiencies illustrated in the four cases examined in detail are paralleled by equally serious shortcomings in many other cases in the sample of about 90 UFO cases treated in the Condon Report. Endorsement of the conclusions of the Condon Report by the National Academy of Sciences appears to have been based on entirely superficial examination of the Report and the cases treated therein. Further study, conducted on a much more sound scientific level are needed.

#### Case 1. USAF RB-47, Gulf Coast area, September 19-20, 1957.

Brief summary: An Air Force RB-47, equipped with ECM (Electronic Countermeasures) gear, manned by six officers, was followed over a total distance in excess of 600 miles and for a time period of more than an hour, as it flew from near Gulfport, Miss., through Louisiana and Texas, and into southern Oklahoma. The unidentified object was, at various times, seen visually by the cockpit crew (as an intense white or red light), followed by ground-radar, and detected on ECM monitoring gear aboard the RB-47. Simultaneous appearances and disappearances on all three of those physically distinct "channels" mark this UFO case as especially intriguing from a scientific viewpoint. The incident is described as Case 5 in the Condon Report and is conceded to be unexplained. The full details, however, are not presented in that Report.

#### 1. Summary of the Case:

The case is long and involved and filled with well-attested phenomena that defy easy explanation in terms of present-day science and technology. The RB-47 was flying out of Forbes AFB, Topeka, on a composite mission including gunnery exercises over the Texas-Gulf area, navigation exercises over the open Gulf, and ECM exercises in the return trip across the south-central U.S. This was an RB-47 carrying a six-man crew, of whom three were electronic warfare officers manning ECM (Electronic counter-measures) gear in the aft portion of the aircraft. One of the extremely interesting aspects of this case is that electromagnetic signals of distinctly radar-like character appeared definitely to be emitted by the UFO, yet it exhibited performance characteristics that seem to rule out categorically its having been any conventional or secret aircraft.

I have discussed the incident with all six officers of the crew:

Lewis D. Chase, pilot, Spokane, Wash. James H. McCoid, copilot, Offutt AFB Thomas H. Hanley, navigator, Vandenberg AFB John J. Provenzano, No. 1 monitor, Wichita Frank B. McClure, No. 2 monitor, Offutt AFB Walter A. Tuchscherer, No. 3 monitor, Topeka

Chase was a Major at the time; I failed to ask for information on 1957 ranks of the others. McClure and Hanley are currently Majors, so might have been Captains or Lieutenants in 1957. All were experienced men at the time. Condon Project investigators only talked with Chase, McCoid, and McClure, I ascertained. In my

checking it proved necessary to telephone several of them more than once to pin down key points; nevertheless the total case is so complex that I would assume that there are still salient points not clarified either by the Colorado investigators or by myself. Unfortunately, there appears to be no way, at present to locate the personnel involved in ground- radar observations that are a very important part of the whole case. I shall discuss that point below.

This flight occurred in September, 1957, just prior to the crew's reassignment to a European base. On questioning by Colorado investigators, flight logs were consulted, and based on the recollection that this flight was within a short time of departure from Forces to Germany, (plus the requirement that the date match a flight of the known type and geography) the 9/19/57 date seems to have emerged. The uncertainty as to whether it was early on the 19th or early on the 20th, cited above is a point of confusion I had not noted until preparing the present notes. Hence I am unable to add any clarification, at the moment; in this matter of the date confusion found in Thayer's discussion of the case (1, pp. 136-138). I shall try to check that in the near future. For the present, it does not vitiate case-discussion in any significant way.

The incident is most inadequately described in the Condon Report. The reader is left with the general notion that the important parts occurred near Ft. Worth, an impression strengthened by the fact that both Crow and Thayer discuss meteorological data only for that area. One is also left with no clear impression of the duration, which was actually over an hour. The incident involved an unknown airborne object that stayed with the RB-47 for over 600 miles. In case after case in the Condon Report, close checking reveals that quite significant features of the cases have been glossed over, or omitted, or in some instances seriously misrepresented. I submit that to fail to inform the reader that this particular case spans a total distance-range of some 600 miles and lasted well over an hour is an omission difficult to justify.

From my nine separate interviews with the six crew members, I assembled a picture of the events that makes it even more puzzling than it seems on reading the Condon Report -- and even the latter account is puzzling enough.

Just as the aircraft crossed the Mississippi coast near Gulfport, McClure, manning the #2 monitor, detected a signal near their 5 o'clock position (aft of the starboard beam). It looked to him like a legitimate ground-radar signal, but corresponded to a position out in the Gulf. This is the actual beginning of the complete incident; but before proceeding with details it is necessary to make quite clear what kind of equipment we shall be talking about as we follow McClure's successive observations.

Under conditions of war, bombing aircraft entering hostile territory can be assisted in their penetrations if any of a variety of electronic countermeasures (ECM techniques as they are collectively termed) are brought into action against ground-based enemy radar units. The initial step in all ECM operations is, necessarily, that of detecting the enemy radar and quantitatively identifying a number of relevant features of the radar system (carrier frequency, pulse repetition frequency, scan rate, pulse width) and, above all, its bearing relative to the aircraft heading. The latter task is particularly ample in principle, calling only for direction-finding antennas which pick up the enemy signal and display on a monitor scope inside the reconnaissance aircraft a blip or lobe that paints in the relative bearing from which the signal is coming.

The ECM gear used in RB-47's in 1957 is not now classified; the #2 monitor that McClure was on, he and the others pointed out, involved an ALA-6 direction-finder with back-to-back antennas in a housing on the undersurface of the RB-47 near the rear, spun at either 150 or 300 rpm as it scanned in azimuth. Inside the aircraft, its signals were processed in an APR-9 radar receiver and an ALA-5 pulse analyzer. All later references to the #2 monitor imply that system. The #1 monitor employed an APD-4 direction finding system, with a pair of antennas permanently mounted on either wing tip. Provenzano was on the #1 monitor. Tuchscherer was on the #3 monitor, whose specifications I did not ascertain because I could find no indication that it was involved in the observations.

Returning now to the initial features of the UFO episode, McClure at first thought he had 180-degree ambiguity in his scope, i.e., that the signal whose lobe painted at his 5 o'clock position was actually coming in from the 11 o'clock position perhaps from some ground radar in Louisiana. This suspicion, he told me, was temporarily strengthened as he became aware that the lobe was moving upslope. (It is important here and in features of the case cited below to understand how a fixed ground-radar paints on the ECM monitor scope as the reconnaissance aircraft flies toward its general direction: Suppose the ground radar is, at some instant, located at the 1 o'clock position relative to the moving aircraft, i.e., slightly off the starboard bow. As the aircraft flies along, the relative bearing steadily changes, so that the fixed ground unit is "seen" successively at the 2 o'clock, the 3 o'clock, and the 4 o'clock positions, etc. The lobe paints on the monitor scope at these successive relative azimuths, the 12 o'clock position being at the top of the scope, 3 o'clock at the right, etc. Thus any legitimate signal from a fixed ground radar must move downslope, excluding the special cases in which the radar is dead ahead or dead astern. Note carefully that we deal here only with direction finding gear. Range is unknown; we are not here speaking of an airborne radar set, just a radar-frequency direction-finder. In practice, range is obtained by triangulation computations based on successive fixes and known aircraft speed.)

As the lobe continued moving upslope, McClure said the strength of the incoming signal and its pulse characteristics all tended to confirm that this was some ground unit being painted with 180-degree ambiguity for some unknown electronic reason. It was at 2800 megacycles, a common frequency for S-band search radars.

However, after the lobe swung dead ahead, his earlier hypothesis had to be abandoned for it continued swinging over to the 11 o'clock position and continued downslope on the port side. Clearly, no 180-degree ambiguity was capable of accounting for this. Curiously, however, this was so anomalous that McClure did not take it very seriously and did not at that juncture mention it to the cockpit crew nor to his colleagues on the other two monitors. This upslope-downslope "orbit" of the unknown was seen only on the ALA-6, as far as I could establish. Had nothing else occurred, this first and very significant portion of the whole episode would almost certainly have been forgotten by McClure.

The signal faded as the RB-47 headed northward to the scheduled turning point over Jackson, Miss. The mission called for simulated detection and ECM operations against Air Force ground radar units all along this part of the flight plan, but other developments intervened. Shortly after making their turn westward over Jackson, Miss., Chase noted what he thought at first were the landing lights of some other jet coming in from near his 11 o'clock position, at roughly the RB-47's altitude. But no running lights were discernible and it was a single very bright white light, closing fast. He had just alerted the rest of the crew to be ready for sudden evasive maneuvers, when he and McCoid saw the light almost instantaneously change directions and rush across from left to right at an angular velocity that Chase told me he'd never seen matched in his flight experience. The light went from their 11 o'clock to the 2 o'clock position with great rapidity, and then blinked out.

Immediately after that, Chase and McCoid began talking about it on the interphone and McClure, recalling the unusual 2800 megacycle signal that he had seen over Gulfport now mentioned that peculiar incident for the first time to Chase and McCoid. It occurred to him at that point to set his #2 monitor to scan at 2800 mcs. On the first scan, McClure told me, he got a strong 2800 mcs signal from their 2 o'clock position, the bearing on which the luminous unknown object had blinked out moments earlier.

Provenzano told me that right after that they had checked out the #2 monitor on valid ground radar stations to be sure it was not malfunctioning and it appeared to be in perfect order. He then checked on his #1 monitor and also got a signal from the same bearing. There remained, of course, the possibility that just by chance, this signal was from a real radar down on the ground and off in that direction. But as the minutes went by, and the aircraft continued westward at about 500 kts. the relative bearing of the 2800 mcs source did not move

downscope on the #2 monitor, but kept up with them.

This quickly led to a situation in which the entire 6-man crew focussed all attention on the matter; the incident is still vivid in the minds of all the men, though their recollection for various details varies with the particular activities they were engaged in. Chase varied speed, to see if the relative bearing would change but nothing altered. After over a hundred miles of this, with the 2800 mcs source keeping pace with the aircraft, they were getting into the radar-coverage area of the Carswell AFB GCI (Ground Controlled Intercept) unit and Chase radioed that unit to ask if they showed any other air traffic near the RB-47. Carswell GCI immediately came back with the information that there was apparently another aircraft about 10 miles from them at their 2 o'clock position. (The RB-47 was unambiguously identifiable by its IFF signal; the "other aircraft" was seen by "skin paint" Only, i.e., by direct radar reflection rather than via an IFF transponder, Col. Chase explained.)

This information, each of the men emphasized to me in one way or another, made them a bit uneasy for the first time. I asked McClure a question that the Colorado investigators either failed to ask or did not summarize in their Report. Was the signal in all respects comparable to that of a typical ground radar? McClure told me that this was what baffled him the most, then and now. All the radar signature characteristics, as read out on his ALA-5 pulse analyzer, were completely normal -- it had a pulse repetition frequency and pulse width like a CPS-6B and even simulated a scan rate: But its intensity, McClure pointed out, was so strong that "it would have to had an antenna bigger than a bomber to put out that much signal." And now, the implications of the events over Gulfport took on new meaning. The upscope- downscope sweep of his #2 monitor lobe implied that this source, presuming it to be the same one now also being seen on ground radar at Carswell GCI, had flown a circle around the RB-47 at 30-35,000 ft altitude while the aircraft was doing about 500 kts.

Shortly after Carswell GCI began following the two targets, RB-47 and unknown, still another significant action unfolded. McClure suddenly noted the lobe on the #2 monitor was beginning to go upscope, and almost simultaneously, Chase told me, GCI called out that the second airborne target was starting to move forward. Keep in mind that no visual target was observable here; after blinking out at the 12 o'clock position, following its lightning-like traverse across the nose of the aircraft, no light had been visible. The unknown now proceeded to move steadily around to the 12 o'clock position, followed all the while on the #2 monitor and on the GCI scope down at Carswell near Ft. Worth.

As soon as the unknown reached the 12 o'clock position, Chase and McCoid suddenly saw a bright red glow "bigger than a house", Chase said, and lying dead ahead, precisely the bearing shown on the passive radar direction-finder that McClure was on and precisely the bearing now indicated on the GCI scope. Three independent sensing systems were at this juncture giving seemingly consistent-indications: two pairs of human eyes, a ground radar, and a direction-finding radar receiver in the aircraft.

One of the important points not settled by the Colorado investigations concerned the question of whether the unknown was ever painted on any radar set on the RB-47 itself. Some of the men thought the navigator had seen it on his set, others were unsure. I eventually located Maj. Hanley at Vandenberg and he informed me that all through the incident, which he remembered very well, he tried, unsuccessfully to pick up the unknown on his navigational radar (K-system). I shall not recount all of the details of his efforts and his comments, but only mention the end result of my two telephone interviews with him. The important question was what sort of effective range that set had. Hanley gave the pertinent information that it could just pick up a large tanker of the KC-97 type at about 4 miles range, when used in the "altitude- hold" mode, with antenna tipped up to maximum elevation. But both at the start of its involvement and during the object's swing into the 12 o'clock position, GCI showed it remaining close to 10 miles in range from the RB-47. Thus Hanley's inability to detect it on his K-system navigational radar in altitude hold only implies that whatever was out there had a radar cross-section that was less than about 16 times that of a KC-97 (roughly twice 4 miles, inverse 4th-power law), The unknown gave a GCI return that suggested a cross-section comparable to an ordinary aircraft, Chase told me, which is consistent with Hanley's non-detection of the object. The Condon Report gives the

impression the navigator did detect it, but this is not correct.

I have in my files many pages of typed notes on my interviews, and cannot fill in all of the intriguing details here. Suffice it to say that Chase then went to maximum allowable power, hoping to close with the unknown, but it just stayed ahead at about 10 miles as GCI kept telling them; it stayed as a bright red light dead ahead, and it kept painting as a bright lobe on the top of McClure's ALA-6 scope. By this time they were well into Texas still at about 35,000 ft and doing upwards of 500 knots, when Chase saw it begin to veer to the right and head between Dallas and Ft. Worth. Getting FAA clearance to alter his own flight plan and to make sure other jet traffic was out of his way, he followed its turn, and then realized he was beginning to close on it for the first time. Almost immediately GCI told him the unknown had stopped moving on the ground-radar scope. Chase and McCoid watched as they came almost up to it. Chase's recollections on this segment of the events were distinctly clearer than McCoid's. McCoid was, of course, sitting aft of Chase and had the poorer view; also he said he was doing fuel-reserve calculations in view of the excess fuel-use in their efforts to shake the unknown, and had to look up from the lighted cockpit to try to look out intermittently, while Chase in the forward seat was able to keep it in sight more nearly continuously. Chase told me that he'd estimate that it was just ahead of the RB-47 and definitely below them when it instantaneously blinked out. At that same moment McClure announced on the interphone that he'd lost the 2800 mcs signal, and GCI said it had disappeared from their scope. Such simultaneous loss of signal on what we can term three separate channels is most provocative, most puzzling.

Putting the aircraft into a left turn (which Chase noted consumes about 15-20 miles at top speed), they kept looking back to try to see the light again. And, about halfway through the turn (by then the aircraft had reached the vicinity of Mineral Wells, Texas, Chase said), the men in the cockpit suddenly saw the bright red light flash on again, back along their previous flight path but distinctly lower, and simultaneously GCI got a target again and McClure started picking up a 2800 mcs signal at that bearing: (As I heard one after another of these men describe all this, I kept trying to imagine how it was possible that Condon could listen, at the October, 1967, plasma conference at the UFO Project, as Col. Chase recounted all this and shrug his shoulders and walk out.)

Securing permission from Carswell GCI to undertake the decidedly non- standard maneuver of diving on the unknown, Chase put the RB-47 nose down and had reached about 20,000 ft, he recalls, when all of a sudden the light blinked out, GCI lost it on their scope, and McClure reported loss of signal on the #2 monitor: Three-channel consistency once more.

Low on fuel, Chase climbed back up to 25,000 and headed north for Oklahoma. He barely had it on homeward course when McClure got a blip dead astern and Carswell radioed that they had a target once more trailing the RB-47 at about 10 miles. Rear visibility from the topblisters of the RB-4 now precluded easy visual check, particularly if the unknown was then at lower altitude (Chase estimated that it might have been near 15,000 ft when he lost it in the dive). It followed them to southern Oklahoma and then disappeared.

## 2. Discussion:

This incident is an especially good example of a UFO case in which observer credibility and reliability do not come into serious question, a case in which more than one (here three) channel of information figures in the over-all observations, and a case in which the reported phenomena appear to defy explanation in terms of either natural or technological phenomena.

In the Condon Report, the important initial incident in which the unknown 2800 MC source appeared to orbit the RB-47 near Gulfport is omitted. In the Condon Report, the reader is given no hint that the object was with the aircraft for over 600 miles and for over an hour. No clear sequence of these events is spelled out, nor is the reader made aware of all of the "three-channel" simultaneous appearances or disappearances that were so emphatically stressed to me by both Chase and McClure in my interviews with them. But even despite

those degrees of incompleteness, any reader of the account of this case in the Condon Report must wonder that an incident of this sort could be left as unexplained and yet ultimately treated, along with the other unexplained cases in that Report, as calling for no further scientific attention.

Actually, various hypotheses (radar anomalies, mirage effects) are weighed in one part of the Condon Report where this case is discussed separately (pp. 136-138). But the suggestion made there that perhaps an inversion near 2 km altitude was responsible for the returns at the Carswell GCI unit is wholly untenable. In an Appendix, a very lengthy but non-relevant discussion of ground return from anomalous propagation appears; in fact, it is so unrelated to the actual circumstances of this case as to warrant no comment here. Chase's account emphasized that the GCI radar(s) had his aircraft and the unknown object on-scope for a total flight-distance of the order of several hundred miles, including a near overflight of the ground radar. With such wide variations in angles of incidence of the ground-radar beam on any inversion or duct, however intense, the possibility of anomalous propagation effects yielding a consistent pattern of spurious echo matching the reported movements and the appearances and disappearances of the target is infinitesimal. And the more so in view of the simultaneous appearances and disappearances on the ECM gear and via visible emissions from the unknown. To suggest, as is tentatively done on p. 138 that the "red glow" might have been a "mirage of Oklahoma City", when the pilot's description of the luminous source involves a wide range of viewing angles, including two instances when he was viewing it at quite large depression angles, is wholly unreasonable. Unfortunately, that kind of casual ad hoc hypothesizing with almost no attention to relevant physical considerations runs all through the case-discussions in the treatment of radar and optical cases in the Condon Report, frequently (though not in this instance) being made the basis of "explanations" that are merely absurd. On p. 265 of the Report, the question of whether this incident might be explained in terms of any "plasma effect" is considered but rejected. In the end, this case is conceded to be unexplained.

No evidence that a report on this event reached Project Bluebook was found by the Colorado investigators. That may seem hard to believe for those who are under the impression that the Air Force has been diligently and exhaustively investigating UFO reports over the past 22 years. But to those who have examined more closely the actual levels of investigation, lack of a report on this incident is not so surprising. Other comparable instances could be cited, and still more where the military aircrews elected to spare themselves the bother of interrogation, by not even reporting events about as puzzling as those found in this RB-47 incident.

But what is of greatest present interest is the point that here we have a well-reported, multi-channel, multiple-witness UFO report, coming in fact from within the Air Force itself, investigated by the Condon Report team, conceded to be unexplained, and yet it is, in final analysis, ignored by Dr. Condon. In no section of the Report specifically written by the principal investigator does he even allude to this intriguing case. My question is how such events can be written off as demanding no further scientific study. To me, such cases seem to cry out for the most intensive scientific study -- and the more so because they are actually so much more numerous than the scientific community yet realizes. There is a scientific mystery here that is being ignored and shoved under the rug; the strongest and most unjustified shove has come from the Condon Report. "unjustified" because that Report itself contains so many scientifically puzzling unexplained cases (approximately 30 out of 90 cases considered) that it is extremely difficult to understand how its principal investigator could have construed the contents of the Report as supporting a view that UFO studies should be terminated.

## Case 2. Lakenheath and Bentwaters RAF/USAF units; England, August 13-14, 1956.

Brief summary: Observations of unidentified objects by USAF and RAF personnel, extending over 5 hours, and involving ground-radar, airborne-radar, ground visual and airborne-visual sightings of high-speed unconventionally maneuvering objects in the vicinity of two RAF stations at night. It is Case 2 in the Condon Report and is there conceded to be unexplained.

## 1. Introduction:

This case will illustrate, in significant ways, the following points:

- a) It illustrates the fact that many scientifically intriguing UFO reports have lain in USAF/Bluebook files for years without knowledge thereof by the scientific community.
- b) It represents a large subset of UFO cases in which all of the observations stemmed from military sources and which, had there been serious and competent scientific interest operating in Project Bluebook, could have been very thoroughly investigated while the information was fresh. It also illustrates the point that the actual levels of investigation were entirely inadequate in even as unexplainable and involved cases as this one.
- c) It illustrates the uncomfortably incomplete and internally inconsistent features that one encounters in almost every report of its kind in the USAF/Bluebook files at Wright-Patterson AFB, features attesting to the dearth of scientific competence in the Air Force UFO investigations over the past 20 years.
- d) It illustrates, when the original files are carefully studied and compared with the discussion thereof in the Condon Report, shortcomings in presentation and critique given many cases in the Condon Report.
- e) Finally, I believe it illustrates an example of those cases conceded to be unexplainable by the Condon Report that argue need for much more extensive and more thorough scientific investigation of the UFO problem, a need negated in the Condon Report and in the Academy endorsement thereof.

My discussion of this case will be based upon the 30-page Bluebook case- file, plus certain other information presented on it in the Condon Report. This "Lakenheath case" was not known outside of USAF circles prior to publication of the Condon Report. None of the names of military personnel involved are given in the Condon Report. (Witness names, dates, and locales are deleted from all of the main group of cases in that Report, seriously impeding independent scientific check of case materials.) I secured copies of the case-file from Bluebook, but all names of military personnel involved in the incident were cut out of the Xerox copies prior to releasing the material to me. Hence I have been unable to interview personally the key witnesses. However, there is no indication that anyone on the Colorado Project did any personal interviews, either; so it would appear I have had access to the same basic data used in the Condon Report's treatment of this extremely interesting case.

For no justified reason, the Condon Report not only deletes witness names, but also names of localities of the UFO incidents in its main sample of 59 cases. In this Lakenheath case, deletion of locality names creates much confusion for the reader, since three distinct RAF stations figure in the incident and since the discharged non-commissioned officer from whom they received first word of this UFO episode confused the names of two of those stations in his own account that appears in the Condon Report. That, plus other reportorial deficiencies in the presentation of the Lakenheath case in the Condon Report, will almost certainly have concealed its real significance from most readers of the Report.

Unfortunately, the basic Bluebook file is itself about as confusing as most Bluebook files on UFO cases. I shall attempt to mitigate as many of those difficulties as I can in the following, by putting the account into better over-all order than one finds in the Condon Report treatment.

## 2. General Circumstances:

The entire episode extended from about 2130Z, August 13, to 0330Z, August 14, 1956; thus this is a night-time case. The events occurred in east-central England, chiefly in Suffolk. The initial reports centered around Bentwaters RAF Station, located about six miles east of Ipswich, near the coast, while much of the subsequent action centers around Lakenheath RAF Station, located some 20 miles northeast of Cambridge.

Sculthorpe RAF Station also figures in the account, but only to a minor extent; it is near Fakenham, in the vicinity of The Wash. GCA (Ground Controlled Approach) radars at two of those three stations were involved in the ground-radar sightings, as was an RTCC (Radar Traffic Control Center) radar unit at Lakenheath. The USAF non-com who wrote to the Colorado Project about this incident was a Watch Supervisor on duty at the Lakenheath RTCC unit that night. His detailed account is reproduced in the Condon Report (pp. 248-251). The Report comments on "the remarkable accuracy of the account of the witness as given in (his reproduced letter), which was apparently written from memory 12 years after the incident." I would concur, but would note that, had the Colorado Project only investigated more such striking cases of past years, it would have found many other witnesses in UFO cases whose vivid recollections often match surprising well checkable contemporary accounts. My experience thereon has been that, in multiple-witness cases where one can evaluate consistency of recollections, the more unusual and inexplicable the original UFO episode, the more it impressed upon the several witnesses' memories a meaningful and still-useful pattern of relevant recollections. Doubtless, another important factor operates: the UFO incidents that are the most striking and most puzzling probably have been discussed by the key witnesses enough times that their recollections have been thereby reinforced in a useful way.

The only map given in the Condon Report is based on a sketch-map made by the non-com who alerted them to the case. It is misleading, for Sculthorpe is shown 50 miles east of Lakenheath, whereas it actually lies 30 miles north-northeast. The map does not show Bentwaters at all; it is actually some 40 miles east-southeast of Lakenheath. Even as basic items as those locations do not appear to have been ascertained by those who prepared the discussion of this case in the Condon Report, which is most unfortunate, yet not atypical.

That this incident was subsequently discussed by many Lakenheath personnel was indicated to me by a chance event. In the course of my investigations of another radar UFO case from the Condon Report, that of 9/11/67 at Kincheloe AFB, I found that the radar operator involved therein had previously been stationed with the USAF detachment at Lakenheath and knew of the events at second-hand because they were still being discussed there by radar personnel when he arrived many months later.

### 3. Initial Events at Bentwaters, 2130Z to 2200Z

One of the many unsatisfactory aspects of the Condon Report is its frequent failure to put before the reader a complete account of the UFO cases it purports to analyze scientifically. In the present instance, the Report omits all details of three quite significant radar-sightings made by Bentwaters GCA personnel prior to their alerting the Lakenheath GCA and RTCC groups at 2255 LST. This omission is certainly not because of correspondingly slight mention in the original Bluebook case-file; rather, the Bentwaters sightings actually receive more Bluebook attention than the subsequent Lakenheath events. Hence, I do not see how such omissions in the Condon Report can be justified.

a) First radar sighting, 2130Z. Bentwaters GCA operator, A/2c \_\_\_\_\_ (I shall use a blank to indicate the names razor-bladed out of my copies of the case-file prior to release of the file items to me), reported picking up a target 25-30 miles ESE, which moved at very high speed on constant 295 deg. heading across his scope until he lost it 15-20 miles to the NW of Bentwaters. In the Bluebook file, A/2c \_\_\_\_\_ is reported as describing it as a strong radar echo, comparable to that of a typical aircraft, until it weakened near the end of its path across his scope. He is quoted as estimating a speed of the order of 4000 mph, but two other cited quantities suggest even higher speeds. A transit time of 30 seconds is given, and if one combines that with the reported range of distance traversed, 40-50 miles, a speed of about 5000- 6000 mph results. Finally, A/2c \_\_\_\_\_ stated that it covered about 5-6 miles per sweep of the AN/MPN-11A GCA radar he was using. The sweep-period for that set is given as 2 seconds (30 rpm), so this yields an even higher speed- estimate of about 9000 mph. (Internal discrepancies of this sort are quite typical of Bluebook case-files, I regret to say. My study of many such files during the past three years leaves me no conclusion but that Bluebook work has never represented high-caliber scientific work, but rather has operated as a perfunctory bookkeeping and filing operation during most of its life. Of the three speed figures just mentioned, the latter derives from the

type of observation most likely to be reasonably accurate, in my opinion. The displacement of a series of successive radar blips on a surveillance radar such as the MPN-11A, can be estimated to perhaps a mile or so with little difficulty, when the operator has as large a number of successive blips to work with as is here involved. Nevertheless, it is necessary to regard the speed as quite uncertain here, though presumably in the range of several thousand miles per hour and hence not associable with any conventional aircraft, nor with still higher-speed meteors either.)

b) Second radar sighting, 2130-2155Z. A few minutes after the preceding event, T/Sgt \_\_\_\_\_ picked up on the same MPN-11A a group of 12-15 objects about 8 miles SW of Bentwaters. In the report to Bluebook, he pointed out that "these objects appeared as normal targets on the GCA scope and that normal checks made to determine possible malfunctions of the GCA radar failed to indicate anything was technically wrong." The dozen or so objects were moving together towards the NE at varying speeds, ranging between 80 and 125 mph, and "the 12 to 15 unidentified objects were preceded by 3 objects which were in a triangular formation with an estimated 1000 feet separating each object in this formation." The dozen objects to the rear "were scattered behind the lead formation of 3 at irregular intervals with the whole group simultaneously covering a 6 to 7 mile area," the official report notes.

Consistent radar returns came from this group during their 25-minute movement from the point at which they were first picked up, 8 mi. SW, to a point about 40 mi. NE of Bentwaters, their echoes decreasing in intensity as they moved off to the NE. When the group reached a point some 40 mi. NE, they all appeared to converge to form a single radar echo whose intensity is described as several times larger than a B-36 return under comparable conditions. Then motion ceased, while this single strong echo remained stationary for 10-15 minutes. Then it resumed motion to the NE for 5-6 miles, stopped again for 3-5 minutes, and finally moved northward and off the scope.

c) Third radar sighting, 2200Z. Five minutes after the foregoing formation moved off-scope, T/Sgt \_\_\_\_\_ detected an unidentified target about 30 mi. E of the Bentwaters GCA station, and tracked it in rapid westward motion to a point about 25 mi. W of the station, where the object "suddenly disappeared off the radar screen by rapidly moving out of the GCS radiation pattern," according to his interpretation of the event. Here, again, we get discordant speed information, for T/Sgt \_\_\_\_\_ gave the speed only as being "in excess of 4000 mph," whereas the time-duration of the tracking, given as 16 sec, implies a speed of 12,000 mph, for the roughly 55 mi. track-length reported. Nothing in the Bluebook files indicates that this discrepancy was investigated further or even noticed, so one can say only that the apparent speed lay far above that of conventional aircraft.

d) Other observations at Bentwaters. A control tower sergeant, aware of the concurrent radar tracking, noted a light "the size of a pin-head at arm's length" at about 10 deg. elevation to the SSE. It remained there for about one hour, intermittently appearing and disappearing. Since Mars was in that part of the sky at that time, a reasonable interpretation is that the observer was looking at that planet.

A T-33 of the 512th Fighter Interceptor Squadron, returning to Bentwaters from a routine flight at about 2130Z, was vectored to the NE to search for the group of objects being tracked in that sector. Their search, unaided by airborne radar, led to no airborne sighting of any aircraft or other objects in that area, and after about 45 minutes they terminated search, having seen only a bright star in the east and a coastal beacon as anything worth noting. The Bluebook case-file contains 1956 USAF discussions of the case that make a big point of the inconclusiveness of the tower operator's sighting and the negative results of the T-33 search, but say nothing about the much more puzzling radar-tracking incidents than to stress that they were of "divergent" directions, intimating that this somehow put them in the category of anomalous propagation, which scarcely follows. Indeed, none of the three cited radar sightings exhibits any features typical of AP echoes. The winds over the Bentwaters area are given in the file. They jump from the surface level (winds from 230 deg. at 5-10 kts) to the 6000 ft level (260 deg., 30 kts), and then hold at a steady 260 deg. up to 50,000 ft, with speeds rising to a maximum of 90 kts near 30,000 ft. Even if one sought to invoke the highly

dubious Borden-Vickers hypothesis (moving waves on an inversion surface), not even the slowest of the tracked echoes (80-125 mph) could be accounted for, nor is it even clear that the direction would be explainable. Furthermore, the strength of the individual echoes (stated as comparable to normal aircraft returns), the merging of the 15 or so into a single echo, the two intervals of stationarity, and final motion off-scope at a direction about 45 deg. from the initial motion, are all wholly unexplainable in terms of AP in these 2130-2155Z incidents. The extremely high-speed westward motion of single targets is even further from any known radar-anomaly associated with disturbed propagation conditions. Blips that move across scopes from one sector to the opposite, in steady heading at steady apparent speed, correspond neither to AP nor to internal electronic disturbances. Nor could interference phenomena fit such observed echo behavior. Thus, this 30-minute period, 2130- 2200Z, embraced three distinct events for which no satisfactory explanation exists. That these three events are omitted from the discussions in the Condon Report is unfortunate, for they serve to underscore the scientific significance of subsequent events at both Bentwaters and Lakenheath stations.

#### 4. Comments on Reporting of Events After 2255Z, 8/13/56:

The events summarized above were communicated to Bluebook by Capt. Edward L. Holt of the 81st Fighter-Bomber Wing stationed at Bentwaters, as Report No. IR-1-56, dated 31 August, 1956. All events occurring subsequent to 2200Z, on the other hand, were communicated to Project Bluebook via an earlier, lengthy teletype transmission from the Lakenheath USAF unit, sent out in the standard format of the report-form specified by regulation AFR200-2. Two teletype transmissions, dated 8/17/56 and 8/21/56, identical in basic content, were sent from Lakenheath to Bluebook. The Condon Report presents the content of that teletype report on pp. 252-254, in full, except for deletion of all names and localities and omission of one important item to be noted later here. However, most readers will be entirely lost because what is presented actually constitutes a set of answers to questions that are not stated! The Condon Report does not offer the reader the hint that the version of AFR200-2 appearing in the Report's Appendix, pp. 819-826 (there identified by its current designation, AFR80-17) would provide the reader with the standardized questions needed to translate much of the otherwise extremely confusing array of answers on pp. 252-254. For that reason, plus others, many readers will almost certainly be greatly (and entirely unnecessarily) confused on reading this important part of the Lakenheath report in the Condon Report.

That confusion, unfortunately, does not wholly disappear upon laboriously matching questions with answers, for it has long been one of the salient deficiencies of the USAF program of UFO report collection that the format of AFR200-2 (or its sequel AFR80-17) is usually only barely adequate and (especially for complex episodes such as that involved here) often entirely incapable of affording the reporting office enough scope to set out clearly and in proper chronological order all of the events that may be of potential scientific significance. Anyone who has studied many Bluebook reports in the AFR200-2 format, dating back to 1953, will be uncomfortably aware of this gross difficulty. Failure to carry out even modest followup investigations and incorporate findings thereof into Bluebook case-files leaves most intriguing Bluebook UFO cases full of unsatisfactorily answered questions. But those deficiencies do not, in my opinion, prevent the careful reader from discerning that very large numbers of those UFO cases carry highly significant scientific implications, implications of an intriguing problem going largely unexamined in past years.

#### 5. Initial Alerting of Lakenheath GCA and RTCC:

The official files give no indication of any further UFO radar sightings by Bentwaters GCA from 2200 until 2255Z. But, at the latter time, another fast-moving target was picked up 30 mi. E of Bentwaters, heading almost due west at a speed given as "2000-4000 mph". It passed almost directly over Bentwaters, disappearing from their GCA scope for the usual beam-angle reasons when within 2-3 miles (the Condon Report intimates that this close in disappearance is diagnostic of AP, which seems to be some sort of tacit over- acceptance of the 1952 Borden-Vickers hypothesis), and then moving on until it disappeared from the

scope 30 mi. W of Bentwaters.

Very significantly, this radar-tracking of the passage of the unidentified target was matched by concurrent visual observations, by personnel on the ground looking up and also from an overhead aircraft looking down. Both visual reports involved only a light, a light described as blurred out by its high speed; but since the aircraft (identified as a C-47 by the Lakenheath non-com whose letter called this case to the attention of the Colorado Project) was flying only at 4000 ft, the altitude of the unknown object is bracketed within rather narrow bounds. (No mention of any sonic boom appears; but the total number of seemingly quite credible reports of UFOs moving at speeds far above sonic values and yet not emitting booms is so large that one must count this as just one more instance of many currently inexplicable phenomena associated with the UFO problem.) The reported speed is not fast enough for a meteor, nor does the low-altitude flat trajectory and absence of a concussive shock wave match any meteoric hypothesis. That there was visual confirmation from observation points both above and below this fast-moving radar-tracked object must be viewed as adding still further credence to, and scientific interest in, the prior three Bentwaters radar sightings of the previous hour.

Apparently immediately after the 2255Z events, Bentwaters GCA alerted GCA Lakenheath, which lay off to its WNW. The answers to Questions 2(A) and 2(B) of the AFR200-2 format (on p. 253 of the Condon Report) seem to imply that Lakenheath ground observers were alerted in time to see a luminous object come in, at an estimated altitude of 2000-2500 ft, and on a heading towards SW. The lower estimated altitude and the altered heading do not match the Bentwaters sighting, and the ambiguity so inherent in the AFR200-2 format simply cannot be eliminated here, so the precise timing is not certain. All that seems certain here is that, at or subsequent to the Bentwaters alert-message, Lakenheath ground observers saw a luminous object come in out of the NE at low altitude, then stop, and take up an easterly heading and resume motion eastward out of sight.

The precise time-sequence of the subsequent observations is not clearly deducible from the Lakenheath TWX sent in compliance with AFR200-2. But that many very interesting events, scientifically very baffling events, soon took place is clear from the report. No followup, from Bluebook or other USAF sources, was undertaken, and so this potentially very important case, like hundreds of others, simply sent into the Bluebook files unclarified. I am forced to stress that nothing reveals so clearly the past years of scientifically inadequate UFO investigation as a few days' visit to Wright- Patterson AFB and a diligent reading of Bluebook case reports. No one with any genuine scientific interest in solving the UFO problem would have let accumulate so many years of reports like this one without seeing to it that the UFO reporting and followup investigations were brought into entirely different status from that in which they have lain for over 20 years.

Deficiencies having been noted, I next catalog, without benefit of the exact time-ordering that is so crucial to full assessment of any UFO event, the intriguing observations and events at or near Lakenheath subsequent to the 2255Z alert from Bentwaters.

## 6. Non-chronological Summary of Lakenheath Sightings, 2255Z-0330Z.

a. Visual observations from ground. As noted two paragraphs above, following the 2255Z alert from GCA Bentwaters, USAF ground observers at the Lakenheath RAF Station observed a luminous object come in on a southwesterly heading, stop, and then move off out of sight to the east. Subsequently, at an unspecified time, two moving white lights were seen, and "ground observers stated one white light joined up with another and both disappeared in formation together" (recall earlier radar observations of merging of targets seen by Bentwaters GCA). No discernible features of these luminous sources were noted by ground observers, but both the observers and radar operators concurred in their report-description that "the objects (were) traveling at terrific speeds and then stopping and changing course immediately." In a passage of the original Bluebook report which was for some reason not included in the version presented in the Condon Report, this concordance of radar and visual observations is underscored: "Thus two radar sets (i.e., Lakenheath GCA and RATCC radars) and three ground observers report substantially same." Later in the original Lakenheath

report, this same concordance is reiterated: "the fact that radar and ground visual observations were made on its rapid acceleration and abrupt stops certainly lend credulance (sic) to the report."

Since the date of this incident coincides with the date of peak frequency of the Perseid meteors, one might ask whether any part of the visual observations could have been due to Perseids. The basic Lakenheath report to Bluebook notes that the ground observers reported "unusual amount of shooting stars in sky", indicating that the erratically moving light(s) were readily distinguishable from meteors. The report further remarks thereon that "the objects seen were definitely not shooting stars as there were no trails as are usual with such sightings." Furthermore, the stopping and course reversals are incompatible with any such hypothesis in the first place.

AFR200-2 stipulates that observer be asked to compare the UFO to the size of various familiar objects when held at arm's length (Item 1-B in the format). In answer to that item, the report states: "One observer from ground stated on first observation object was about size of golf ball. As object continued in flight it became a 'pin point'." Even allowing for the usual inaccuracies in such estimates, this further rules out Perseids, since that shower yields only meteors of quite low luminosity.

In summary of the ground-visual observations, it appears that three ground observers at Lakenheath saw at least two luminous objects, saw these over an extended though indefinite time period, saw them execute sharp course changes, saw them remain motionless at least once, saw two objects merge into a single luminous object at one juncture, and reported motions in general accord with concurrent radar observations. These ground-visual observations, in themselves, constitute scientifically interesting UFO report-material. Neither astronomical nor aeronautical explanations, nor any meteorological-optical explanations, match well those reported phenomena. One could certainly wish for a far more complete and time-fixed report on these visual observations, but even the above information suffices to suggest some unusual events. The unusualness will be seen to be even greater on next examining the ground-radar observations from Lakenheath. And even stronger interest emerges as we then turn, last of all, to the airborne-visual and airborne-radar observations made near Lakenheath.

b. Ground-radar observations at Lakenheath. The GCA surveillance radar at Lakenheath is identified as a CPN-4, while the RATCC search radar was a CPS-5 (as the non-com correctly recalled in his letter). Because the report makes clear that these two sets were concurrently following the unknown targets, it is relevant to note that they have different wavelengths, pulse repetition frequencies, and scan-rates, which (for reasons that need not be elaborated here) tends to rule out several radar-anomaly hypotheses (e.g., interference echoes from a distant radar, second-time-around effects, AP). However, the reported maneuvers are so unlike any of those spurious effects that it seems almost unnecessary to confront those possibilities here.

As with the ground-visual observations, so also with these radar-report items, the AFR200-2 format limitations plus the other typical deficiencies of reporting of UFO events preclude reconstruction in detail, and in time-order, of all the relevant events. I get the impression that the first object seen visually by ground observers was not radar-tracked, although this is unclear from the report to Bluebook. One target whose motions were jointly followed both on the CPS-5 at the Radar Air Traffic Control Center and on the shorter-range, faster-scanning CPN-4 at the Lakenheath GCA unit was tracked "from 6 miles west to about 20 miles SW where target stopped and assumed a stationary position for five minutes. Target then assumed a heading northwesterly (I presume this was intended to read 'northeasterly', and the non-com so indicates in his recollective account of what appears to be the same maneuvers) into the Station and stopped two miles NW of Station. Lakenheath GCA reports three to four additional targets were doing the same maneuvers in the vicinity of the Station. Thus two radar sets and three ground observers report substantially same." (Note that the quoted item includes the full passage omitted from the Condon Report version, and note that it seems to imply that this devious path with two periods of stationary hovering was also reported by the visual observers. However, the latter is not entirely certain because of ambiguities in the structure of the basic report as forced into the AFR200-2 format).

At some time, which context seems to imply as rather later in the night (the radar sightings went on until about 0330Z), "Lakenheath Radar Air Traffic Control Center observed object 17 miles east of Station making sharp rectangular course of flight. This maneuver was not conducted by circular path but on right angles at speeds of 600-800 mph. Object would stop and start with amazing rapidity." The report remarks that "...the controllers are experienced and technical skills were used in attempts to determine just what the objects were. When the target would stop on the scope, the MTI was used. However, the target would still appear on the scope." (The latter is puzzling. MTI, Moving Target Indication, is a standard feature on search or surveillance radars that eliminates ground returns and returns from large buildings and other motionless objects. This very curious feature of display of stationary modes while the MTI was on adds further strong argument to the negation of any hypothesis of anomalous propagation of ground-returns. It was as if the unidentified target, while seeming to hover motionless, was actually undergoing small-amplitude but high-speed jittering motion to yield a scope- displayed return despite the MTI. Since just such jittery motion has been reported in visual UFO sightings on many occasions, and since the coarse resolution of a PPI display would not permit radar-detection of such motion if its amplitude were below, say, one or two hundred meters, this could conceivably account for the persistence of the displayed return during the episodes of "stationary" hovering, despite use of MTI.)

The portion of the radar sightings just described seems to have been vividly recollected by the retired USAF non-com who first called this case to the attention of the Colorado group. Sometime after the initial Bentwaters alert, he had his men at the RATCC scanning all available scopes, various scopes set at various ranges. He wrote that "...one controller noticed a stationary target on the scopes about 20 to 25 miles southwest. This was unusual, as a stationary target should have been eliminated unless it was moving at a speed of at least 40 to 45 knots. And yet we could detect no movement at all. We watched this target on all the different scopes for several minutes and I called the GCA Unit at (Lakenheath) to see if they had this target on their scope in the same geographical location. As we watched, the stationary target started moving at a speed of 400 to 600 mph in a north- northeast direction until it reached a point about 20 miles north northwest of (Lakenheath). There was no slow start or build-up to this speed -- it was constant from the second it started to move until it stopped." (This description, written 11 years after the event, matches the 1956 intelligence report from the Lakenheath USAF unit so well, even seeming to avoid the typographical direction-error that the Lakenheath TWX contained, that one can only assume that he was deeply impressed by this whole incident. That, of course, is further indicated by the very fact that he wrote the Colorado group about it in the first place.) His letter (Condon Report, p. 249) adds that "the target made several changes in location, always in a straight line, always at about 600 mph and always from a standing or stationary point to his next stop at constant speed -- no build-up in speed at all -- these changes in location varied from 8 miles to 20 miles in length --no set pattern at any time. Time spent stationary between movements also varied from 3 or 4 minutes to 5 or 6 minutes..." Because his account jibes so well with the basic Bluebook file report in the several particulars in which it can be checked, the foregoing quotation from the letter as reproduced in the Condon Report stands as meaningful indication of the highly unconventional behavior of the unknown aerial target. Even allowing for some recollective uncertainties, the non-com's description of the behavior of the unidentified radar target lies so far beyond any meteorological, astronomical, or electronic explanation as to stand as one challenge to any suggestions that UFO reports are of negligible scientific interest.

The non-com's account indicates that they plotted the discontinuous stop- and-go movements of the target for some tens of minutes before it was decided to scramble RAF interceptors to investigate. That third major aspect of the Lakenheath events must now be considered. (The delay in scrambling interceptors is noteworthy in many Air Force-related UFO incidents of the past 20 years. I believe this reluctance stems from unwillingness to take action lest the decision-maker be accused of taking seriously a phenomenon which the Air Force officially treats as non-existent.)

c. Airborne radar and visual sightings by Venom interceptor. An RAF jet interceptor, a Venom single-seat subsonic aircraft equipped with an air-intercept (AI) nose radar, was scrambled, according to the basic

Bluebook report, from Waterbeach RAF Station, which is located about 6 miles north of Cambridge, and some 20 miles SW of Lakenheath. Precise time of the scramble does not appear in the report to Bluebook, but if we were to try to infer the time from the non-com's recollective account, it would seem to have been somewhere near midnight. Both the non-com's letter and the contemporary intelligence report make clear that Lakenheath radar had one of their unidentified targets on-scope as the Venom came in over the Station from Waterbeach. The TWX to Blue book states: "The aircraft flew over RAF Station Lakenheath and was vectored toward a target on radar 6 miles east of the field. Pilot advised he had a bright white light in sight and would investigate. At thirteen miles west (east?) he reported loss of target and white light."

It deserves emphasis that the foregoing quote clearly indicates that the UFO that the Venom first tried to intercept was being monitored via three distinct physical "sensing channels." It was being recorded by ground radar, by airborne radar, and visually. Many scientists are entirely unaware that Air Force files contain such UFO cases; for this very interesting category has never been stressed in USAF discussions of its UFO records. Note, in fact, the similarity to the 1957 RB-47 case (Case 1 above) in the evidently simultaneous loss of visual and airborne-radar signal here. One wonders if ground radar also lost it simultaneously with the Venom pilot's losing it, but, loss of visual and airborne-radar signal here. One wonders if ground radar also lost it simultaneously with the Venom pilot's losing it, but, as is so typical of AFR200-2 reports, incomplete reporting precludes clarification. Nothing in the Bluebook case-file on this incident suggests that anyone at Bluebook took any trouble to run down that point or the many other residual questions that are so painfully evident here. The file does, however, include a lengthy dispatch from the then-current Blue book officer, Capt. G. T. Gregory, a dispatch that proposes a series of what I must term wholly irrelevant hypotheses about Perseid meteors with "ionized gases in their wake which may be traced on radarscopes", and inversions that "may cause interference between two radar stations some distance apart." Such basically irrelevant remarks are all too typical of Bluebook critique over the years. The file also includes a case- discussion by Dr. J. A. Hynek, Bluebook consultant, who also toys with the idea of possible radar returns from meteor wake ionization. Not only are the radar frequencies here about two orders of magnitude too high to afford even marginal likelihood of meteor-wake returns, but there is absolutely no kinematic similarity between the reported UFO movements and the essentially straight-line hypersonic movement of a meteor, to cite just a few of the strong objections to any serious consideration of meteor hypotheses for the present UFO case. Hynek's memorandum on the case makes some suggestions about the need for upgrading Bluebook operations, and then closes with the remarks that "The Lakenheath report could constitute a source of embarrassment to the Air Force; and should the facts, as so far reported, get into the public domain, it is not necessary to point out what excellent use the several dozen UFO societies and other 'publicity artists' would make of such an incident. It is, therefore, of great importance that further information on the technical aspects of the original observations be obtained, without loss of time from the original observers." That memo of October 17, 1956, is followed in the case-file by Capt. Gregory's November 26, 1956 reply, in which he concludes that "our original analysis of anomalous propagation and astronomical is (sic) more or less correct"; and there the case investigation seemed to end, at the same casually closed level at which hundreds of past UFO cases have been closed out at Bluebook with essentially no real scientific critique. I would say that it is exceedingly unfortunate that "the facts , as so far reported" did not get into the public domain, along with the facts on innumerable other Bluebook case-files that should have long ago startled the scientific community just as much as they startled me when I took the trouble to go to Bluebook and spend a number of days studying those astonishing files.

Returning to the scientifically fascinating account of the Venom pilot's attempt to make an air-intercept on the Lakenheath unidentified object, the original report goes on to note that, after the pilot lost both visual and radar signals, "RATCC vectored him to a target 10 miles east of Lakenheath and pilot advised target was on radar and he was 'locking on.'" Although here we are given no information on the important point of whether he also saw a luminous object, as he got a radar lock-on, we definitely have another instance of at least two-channel detection. The concurrent detection of a single radar target by a ground radar and an airborne radar under conditions such as these, where the target proves to be a highly maneuverable object (see below),

categorically rules out any conventional explanations involving, say, large ground structures and propagation anomalies. That MTI was being used on the ground radar also excludes that, of course.

The next thing that happened was that the Venom suddenly lost radar lock-on as it neared the unknown target. RATCC reported that "as the Venom passed the target on radar, the target began a tail chase of the friendly fighter." RATCC asked the Venom pilot to acknowledge this turn of events and he did, saying "he would try to circle and get behind the target." His attempts were unsuccessful, which the report to Bluebook describes only in the terse comment, "Pilot advised he was unable to 'shake' the target off his tail and requested assistance." The non-com's letter is more detailed and much more emphatic. He first remarks that the UFO's sudden evasive movement into tail position was so swift that he missed it on his own scope, "but it was seen by the other controllers." His letter then goes on to note that the Venom pilot "tried everything -- he climbed, dived, circled, etc., but the UFO acted like it was glued right behind him, always the same distance, very close, but we always had two distinct targets." Here again, note how the basic report is annoyingly incomplete. One is not told whether the pilot knew the UFO was pursuing his Venom by virtue of some tail-radar warning device of type often used on fighters (none is alluded to), or because he could see a luminous object in pursuit. In order for him to "acknowledge" the chase seems to require one or the other detection-mode, yet the report fails to clarify this important point. However, the available information does make quite clear that the pursuit was being observed on ground radar, and the non-com's recollection puts the duration of the pursuit at perhaps 10 minutes before the pilot elected to return to his base. Very significantly, the intelligence report from Lakenheath to Bluebook quotes this first pilot as saying "clearest target I have ever seen on radar", which again eliminates a number of hypotheses, and argues most cogently the scientific significance of the whole episode.

The non-com recalled that, as the first Venom returned to Waterbeach Aerodrome when fuel ran low, the UFO followed him a short distance and then stopped; that important detail is, however, not in the Bluebook report. A second Venom was then scrambled, but, in the short time before a malfunction forced it to return to Waterbeach, no intercepts were accomplished by that second pilot.

## 7. Discussion:

The Bluebook report material indicates that other radar unknowns were being observed at Lakenheath until about 0330Z. Since the first radar unknowns appeared near Bentwaters at about 2130Z on 8/13/56, while the Lakenheath events terminated near 0330Z on 8/14/56, the total duration of this UFO episode was about six hours. The case includes an impressive number of scientifically provocative features:

1) At least three separate instances occurred in which one ground-radar unit, GCA Bentwaters, tracked some unidentified target for a number of tens of miles across its scope at speeds in excess of Mach 3. Since even today, 12 years later, no nation has disclosed military aircraft capable of flight at such speeds (we may exclude the X-15), and since that speed is much too low to fit any meteoric hypothesis, this first feature (entirely omitted from discussion in the Condon Report) is quite puzzling. However, Air Force UFO files and other sources contain many such instances of nearly hypersonic speeds of radar-tracked UFOs.

2) In one instance, about a dozen low-speed (order of 100 mph) targets moved in loose formation led by three closely-spaced targets, the assemblage yielding consistent returns over a path of about 50 miles, after which they merged into a single large target, remained motionless for some 10-15 minutes, and then moved off-scope. Under the reported wind conditions, not even a highly contrived meteorological explanation invoking anomalous propagation and inversion layer waves would account for this sequence observed at Bentwaters. The Condon Report omits all discussion of items 1) and 2), for reasons that I find difficult to understand.

3) One of the fast-track radar sightings at Bentwaters, at 2255Z, coincided with visual observations of some very-high-speed luminous source seen by both a tower operator on the ground and by a pilot aloft who saw

the light moving in a blur below his aircraft at 4000 ft altitude. The radar-derived speed "as given as 2000-4000 mph. Again, meteors won't fit such speeds and altitudes, and we may exclude aircraft for several evident reasons, including absence of any thundering sonic boom that would surely have been reported if any near hypothetical secret 1956-vintage hypersonic device were flying over Bentwaters at less than 4000 ft that night.

- 4) Several ground observers at Lakenheath saw luminous objects exhibiting non-ballistic motions, including dead stops and sharp course reversals.
- 5) In one instance, two luminous white objects merged into a single object, as seen from the ground at Lakenheath. This wholly unmeteoric and unaeronautical phenomenon is actually a not-uncommon feature of UFO reports during the last two decades. For example, radar-tracked merging of two targets that veered together sharply before joining up was reported over Kincheloe AFB, Michigan, in a UFO report that also appears in the Condon Report (p. 164), quite unreasonably attributed therein to "anomalous propagation."
- 6) Two separate ground radars at Lakenheath, having rather different radar parameters, were concurrently observing movements of one or more unknown targets over an extended period of time. Seemingly stationary hovering modes were repeatedly observed, and this despite use of MTI. Seemingly "instantaneous" accelerations from rest to speeds of order of Mach 1 were repeatedly observed. Such motions cannot readily be explained in terms of any known aircraft flying then or now, and also fail to fit known electronic or propagation anomalies. The Bluebook report gives the impression (somewhat ambiguously, however) that some of these two-radar observations were coincident with ground-visual observations.
- 7) In at least one instance, the Bluebook report makes clear that an unidentified luminous target was seen visually from the air by the pilot of an interceptor while getting simultaneous radar returns from the unknown with his nose radar concurrent with ground-radar detection of the same unknown. This is scientifically highly significant, for it entails three separate detection-channels all recording the unknown object.
- 8) In at least one instance, there was simultaneous radar disappearance and visual disappearance of the UFO. This is akin to similar events in other known UFO cases, yet is not easily explained in terms of conventional phenomena.
- 9) Attempts of the interceptor to close on one target seen both on ground radar and on the interceptor's nose radar, led to a puzzling rapid interchange of roles as the unknown object moved into tail-position behind the interceptor. While under continuing radar observation from the ground, with both aircraft and unidentified object clearly displayed on the Lakenheath ground radars, the pilot of the interceptor tried unsuccessfully to break the tail chase over a time of some minutes. No ghost-return or multiple-scatter hypothesis can explain such an event.

I believe that the cited sequence of extremely baffling events, involving so many observers and so many distinct observing channels, and exhibiting such unconventional features, should have led to the most intensive Air Force inquiries. But I would have to say precisely the same about dozens of other inexplicable Air Force-related UFO incidents reported to Bluebook since 1947. What the above illustrative case shows all too well is that highly unusual events have been occurring under circumstances where any organization with even passing scientific curiosity should have responded vigorously, yet the Air Force UFO program has repeatedly exhibited just as little response as I have noted in the above 1956 Lakenheath incident. The Air Force UFO program, contrary to the impression held by most scientists here and abroad, has been an exceedingly superficial and generally quite incompetent program. Repeated suggestions from Air Force press offices, to the effect that "the best scientific talents available to the U.S. Air Force" have been brought to bear on the UFO question are so far from the truth as to be almost laughable, yet those suggestions have served to mislead the scientific community, here and abroad, into thinking that careful investigations were yielding solid conclusions to the effect that the UFO problem was a nonsense problem. The Air Force has given us all the

impression that its UFO reports involved only misidentified phenomena of conventional sorts. That, I submit, is far from correct, and the Air Force has not responsibly discharged its obligations to the public in conveying so gross a misimpression for twenty years. I charge incompetence, not conspiracy, let me stress.

The Condon Report, although disposed to suspicion that perhaps some sort of anomalous radar propagation might be involved (I record here my objection that the Condon Report exhibits repeated instances of misunderstanding of the limits of anomalous propagation effects), does concede that Lakenheath is an unexplained case. Indeed, the Report ends its discussion with the quite curious admission that, in the Lakenheath episode, "...the probability that at least one genuine UFO was involved appears to be fairly high."

One could easily become enmeshed in a semantic dispute over the meaning of the phrase, "one genuine UFO", so I shall simply assert that my own position is that the Lakenheath case exemplifies a disturbingly large group of UFO reports in which the apparent degree of scientific inexplicability is so great that, instead of being ignored and laughed at, those cases should all along since 1947 have been drawing the attention of a large body of the world's best scientists. Had the latter occurred, we might now have some answers, some clues to the real nature of the UFO phenomena. But 22 years of inadequate UFO investigations have kept this stunning scientific problem out of sight and under a very broad rug called Project Bluebook, whose final termination on December 18, 1969 ought to mark the end of an era and the start of a new one relative to the UFO problem.

More specifically, with cases like Lakenheath and the 1957 RB-47 case and many others equally puzzling that are to be found within the Condon Report, I contest Condon's principal conclusion "that further extensive study of UFOs probably cannot be justified in the expectation that science will be advanced thereby." And I contest the endorsement of such a conclusion by a panel of the National Academy of Sciences, an endorsement that appears to be based upon essentially zero independent scientific cross-checking of case material in the Report. Finally, I question the judgment of those Air Force scientific offices and agencies that have accepted so weak a report. The Lakenheath case is just one example of the basis upon which I rest those objections. I am prepared to discuss many more examples.

## 8. The Extraterrestrial Hypothesis:

In this Lakenheath UFO episode, we have evidence of some phenomena defying ready explanation in terms of present-day science and technology, some phenomena that include enough suggestion of intelligent control (tail-chase incident here), or some broadly cybernetic equivalent thereof, that it is difficult for me to see any reasonable alternative to the hypothesis that something in the nature of extraterrestrial devices engaged-in something in the nature of surveillance lies at the heart of the UFO problem. That is the hypothesis that my own study of the UFO problem leads me to regard as most probable in terms of my present information. This is, like all scientific hypotheses, a working hypothesis to be accepted or rejected only on the basis of continuing investigation. Present evidence surely does not amount to incontrovertible proof of the extraterrestrial hypothesis. What I find scientifically dismaying is that, while a large body of UFO evidence now seems to point in no other direction than the extraterrestrial hypothesis, the profoundly important implications of that possibility are going unconsidered by the scientific community because this entire problem has been imputed to be little more than a nonsense matter unworthy of serious scientific attention. Those overtones have been generated almost entirely by scientists and others who have done essentially no real investigation of the problem-area in which they express such strong opinions. Science is not supposed to proceed in that manner, and this AAAS Symposium should see an end to such approaches to the UFO problem.

Put more briefly, doesn't a UFO case like Lakenheath warrant more than a mere shrug of the shoulders from science?

Case 3. Haneda Air Force Base, Japan, August 5-6, 1952.

Brief summary: USAF tower operators at Haneda AFB observed an unusually bright bluish-white light to their NE, alerted the GCI radar unit at Shiroy, which then called for a scramble of an F94 interceptor after getting radar returns in same general area. GCI ground radar vectored the F94 to an orbiting unknown target, which the F94 picked up on its airborne radar. The target then accelerated out of the F94's radar range after 90 seconds of pursuit that was followed also on the Shiroy GCI radar.

## 1. Introduction:

The visual and radar sightings at Haneda AFB, Japan, on August 5-6, 1952, represent an example of a long-puzzling case, still carried as an unidentified case by Project Bluebook, at my latest check, and chosen for analysis in the Condon Report. In the latter, is putatively explained in terms of a combination of diffraction and mirage distortion of the star Capella, as far as the visual parts are concerned, while the radar portions are attributed to anomalous propagation. I find very serious difficulties with those "explanations" and regard them as typical of a number of rather casually advanced explanations of long-standing UFO cases that appear in the Condon Report. Because this case has been discussed in such books as those of Ruppelt, Keyhoe, and Hall, it is of particular interest to carefully examine case-details on it and then to examine the basis of the Condon Report's explanation of it, as example of how the Condon Report disposed of old "classic cases."

Haneda AFB, active during the Korean War, lay about midway between central Tokyo and central Yokohama, adjacent to Tokyo International Airport. The 1952 UFO incident began with visual sightings of a brilliant object in the northeastern sky, as seen by two control tower operators going on duty at 2330 LST (all times hereafter will be LST). It will serve brevity to introduce some coded name designations for these men and for several officers involved, since neither the Condon Report, nor my copies of the original Bluebook case-file show names (excised from latter copies in accordance with Bluebook practice on non-release of witness names in UFO cases):

### Coded Designation Identification

Airman A One of two Haneda tower operators who first sighted light; rank was A/3c.

Airman B Second Haneda tower operator to first sight light; A/1c.

Lt. A Controller on duty at Shiroy GCI unit up to 2400, August 5; 1st Lt.

Lt. B Controller at Shiroy after 0000, August 6; 1st Lt.

Lt. P Pilot of scrambled F-94; 1st Lt.

Lt. R Radar officer in F-94; 1st Lt.

Shiroy GCI Station, manned by the 528th AC&W (Aircraft Control and Warning) Group, lay approximately 20 miles NE of Haneda (specifically at 35 deg. 49' N, 140 deg. 2' E) and had a CPS-1 10-cm search radar plus a CPS 10-cm height-finding radar. Two other USAF facilities figure in the incident, Tachikawa AFB, lying just over 20 miles WNW of Haneda, and Johnson AFB, almost 30 miles NW of Haneda. The main radar incidents center over the north extremity of Tokyo Bay, roughly midway from central Tokyo to Chiba across the Bay.

The Bluebook case-file on this incident contains 25 pages, and since the incident predates promulgation of AFR200-2, the strictures on time-reporting, etc., are not here so bothersome as in the Lakenheath case of 1956, discussed above. Nevertheless, the same kind of disturbing internal inconsistencies are present here as one finds in most Bluebook case reports; in particular, there is a bothersome variation in times given for specific events in different portions of the case-file. One of these, stressed in the Condon Report, will be

discussed explicitly below; but for the rest, I shall use those times which appear to yield the greatest over-all internal consistency. This will introduce no serious errors, since the uncertainties are mostly only 1 or 2 minutes and, except for the cited instance, do not alter any important implications regardless of which cited time is used. The over-all duration of the visual and radar sightings is about 50 minutes. The items of main interest occurred between 2330 and 0020, approximately.

Although this case involves both visual and radar observations of unidentified objects, careful examination does not support the view that the same object was ever assuredly seen visually and on radar at the same time, with the possible exception of the very first radar detection just after 2330. Thus it is not a "radar-visual" case, in the more significant sense of concurrent two-channel observations of an unknown object. This point will be discussed further in Section 5.

## 2. Visual Observations:

a. First visual detection. At 2330, Airmen A and B, while walking across the ramp at Haneda AFB to go on the midnight shift at the airfield control tower, noticed an "exceptionally bright light" in their northeastern sky. They went immediately to the control tower to alert two other on-duty controllers to it and to examine it more carefully with the aid of the 7x50 binoculars available in the tower. The Bluebook case-file notes that the two controllers already on tower-duty "had not previously noticed it because the operating load had been keeping their attention elsewhere. "

b. Independent visual detection at Tachikawa AFB. About ten minutes later, according to the August 12, 1952, Air Intelligence Information Report (IR-35-52) in the Bluebook case-file; Haneda was queried about an unusually bright light by controllers at Tachikawa AFB, 21 miles to their WNW. IR-35-52 states: "The control tower at Tachikawa Air Force Base called Haneda tower at approximately 2350 to bring their attention to a brilliant white light over Tokyo Bay. The tower replied that it had been in view for some time and that it was being checked."

This feature of the report is significant in two respects: 1) It indicates that the luminous source was of sufficiently unusual brilliance to cause two separate groups of Air Force controllers at two airfields to respond independently and to take alert-actions; and 2) More significantly, the fact that the Tachikawa controllers saw the source in a direction "over Tokyo Bay" implies a line-of-sight distinctly south of east. From Tachikawa, even the north end of the Bay lies to the ESE. Thus the intersection of the two lines of sight fell somewhere in the northern half of the Bay, it would appear. As will be seen later, this is where the most significant parts of the radar tracking occurred subsequently.

c. Direction, intensity, and configuration of the luminous source. IR-35-52 contains a signed statement by Airman A, a sketch of the way the luminous source looked through 7-power binoculars, and summary comments by Capt. Charles J. Malven, the FEAF intelligence officer preparing the report for transmission to Bluebook.

Airman A's own statement gives the bearing of the source as NNE; Malven summary specifies only NE. Presumably the witness' statement is the more reliable, and it also seems to be given a greater degree of precision, whence a line-of-sight azimuth somewhere in the range of 25 to 35 deg. east of north appears to be involved in the Haneda sightings. By contrast, the Tachikawa sighting-azimuth was in excess of 90 deg. from north, and probably beyond 100 deg., considering the geography involved, a point I shall return to later.

Several different items in the report indicate the high intensity of the source. Airman A's signed statement refers to it as "the intense bright light over the Bay." The annotated sketch speaks of "constant brilliance across the entire area" of the (extended) source, and remarks on "the blinding effect from the brilliant light." Malven's summary even points out that "Observers stated that their eyes would fatigue rapidly when they attempted to concentrate their vision on the object," and elsewhere speaks of "the brilliant blue-white light of the object." Most of these indications of brightness are omitted from the Condon Report, yet bear on the

Capella hypothesis in terms of which that Report seeks to dispose of these visual sightings.

Airman A's filed statement includes the remark that "I know it wasn't a star, weather balloon or venus, because I compared it with all three." This calls for two comments. First, Venus is referred to elsewhere in the case-file, but this is certainly a matter of confusion, inasmuch as Venus had set that night before about 2000 LST. Since elsewhere in the report reference is made to Venus lying in the East, and since the only noticeable celestial object in that sector at that time would have been Jupiter, I would infer that where "Venus" is cited in the case-file, one should read "Jupiter." Jupiter would have risen near 2300, almost due east, with apparent magnitude -2.0. Thus Airman A's assertion that the object was brighter than "Venus" may probably be taken to imply something of the order of magnitude -3.0 or brighter. Indeed, since it is most unlikely that any observer would speak of a -3.0 magnitude source as "blinding" or "fatiguing" to look at, I would suggest that the actual luminosity, at its periods of peak value (see below) must have exceeded even magnitude -3 by a substantial margin.

Airman A's allusion to the intensity as compared with a "weather balloon" refers to the comparisons (elaborated below) with the light suspended from a pilot balloon released near the tower at 2400 that night and observed by the tower controllers to scale the size and brightness. This is a very fortunate scaling comparison, because the small battery-operated lights long used in meteorological practice have a known luminosity of about 1.5 candle. Since a 1-candle source at 1 kilometer yields apparent magnitude 0.8, inverse-square scaling for the here known balloon distance of 2000 feet (see below) implies an apparent magnitude of about -0.5 for the balloon-light as viewed at time of launch. Capt. Malven's summary states, in discussing this quite helpful comparison, "The balloon's light was described as extremely dim and yellow, when compared to the brilliant blue white light of the object." Here again, I believe one can safely infer an apparent luminosity of the object well beyond Jupiter's -2.0. Thus, we have here a number of compatible indications of apparent brightness well beyond that of any star, which will later be seen to contradict explanations proposed in the Condon Report for the visual portions of the Haneda sightings.

Of further interest relative to any stellar source hypothesis are the descriptions of the configuration of the object as seen with 7-power binoculars from the Haneda tower, and its approximate angular diameter. Fortunately, the latter seems to have been adjudged in direct comparison with an object of determinate angular subtense that was in view in the middle of the roughly 50-minute sighting. At 2400, a small weather balloon was released from a point at a known distance of 2000 ft from the control tower. Its diameter at release was approximately 24 inches. (IR-35-52 refers to it as a "ceiling balloon", but the cloud-cover data contained therein is such that no ceiling balloon would have been called for. Furthermore, the specified balloon mass, 30 grams, and diameter, 2 ft, are precisely those of a standard pilot balloon for upper-wind measurement. And finally, the time [2400 LST = 1500Z] was the standard time for a pilot balloon run, back in that period.) A balloon of 2-ft diameter at 2000-ft range would subtend 1 milliradian, or just over 3 minutes of arc, and this was used by the tower observers to scale the apparent angular subtense of the luminous source. As IR-35-52 puts it: "Three of the operators indicated the size of the light, when closest to the tower, was approximately the same as the small ceiling balloons (30 grams, appearing 24 inches in diameter) when launched from the weather station, located at about 2000 ft from the tower. This would make the size of the central light about 50 ft in diameter, when at the 10 miles distance tracked by GCI... A lighted weather balloon was launched at 2400 hours..." Thus, it would appear that an apparent angular subtense close to 3 minutes of arc is a reasonably reliable estimate for the light as seen by naked eye from Haneda. This is almost twice the average resolution-limit of the human eye, quite large enough to match the reported impressions that it had discernible extent, i.e., was not merely a point source.

But the latter is very much more clearly spelled out, in any event, for IR-35-52 gives a fairly detailed description of the object's appearance through 7-power binoculars. It is to be noted that, if the naked-eye diameter were about 3 minutes, its apparent subtense when viewed through 7X-binoculars would be about 20 minutes, or two-thirds the naked-eye angular diameter of the full moon -- quite large enough to permit recognition of the finer details cited in IR-35-52, as follows: "The light was described as circular in shape,

with brilliance appearing to be constant across the face. The light appeared to be a portion of a large round dark shape which was about four times the diameter of the light. When the object was close enough for details to be seen, a smaller, less brilliant light could be seen at the lower left hand edge, with two or three more dim lights running in a curved line along the rest of the lower edge of the dark shape. Only the lower portion of the darker shape could be determined, due to the lighter sky which was believed to have blended with the upper side of the object. No rotation was noticed. No sound was heard."

Keeping in mind that those details are, in effect, described for an image corresponding in apparent angular size to over half a lunar diameter, the detail is by no means beyond the undiscernible limit. The sketch included with IR-35-52 matches the foregoing description, indicating a central disc of "constant brilliance across entire area (not due to a point source of light)", an annular dark area of overall diameter 3-4 times that of the central luminary, and having four distinct lights on the lower periphery, "light at lower left, small and fairly bright, other lights dimmer and possibly smaller." Finally, supportive comment thereon is contained in the signed statement of Airman A. He comments: "After we got in the tower I started looking at it with binoculars, which made the object much clearer. Around the bright white light in the middle, there was a darker object which stood out against the sky, having little white lights along the outer edge, and a glare around the whole thing."

All of these configurational details, like the indications of a quite un- starlike brilliance, will be seen below to be almost entirely unexplainable on the Capella hypothesis with which the Condon Report seeks to settle the Haneda visual sightings. Further questions ultimately arise from examination of reported apparent motions of the luminous source, which will be considered next.

d. Reported descriptions of apparent motions of the luminous source. Here we meet the single most important ambiguity in the Haneda case-file, though the weight of the evidence indicates that the luminous object exhibited definite movements. The ambiguity arises chiefly from the way Capt. Malven summarized the matter in his IR-35-52 report a week after the incident; "The object faded twice to the East, then returned. Observers were uncertain whether disappearance was due to a dimming of the lights, rotation of object, or to the object moving away at terrific speed, since at times of fading the object was difficult to follow closely, except as a small light, Observer C did agree that when close, the object did appear

In contrast to the above form in which Malven summarized the reported motions, the way Airman A described them in his own statement seems to refer to distinct motions, including transverse components: "I watched it disappear twice through the glasses. It seemed to travel to the East and gaining altitude at a very fast speed, much faster than any jet. Every time it disappeared it returned again, except for the last time when the jets were around. It seemed to know they were there. As for an estimate of the size of the object -- I couldn't even guess." Recalling that elsewhere in that same signed statement this tower controller had given the observed direction to the object as NNE, his specification that the object "seemed to travel to the East" seems quite clearly to imply a non radial motion, since, if only an impression of the latter were involved, one would presume he would have spoken of it in some such terms as "climbing out rapidly to the NNE". Since greater weight is presumably to be placed on direct-witness testimony than on another's summary thereof, it appears necessary to assume that not mere radial recession but also transverse components of recession, upwards and towards the East, were observed.

That the luminous source varied substantially in angular subtense is made very clear at several points in the case-file: One passage already cited discusses the "size of the light, when closest to the tower...", while, by contrast, another says that: "At the greatest distance, the size of the light appeared slightly larger than Venus, approximately due East of Haneda, and slightly brighter." (For "Venus" read "Jupiter" as noted above. Jupiter was then near quadrature with angular diameter of around 40 seconds of arc. Since the naked eye is a poor judge of comparative angular diameters that far below the resolution limit, little more can safely be read into that statement than the conclusion that the object's luminous disc diminished quite noticeably and its apparent brightness fell to a level comparable to or a bit greater than Jupiter's when at greatest perceived distance. By

virtue of the latter, it should be noted, one has another basis for concluding that when at peak brilliance it must have been considerably brighter than Jupiter's -2.0, a conclusion already reached by other arguments above.

In addition to exhibiting what seems to imply recession, eastward motion, and climb to disappearance, the source also disappeared for at least one other period far too long to be attributed to any scintillation or other such meteorological optical effect: "When we were about half way across the ramp (Airman A stated), it disappeared for the first time and returned to approximately the same spot about 15 seconds later." There were scattered clouds over Haneda at around 15-16,000 ft, and a very few isolated clouds lower down, yet it was full moon that night and, if patches of clouds had drifted very near the controllers' line-of-sight to the object, they could be expected to have seen the clouds. (The upper deck was evidently thin, for Capt. Malven notes in his report that "The F94 crew reported exceptional visibility and stated that the upper cloud layer did not appreciably affect the brilliancy of the moonlight.") A thin cloud interposed between observer and a distant luminous source would yield an impression of dimming and enhanced effective angular diameter, not dimming and reduced apparent size, as reported here. I believe the described "disappearances" cannot, in view of these several considerations, reasonably be attributed to cloud effects.

I have now summarized the essential features of the Haneda report dealing with just the visual observations of some bright luminous source that initiated the alert and that led to the ground-radar and air borne-radar observations yet to be described. Before turning to those, which comprise, in fact, the more significant portion of the over-all sighting, it will be best to turn next to a critique of the Blue book and the Condon Report attempts to give an explanation of the visual portions of the sighting.

### 3. Bluebook Critique of the Visual Sightings:

In IR-35-52. Capt, Malven offers only one hypothesis, and that in only passing manner: He speculates briefly on whether "reflections off the water (of the Bay, I presume) were...sufficient to form secondary reflections off the lower clouds," and by the latter he refers to "isolated patches of thin clouds reported by the F-94 crew as being at approximately 4000 feet..." He adds that "these clouds were not reported to be visible by the control tower personnel," which, in view of the 60-mile visibility cited elsewhere in the case-file and in view of the full moon then near the local meridian, suggests that those lower clouds must have been exceedingly widely scattered to escape detection by the controllers.

What Malven seems to offer there, as an hypothesis for the observed visual source, is cloud-reflection of moonlight -- and in manner all too typical of many other curious physical explanations one finds scattered through Bluebook case-files, he brings in a consideration that reveals lack of appreciation of what is central to the issue. If he wants to talk about cloud-reflected moonlight, why render a poor argument even weaker by invoking not direct moon light but moonlight secondarily reflected off the surface of Tokyo Bay? Without even considering further that odd twist in his tentative hypothesis, it is sufficient to note that even direct moonlight striking a patch of cloud is not "reflected in any ordinary sense of that term. It is scattered from the cloud droplets and thereby serves not to create any image of a discrete light source of blinding intensity that fatigues observers' eyes and does the other things reported by the Haneda observers, but rather serves merely to palely illuminate a passing patch of cloud material. A very poor hypothesis.

Malven drops that hypothesis without putting any real stress on it (with judgment that is not always found where equally absurd "explanations" have been advanced in innumerable other Bluebook case-files by reporting officers or by Bluebook staff members). He does add that there was some thunderstorm activity reported that night off to the northwest of Tokyo, but mentions that there was no reported electrical activity therein. Since the direction is opposite to the line of sight and since the reported visual phenomena bear no relation to lightning effects, this carried the matter no further, and the report drops that point there.

Finally, Malven mentions very casually an idea that I have encountered repeatedly in Bluebook files yet

nowhere else in my studies of atmospheric physics, namely, "reflections off ionized portions of the atmosphere." He states: "Although many sightings might be attributed to visual and electrical reflections off ionized areas in the atmosphere, the near-perfect visibility on the night of the sighting, together with the circular orbit of the object would tend to disprove this theory." Evidently he rejects the "ionized areas" hypothesis on the ground that presence of such areas is probably ruled out in view of the unusually good visibility reported that night. I trust that, for most readers of this discussion, I would only be belaboring the obvious to remark that Bluebook mythology about radar and visual "reflections" off "ionized regions" in the clear atmosphere (which mythology I have recently managed to trace back even to pre-1950 Air Force documents on UFO reports) has no known basis in fact, but is just one more of the all too numerous measures of how little scientific critique the Air Force has managed to bring to bear on its UFO problems over the years.

Although the final Bluebook evaluation of this entire case, including the visual portions, was and is "Unidentified", indicating that none of the above was regarded as an adequate explanation of even the visual features of the report, one cannot overlook extremely serious deficiencies in the basic reporting and the interrogation and follow-up here. This incident occurred in that period which my own studies lead me to describe as sort of a highwater mark for Project Bluebook. Capt. Edward J. Ruppelt was then Bluebook Officer at Wright-Patterson AFB, and both he and his superiors were then taking the UFO problem more seriously than it was taken by USAF at any other time in the past 22 years. Neither before nor after 1952-3 were there as many efforts made to assemble case-information, to go out and actually check in the field on sightings, etc. Yet it should be uncomfortably apparent already at this point in this discussion of the Haneda case that quite basic points were not run to ground and pinned down. Ruppelt, in his 1956 book, speaks of this Haneda case as if it were regarded as one of the most completely reported cases they'd received as of mid-1952. He mentioned that his office sent a query to FEAF offices about a few points of confusion, and that the replies came back with impressive promptness, etc. If one needed some specific clue to the regrettably low scientific level of the operation of Bluebook even during this period of comparatively energetic case-investigation, one can find it in study of the Haneda report. Even so simple a matter as checking whether Venus was actually in the East was obviously left undone; and numerous cross-questions and followup queries on motions, angles, times, etc., not even thought of. That, I stress, is what any scientist who studies the Bluebook files as I have done will find all through 22 years of Air Force handling of the UFO problem. Incompetence and superficiality -- even at the 1952 highwater mark under Ruppelt's relatively vigorous! ♦

And in the final paragraph discussing this case, the Condon Report merely rounds it off to: "In summary, it appears that the most probable causes of this UFO report are an optical effect on a bright light source that produced the visual sighting..." (and goes on to a remark on the radar portions we have yet to examine here).

There are some very serious difficulties with the more specific parts of the suggested explanation, and the vagueness of the other parts is sufficiently self-evident to need little comment.

First, nothing in the literature of meteorological optics discusses any diffraction-produced corona with a dark annular space extending out to three or four diameters of the central luminary, such as is postulated in the above Condon Report explanation. The radial intensity pattern of a corona may be roughly described as a damped oscillatory radial variation of luminosity, with zero intensity minima (for the simple case of a monochromatic luminary) at roughly equal intervals, and no broad light-free annulus comparable to that described in detail by the Haneda controllers. Thus, lack of understanding of the nature of corona is revealed at the outset in attempting to fit the Haneda observations to such a phenomenon.

Second, droplets certainly do not have to be "spaced at regular intervals" to yield a corona, and Minnaert's book makes no such suggestion, another measure of misunderstanding of the meteorological optics here concerned. Nor is there any physical mechanism operating in clouds capable of yielding any such regular

droplet spacing. Both Minnaert and cloud physics are misunderstood in that passage.

Third, one quickly finds, by some trial calculations, using the familiar optical relation (Exner equation) for the radial positions of the minima of the classical corona pattern, that the cited drop diameter of 0.2 mm = 200 microns was obtained in the Condon Report by back-calculating from a tacit requirement that the first-order minimum lay close to 3 milliradians, for these are the values that satisfy the Exner equation for an assumed wavelength of about 0.5 microns for visible light. This discloses even more thorough misunderstanding of corona optics, for that first-order minimum marks not some outer edge of a broad dark annulus as described and sketched by the Haneda tower operators, but the outer edge of the innermost annulus of high intensity of diffracted light. This clearly identifies basic misunderstanding of the matters at hand.

Fourth, the just-cited computation yielded a droplet diameter of 200 microns, which is so large as to be found only in drizzling or raining clouds and never in thin scattered clouds of the sort here reported, clouds that scarcely attenuated the full moon's light. That is, the suggestion that "patches of fog or mist" collected under an hypothesized inversion could grow droplets of that large size is meteorologically out of the question. If isolated patches of clouds interposed themselves on an observer's line of sight to some distant luminary, under conditions of the sort prevailing at Haneda that night, drop diameters down in the range of 10-20 microns would be the largest one could expect, and the corona-size would be some 10 to 20 times greater than the 3 milliradians which was plugged into the Exner equation in the above computation.

Fifth, the vague suggestion that "Raman brightening" or other "interference effects associated with propagation within and near the top of an inversion" is involved here makes the same serious error that is made in attempted optical explanations of other cases in the Condon Report. Here we are asked to consider that light from Capella, whose altitude was about 8 deg. above the NE horizon (a value that I confirm) near the time of the Haneda observations, was subjected to Raman brightening or its equivalent; yet one of the strict requirements of all such interference effects is that the ray paths impinge on the inversion surface at grazing angles of incidence of only a small fraction of a degree. No ground observer viewing Capella at 8 deg. elevation angle could possibly see anything like Raman brightening, for the pertinent angular limits would be exceeded by one or two orders of magnitude. Added to this measure of misunderstanding of the optics of such interference phenomena in this attempted explanation is the further difficulty that, for any such situation as is hypothesized in the Condon Report explanation, the observer's eye must be physically located at or directly under the index-discontinuity, which would here mean up in the air at the altitude of the hypothesized inversion. But all of the Haneda observations were made from the ground level. Negation of Raman brightening leaves one more serious gap in the Capella hypothesis, since its magnitude of 0.2 lies at a brightness level well below that of Jupiter, yet the Haneda observers seem to have been comparing the object's luminosity to Jupiter's and finding it far brighter, not dimmer.

Sixth, the Condon Report mentions the independent sighting from Tachikawa AFB, but fails to bring out that the line of sight from that observing site (luminary described as lying over Tokyo Bay, as seen from Tachikawa) pointed more than 45 deg. away from Capella, a circumstance fatal to fitting the Capella hypothesis to both sightings. Jupiter lay due East, not "over Tokyo Bay" from Tachikawa, and it had been rising in the eastern sky for many days, so it is, in any event, unlikely to have suddenly triggered an independent response at Tachikawa that night. And, conversely, the area intersection of the reported lines of sight from Haneda and Tachikawa falls in just the North Bay area where Shiroi GCI first got radar returns and where all the subsequent radar activity was localized.

Seventh, nothing in the proffered explanations in the Condon Report confronts the reported movements and disappearances of the luminous object that are described in the Bluebook case-file on Haneda. If, for the several reasons offered above, we conclude that not only apparent radial motions, but also lateral and climbing motions were observed, neither diffraction nor Raman effects can conceivably fit them.

Eighth, the over-all configuration as seen through 7X binoculars, particularly with four smaller lights

perceived on the lower edge of the broad dark annulus, is not in any sense explained by the ideas qualitatively advanced.

Ninth, the Condon Report puts emphasis on the point that, whereas Haneda and Tachikawa observers saw the light, airmen at the Shiroy GCI site went outside and looked in vain for the light when the plotted radar position showed one or more targets to their south or south-southeast. This is correct. But we are quite familiar with both highly directional and semi-directional light sources on our own technological devices, so the failure to detect a light from the Shiroy side does not very greatly strengthen the hypothesis that Capella was the luminary in the Haneda visual sightings. The same can be said for lack of visual observations from the F-94, (which got only radar returns as it closed on its target).

I believe that it is necessary to conclude that the "explanation" proposed in the Condon Report for the visual portions of the Haneda case are almost wholly unacceptable. And I remark that my analysis of many other explanations in the Condon Report finds them to be about equally weak in their level of scientific argumentation. We were supposed to get in the Condon Report a level of critique distinctly better than that which had come from Bluebook for many years; but much of the critique in that Report is little less tendentious and ill-based than that which is so dismaying in 22 years of Air Force discussions of UFO cases. The above stands as only one illustration of the point I make there; many more could be cited.

Next we must examine the radar aspects of the 8/5-6/52 Haneda case.

## 5. Radar Observations:

Shortly after the initial visual sighting at Haneda, the tower controllers alerted the Shiroy GCI radar unit (located about 15 miles NE of central Tokyo), asking them to look for a target somewhere NE of Haneda at an altitude which they estimated (obviously on weak grounds) to be somewhere between 1500 and 5000 feet, both those figures appearing in the Bluebook case-file. Both a CPS-1 search radar and a CPS-4 height-finder radar were available at Shiroy, but only the first of those picked up the target, ground clutter interference precluding useful CPS-4 returns. The CPS-1 radar was a 10-cm, 2-beam set with peak power of 1 megawatt, PRF of 400/sec, antenna tilt 3 deg., and scan-rate operated that night at 4 rpm. I find no indication that it was equipped with MTI, but this point is not certain.

It may help to keep the main sequence of events in better time order if I first put down the principal events that bear on the radar sightings from ground and air, and the times at which these events occurred. In some instances a 1-2 minute range of times will be given because the case-file contains more than a single time for that event as described in separate sections of the report. I indicate 0015-16 LST (all times still LST) as the time of first airborne radar contact by the F-94, and discuss that matter in more detail later, since the Condon Report suggests a quite different time.

### Time (LST) Event

2330 Tower controllers at Haneda see bright light to NE, call Shiroy GCI within a few minutes.

2330-45 Lt. A, Shiroy radar controller on evening watch, looks for returns, finds 3-4 stationary blips to NE of Haneda on low beam of CPS-1.

2345 Lt. B comes on duty for midwatch at Shiroy; he and Lt. A discuss possible interceptor scramble.

2355 Lt. A calls Johnson AFB, asks for F-94 scramble. Fuel system trouble causes delay of 5-10 min.

0001 Lt. B has unknown in right orbit at varying speeds over north Tokyo Bay, 8 miles NE of Haneda. Loses contact again.

0003-04 F-94 airborne out of Johnson AFB, Lt. P as pilot, Lt. R, radarman.

0009-10 Shiroi alerts F-94 to airborne target to its starboard as it heads down Tokyo Bay, and Lt. P visually identifies target as C-54 in pattern to land at Haneda. Lt. B instructs Lt. P to begin search over north Bay area at flight altitude of 5000 ft.

0012 Shiroi regains CPS-1 contact on unknown target in right orbit over same general area seen before, target splits into three separate targets, and Lt. B vectors F-94 toward strongest of three returns.

0015-16 F-94 gets airborne radar contact on moving target at range and bearing close to vector information, has to do hard starboard turn to keep onscope as target moves with acceleration across scope.

0017-18 After 90 seconds pursuit, with no lock-on achieved, target moves offscope at high speed; Shiroi GCI tracks both unknown and F-94 into its ground clutter, where both are then lost in clutter.

0033 Shiroi releases F-94 from scramble-search

0040 F-94 visually spots another C-54, over Johnson.

0120 F-94 lands back at Johnson.

Thus the period 2330 on 8/5 through about 0018 on 8/6 is of present interest: Next, events in that period till be examined in closer detail.

a. Initial attempts at radar detection from Shiroi GCI. When, at about 2335 or so, Haneda requested Shiroi to search the area of the bay to the NE of Haneda (SSW from Shiroi, roughly), Lt. A, then duty controller at Shiroi, found his CPS-4 giving too much ground clutter to be useful for the relatively low estimated heights Haneda had suggested. Those heights are indicated as 1500-2000 ft in one portion of the case- file, though Airman A elsewhere gave 5000 ft as his impression of the height. Clearly, lack of knowledge of size and slant ranges precluded any exact estimates from Haneda, but they offered the above indicated impressions.

Trying both low and high beams on the CPS-1 search radar, Lt. A did detect three or four blips "at a position 050 deg. bearing from Haneda, as reported by the tower, but no definite movement could be ascertained..." The report gives no information on the range from Shiroi, nor inferred altitude of those several blips, only the first of a substantial number of missing items of quite essential information that were not followed up in any Bluebook inquiries, as far as the case-file shows. No indication of the spacing of the several targets is given either, so it is difficult to decide whether to consider the above as an instance of "radar visual" concurrency or not. One summary discussion in the Bluebook case-file so construes it: "The radar was directed onto the target by visual observations from the tower. So it can safely be assumed that both visual and radar contacts involved the same object." By contrast, the Condon Report takes the position that there were no radar observations that ever matched the visual observations. The latter view seems more justified than the former, although the issue is basically unresolvable. One visual target won't, in any event, match 3-4 radar targets, unless we invoke the point that later on the main radar target split up into three separate radar targets, and assume that at 2335, 3-4 unknown objects were airborne and motionless, with only one of these luminous and visually detectable from Haneda. That is conceivable but involves too strained assumptions to take very seriously; so I conclude that, even in this opening radar search, there was not obvious correspondence between visual and radar unknowns. As we shall see, later on there was definitely not correspondence, and also the F-94 crew never spotted a visual target. Thus, Haneda cannot be viewed as a case involving the kind of "radar-visual" concurrency which does characterize many other important cases. Nonetheless, both the visual and the radar features, considered separately, are sufficiently unusual in the Haneda case to regard them as mutually supporting the view that inexplicable events were seen and tracked there that night.

One may ask why a radar-detected object was not seen visually, and why a luminous object was not detected

on search radar; and no fully satisfactory answer lies at hand for either question. It can only be noted that there are many other such cases in Bluebook files and that these questions stand as part of the substantial scientific puzzle that centers around the UFO phenomena. We know that light-sources can be turned off, and we do know that ECM techniques can fool radars to a certain extent. Thus, we might do well to maintain open minds when we come to these questions that are so numerous in UFO case analysis.

b. F-94 scramble. When Lt. B came on duty at 2345, he was soon able, according to Capt. Malven's summary in IR-35-52, "to make radar contact on the 50-mile high beam," whereupon he and Lt. A contacted the ADCC flight controller at Johnson AFB 35 miles to their west, requesting that an interceptor be scrambled to investigate the source of the visual and the radar sightings.

An F-94B of the 339th Fighter-Interceptor Squadron, piloted by Lt. P, with Lt. R operating the APG-33 air-intercept radar, was scrambled, though a delay of over ten minutes intervened because of fuel-system difficulties during engine runup. The records show the F-94 airborne at about 0003-04, and it then took about 10 minutes to reach the Tokyo Bay area. The APG-33 set was a 3-cm (X-band) set with 50 KW power, and lock-on range of about 2500 yards, according to my information. The system had a B-scope, i.e., it displayed target range vs. azimuth. The case-file notes that: "The APG-33 radar is checked before and after every mission and appeared to be working normally."

At 0009, Shiroi picked up a moving target near Haneda and alerted the F-94 crew, who had no difficulty identifying it visually as an Air Force C-54 in the Haneda pattern. The crew is quoted in the report as reporting "exceptional visibility." Shiroi instructed the F-94 to begin searching at 5000 ft altitude as it got out over the Bay. But before proceeding with events of that search, a GCI detection of a moving target at about 0001 must be reviewed.

c. First GCI detection of orbiting object. Just before the F-94 became airborne out of Johnson AFB, Lt. B picked up the first definitely unusual moving target, at about 0000-01. His statement in the Bluebook case-file reads: "At the time of the scramble, I had what was believed to be the object in radar contact. The radar sighting indicated the object to be due south of this station over Tokyo Bay and approximately eight (8) miles northeast of Haneda. The target was in a right orbit moving at varying speeds. It was impossible to estimate speed due to the short distance and times involved." That passage is quoted in the Condon Report, but not the next, which comes from Malven's summary and indicates that Lt. B only meant that it was impossible to estimate the target's speed with much accuracy. The omitted passage is interesting, for it is one of a number of indications that anomalous propagation (which is the Condon Report's explanation for the radar sightings) is scarcely creditable:

An F-94 was scrambled to investigate. The object at this time had left the ground clutter and could be tracked (on the CPS-1) at varying speeds in a right orbit. Although impossible to accurately estimate speed, Lt. B gave a rough estimate of 100-150 knots, stopping, and hovering occasionally, and a maximum speed during the second orbit (just before F-94 was vectored in) of possibly 250-300 knots.

A map accompanying IR-35-52 shows the plotted orbiting path of the unknown target. The orbit radius is approximately 4 miles, centered just off the coast from the city of Funabashi, east of Tokyo. The orbiting path is about half over land, half over water. The map sketch, plus the file comments, imply that GCI had good contacts with the target only while it was moving out over the Bay. The ground-clutter pattern of the CPS-1 is plotted on the same map (and on other maps in the file), and it seems clear that the difficulty in tracking the target through the land portion of the roughly circular orbit was that most of that portion lay within the clutter area. The presumption is strong that this set did not have MTI, which is unfortunate.

The circumference of the orbit of about 4-mi radius would be about 25 miles. Taking Lt. B's rough estimate of 100-150 knots in the first of the two circuits of this orbit (i.e., the one he detected at about 0001), a total

circuit-time of perhaps 12-13 minutes is indicated. Although the basis for this time-estimate is quite rough, it matches reasonably well the fact that it was about 0012 when it had come around again, split up into three targets, and looped onshore again with the F-94 in pursuit this time.

If the object executing the above orbits had been the luminous object being watched from Haneda, it would have swung back and forth across their sky through an azimuth range of about 30 deg. Since no such motion seems to have been noted by the Haneda observers, I believe it must be concluded that the source they watched was distinct from the one radar-tracked in orbit.

d. Second orbit and F-94 intercept attempt. The times given in Lt. B's account of this phase of the sighting do not match those given by the pilot and radarman of the F-94 in their signed statements in the file. Other accounts in the file match those of the aircrew, but not the times in Lt. B's summary. This discrepancy (about 10-12 minutes) is specifically noted in Capt. Malven's IR-35-52 summary: "The ten minute difference in time between the statement by Lt. B, 528th ACGW SQ, and that reported by other personnel concerned, is believed to be a typographical error, since the statement agrees on every other portion of the sighting." That Lt. B and the aircrew were describing one and the same intercept seems beyond any doubt; and in view of Malven's quoted comment, I here use the times recorded by the aircrew and accepted as the correct times in other parts of the case-file. Further comment on this will be given below.

After completing the first of the two orbits partially tracked by GCI Shiroi, the target came around again where it was out of the CPS-1 ground-clutter pattern, and Lt. B regained contact. Malven's summary comments on the next developments as follows: "At 0012 the object reportedly broke into three smaller contacts, maintaining an interval of about 1/4 miles, with one contact remaining somewhat brighter. The F-94 was vectored on this object, reporting weak contact at 1500 and loss of contact at 0018. Within a few seconds, both the F-94 and the object entered the ground clutter and were not seen again."

The same portion of the incident is summarized in Lt. B's account (with different times), with the F-94 referred to by its code-name "Sun Dial 20." Immediately following the part of his account referring to the first starboard orbit in which he had plotted the target's movements, at around 0001, comes the following section: "Sun Dial 20 was ordered to search the Tokyo Bay area keeping a sharp lookout for any unusual occurrences. The object was again sighted by radar at 0017 on a starboard orbit in the same area as before. Sun Dial 20 was vectored to the target. He reported contact at 0025 and reported losing contact at 0028. Sun Dial 20 followed the target into our radar ground clutter area and we were unable to give Sun Dial 20 further assistance in re-establishing contact. Sun Dial 20 again resumed his visual search of the area until 0014, reporting negative visual sighting on this object at any time." If Malven's suggestion of typographical error is correct, the in-contact times in the foregoing should read 0015 and 0018, and presumably 0017 should be 0012. But regardless of the precise times, the important point is that Lt. B vectored the F-94 into the target, contact was thereby achieved, and Lt. B followed the target and pursuing F-94 northeastward into his ground clutter. I stress this because, in the Condon Report, the matter of the different times quoted is offered as the sole basis of a conclusion that ground radar and airborne radar were never following the same target. This is so clearly inconsistent with the actual contents of the case-file that it is difficult to understand the Report rationale.

Even more certain indication that the GCI radar was tracking target and F-94 in this crucial phase is given in the accounts prepared and signed by the pilot and his radarman. Here again we meet a code-designation, this time "Hi-Jinx", which was the designation for Shiroi GCI used in the air-to-ground radio transmissions that night and hence employed in these next two accounts. The F-94 pilot, Lt. P states: "The object was reported to be in the Tokyo Bay area in an orbit to the starboard at an estimated altitude of 5,000 feet. I observed nothing of an unusual nature in this area; however, at 0016 when vectored by Hi-Jinx on a heading of 320 degrees, and directed to look for a bogie at 1100 o'clock, 4 miles, Lt. R made radar contact at 10 degrees port, 6000 yards. The point moved rapidly from port to starboard and disappeared from the scope. I had no visual contact with the target."

And the signed statement from the radarman, Lt. R, is equally definite about these events: "At 0015 Hi-Jinx gave us a vector of 320 degrees. Hi-Jinx had a definite radar echo and gave us the vector to intercept the unidentified target. Hi-Jinx estimated the target to be at 11 o'clock to us at a range of 4 miles. At 0016 I picked up the radar contact at 10 degrees port, 10 degrees below at 6,000 yards. The target was rapidly moving from port to starboard and a 'lock on' could not be accomplished. A turn to the starboard was instigated to intercept target which disappeared on scope in approximately 90 seconds. No visual contact was made with the unidentified target. We continued our search over Tokyo Bay under Hi-Jinx control. At 0033 Hi-Jinx released us from scrambled mission..."

Of particular importance is the very close agreement of the vectoring instructions given by Shiroi GCI to the F-94 and the actual relative position at which they accomplished radar contact; GCI said 4 miles range at the aircraft's 11 o'clock position, and they actually got radar contact with the moving target at a 6000-yard range, 10 degrees to their port. Nearly exact agreement, and thus incontrovertibly demonstrating that ground-radar and airborne radar were then looking at the same moving unknown target, despite the contrary suggestions made in the Condon Report. Had the Condon Report presented all of the information in the case-file, it would have been difficult to maintain the curious position that is maintained all of the way to the final conclusion about these radar events in the Condon Report's treatment of the Haneda case.

That the moving target, as seen by both ground and airborne radar was a distinct target, though exhibiting radar cross-section somewhat smaller than that typical of most aircraft, is spelled out in Malven's IR-35-52 summary: "Lt. B, GCI Controller at the Shiroi GCI site, has had considerable experience under all conditions and thoroughly understands the capabilities of the CPS-1 radar. His statement was that the object was a bonafide moving target, though somewhat weaker than that normally obtained from a single jet fighter." And, with reference to the airborne radar contact, the same report states; "Lt. R, F-94 radar operator, has had about seven years' experience with airborne radar equipment. He states that the object was a bonafide target, and that to his knowledge, there was nothing within an area of 15-20 miles that could give the radar echo." It is exceedingly difficult to follow the Condon Report in viewing such targets as due to anomalous propagation.

Not only were there no visual sightings of the orbiting target as viewed from the F-94, but neither were there any from the Shiroi site, though Lt. B specifically sent men out to watch as these events transpired. Also, as mentioned earlier, it seems out of the question to equate any of the Haneda visual observations to the phase of the incident just discussed. Had there been a bright light on the unknown object during the time it was in starboard orbit, the Haneda observers would almost certainly have reported those movements. To be sure, the case-file is incomplete in not indicating how closely the Haneda observers were kept in touch as the GCI directed radar- intercept was being carried out. But at least it is clear that the Haneda tower controllers did not describe motions of the intensely bright light that would fit the roughly circular starboard orbits of radius near four miles. Thus, we seem forced to conclude either that the target the F-94 pursued was a different one from that observed at Haneda (likely interpretation), or that it was non-luminous during that intercept (unlikely alternative, since Haneda observations did not have so large a period of non-visibility of the source they had under observation 2330-0020).

## 6. Condon Report Critique of the Radar Sightings:

The Bluebook case-file contains essentially no discussion of the radar events, no suggestion of explanations in terms of any electronic or propagational anomalies. The case was simply put in the Unexplained category back in 1952 and has remained in that category since then at Bluebook.

By contrast, the Condon Report regards the above radar events as attributable to anomalous propagation. Four reasons are offered (p. 126) in support of that conclusion:

- 1) The tendency for targets to disappear and reappear;

- 2) The tendency for the target to break up into smaller targets;
- 3) The apparent lack of correlation between the targets seen on the GCI and airborne radars;
- 4) The radar invisibility of the target when visibility was "exceptionally good."

Each of these four points will now be considered.

First, the "tendency for the targets to disappear and reappear" was primarily a matter of the orbiting target's moving into and out of the ground-clutter pattern of the CPS-1, as is clearly shown in the map that constitutes Enclosure #5 in the IR-35-52 report, which was at the disposal of the Colorado staff concerned with this case. Ground returns from AP (anomalous propagation) may fade in and out as ducting intensities vary, but here we have the case of a moving target disappearing into and emerging from ground clutter, while executing a roughly circular orbit some 4 miles in radius. I believe it is safe to assert that nothing in the annals of anomalous propagation matches such behavior. Nor could the Borden-Vickers hypothesis of "reflections" off moving waves on inversions fit this situation, since such waves would not propagate in orbits, but would, at best, advance with the direction and speed of the mean wind at the inversion. Furthermore, the indicated target speed in the final phases of the attempted intercept was greater than that of the F-94, i.e., over 400 knots, far above wind speeds prevailing that night, so this could not in any event be squared with the (highly doubtful) Borden-Vickers hypothesis that was advanced years ago to account for the 1952 Washington National Airport UFO incidents.

Second, the breakup of the orbiting target into three separate targets cannot fairly be referred to as a "tendency for the target to break up into smaller targets." That breakup event occurred in just one definite instance, and the GCI controller chose to vector the F-94 onto the strongest of the resultant three targets. And when the F-94 initiated radar search in the specific area (11 o'clock at 4 miles) where that target was then moving, it immediately achieved radar contact. For the Condon Report to gloss over such definite features of the report and merely allude to all of this in language faintly suggestive of AP seems objectionable.

Third, to build a claim that there was "apparent lack of correlation between the targets seen on the GCI and airborne radars" on the sole basis of the mismatch of times listed by Lt. B on the one hand and by the aircrew on the other hand, to ignore the specific statement by the intelligence officer filing IR-35-52 about this being a typographical error on the part of Lt. B, and, above all, to ignore the obviously close correspondence between GCI and air borne radar targeting that led to the successful radar-intercept, and finally to ignore Lt. B's statement that the F-94 "followed the target into our radar ground clutter", all amount to a highly slanted assessment of case details, details not openly set out for the reader of the Condon Report to evaluate for himself. I believe that all of the material I have here extracted from the Haneda case file fully contradicts the third of the Condon Report four reasons for attributing the radar events to AP. I would suggest that it is precisely the impressive correlation between GCI and F-94 radar targeting on this non-visible, fast-moving object that constitutes the most important feature of the whole case.

Fourth, it is suggested that AP is somehow suspected because of "the radar invisibility of the target when visibility was 'exceptionally good.'" This is simply unclear. The exceptional visibility of the atmosphere that night is not physically related to "radar invisibility" in any way, and I suspect this was intended to read "the invisibility of the radar target when visibility was exceptionally good." As cited above, neither the Shiroi crew nor the F-94 crew ever saw any visible object to match their respective radar targets. Under some circumstances, such a situation would indeed be diagnostic of AP. BUt not here, where the radar target is moving at high speed around an orbit many miles in diameter, occasionally hovering motionless (see Malven's account cited earlier), and changing speed from 100-150 knots up to 250-300 knots, and finally accelerating to well above an F-94's 375-knot speed.

Thus, all four of the arguments offered in the Condon Report to support its claim that the Haneda radar

events were due to anomalous propagation must be rejected. Those arguments seem to me to be built up by a highly selective extraction of details from the Bluebook case-file, by ignoring the limits of the kind of effects one can expect from AP, and by using wording that so distorts key events in the incident as to give a vague impression where the facts of the case are really quite specific.

It has, of course, taken more space to clarify this Haneda case than the case is given in the Condon Report itself. Unfortunately, this would also prove true of the clarification of some fifteen to twenty other UFO cases whose "explanation" in the Condon Report contains, in my opinion, equally objectionable features, equally casual glossing-over of physical principles, of important quantitative points. Equally serious omissions of basic case information mark many of those case discussions in the Condon Report. Here I have used Haneda only as an illustration of those points; but I stress that it is by no means unique. The Condon Report confronted a disappointingly small sample of the old "classic" cases, the long-puzzling cases that have kept the UFO question alive over the years, and those few that it did confront it explained away by argumentation as unconvincing as that which disposes of the Haneda AFB events in terms of diffraction of Capella and anomalous propagation. Scientifically weak argumentation is found in a large fraction of the case analysis of the Condon Report, and stands as the principal reason why its conclusions ought to be rejected.

Here are some other examples of UFO cases considered explained in the Condon Report for which I would take strong exception to the argumentation presented and would regard as both unexplained and of strong scientific interest (page numbers in Condon Report are indicated): Flagstaff, Ariz., 5/20/50 (p. 245); Washington, D. C., 7/19/52 (p. 153); Bellefontaine, O., 8/1/52 (p. 161); Gulf of Mexico, 12/6/52 (p. 148); Odessa, Wash., 12/10/52 (p. 140); Continental Divide, N.M., 1/26/53 (p. 143); Seven Isles, Quebec, 6/29/54 (p. 139); Niagara Falls, N.Y., 7/25/57 (p. 145); Kirtland AFB, N.M., 11/4/57 (p. 141); Gulf of Mexico, 11/5/57 (p. 165); Peru, 12/30/66 (p. 280); Holloman AFB, 3/2/67 (p. 150); Kincheloe AFB, 9/11/67 (p. 164); Vandenberg AFB, 10/6/67 (p. 353).

#### Case 4. Kirtland AFB, November 4, 1957.

Brief summary: Two CAA control tower operators observe a lighted egg-shaped object descend to and cross obliquely the runway area at Kirtland AFB (Albuquerque), hover near the ground for tens of seconds, then climb at unprecedented speed into the overcast. On radar, it was then followed south some miles, where it orbited a number of minutes before returning to the airfield to follow an Air Force aircraft outbound from Kirtland.

##### 1. Introduction:

This case, discussed in the Condon Report on p. 141, is an example of a UFO report which had lain in Bluebook files for years, not known to anyone outside of Air Force circles.

Immediately upon reading it, I became quite curious about it; more candidly, I became quite suspicious about it. For, as you will note on reading it for yourself, it purports to explain an incident in terms of an hypothesis with some glaringly improbable assumptions, and makes a key assertion that is hard to regard as factual. Let me quote from the first descriptive paragraph: "Observers in the CAA (now FAA) control tower saw an unidentified dark object with a white light underneath, about the 'shape of an automobile on end', that crossed the field at about 1500 ft and circled as if to come in for a landing on the E-W runway. This unidentified object appeared to reverse direction at low altitude, while out of sight of the observers behind some buildings, and climbed suddenly to about 200-300 ft., heading away from the field on a 120 deg. course. Then it went into a steep climb and disappeared into the overcast." The Condon Report next notes that; "The Air Force view is that this UFO was a small, powerful private aircraft, flying without flight plan, that became confused and attempted a landing at the wrong airport. The pilot apparently realized his error when he saw a brightly-lit restricted area, which was at the point where the object reversed direction..."

The Report next remarks very briefly that the radar blip from this object was described by the operator as a "perfectly normal aircraft return", that the radar tract "showed no characteristics that would have been beyond the capabilities of the more powerful private aircraft available at the time," and the conclusion arrived at in the Condon Report, without further discussion, is that: "There seems to be no reason to doubt the accuracy of this analysis."

## 2. Some Suspect Features of the Condon Report's Explanation

It seemed to me that there were several reasons "to doubt the accuracy of this analysis." First, let me point out that the first line or two of the account in the Condon Report contains information that the incident took place with "light rain over the airfield", late in the evening (2245-2305 MST), which I found to be correct, on checking meteorological records. Thus the reader is asked to accept the picture of a pilot coming into an unfamiliar airfield at night and under rain conditions, and doing a 180 deg. return at so low an altitude that it could subsequently climb suddenly to about 200-300 ft; and we are asked to accept the picture of this highly hazardous low-altitude nighttime turn being executed so sharply that it occurred "while out of sight of the observers behind some buildings." Now these are not casual bystanders doing the observing, but CAA controllers in a tower designed and located to afford full view of all aircraft operations occurring in or near its airfield. Hence my reaction to all of this was a reaction of doubt. Pilots don't live too long who execute strange and dangerous maneuvers of the type implied in this explanation. And CAA towers are not located in such a manner that "buildings" obscure so large a block of airfield-airspace as to permit aircraft to do 180 deg. turns while hidden from tower view behind them (at night, in a rain!).

## 3. Search for the Principal Witnesses:

The foregoing points put such strong a priori doubt upon the "private aircraft" explanation advanced in the Condon Report that I began an independent check on this case, just as I have been checking several dozen other Condon Report cases in the months since publication of the Report. Here, as in all other cases in the Report, there are no witness-names given to facilitate independent check, but by beginning my inquiries through the FAA, I soon got in touch with the two CAA tower observers, both of whom are still with FAA, one in Oklahoma, one in California. Concurrently, I initiated a number of inquiries concerning the existence of any structures back in 1957 that could have hidden an aircraft from tower view in the manner suggested by the Report. What I ultimately learned constitutes only one example of many that back up the statement I have been making recently to many professional groups: The National Academy of Sciences is going to be in a most awkward position when the full picture of the inadequacies of the Condon Report is recognized; for I believe it will become all too obvious that the Academy placed its weighty stamp on this dismal report without even a semblance of rigorous checking of its contents.

The two tower controllers, R. M. Kaser and E. G. Brink, with whom I have had a total of five telephone interviews in the course of clarifying the case, explained to me that the object was so unlike an aircraft and exhibited performance characteristics so unlike those of any aircraft flying then or now that the "private aircraft" explanation was quite amusing. Neither had heard of the Air Force explanation, neither had heard of the Condon Project concurrence therein, and, most disturbing of all, neither had ever heard of the Condon Project: No one on the Condon Project ever contacted these two men! A half-million-dollar Project, a Report filled with expensive trivia and matters shedding essentially no light on the heart of the UFO: puzzle, and no Project investigator even bothers to hunt down the two key witnesses in this case, so casually closed by easy acceptance of the Bluebook "aircraft" explanation.

Failure to locate those two men as part of the investigation of this case is all the more difficult to understand because CAA tower operators involved as witnesses of a UFO incident were actually on duty would seem to constitute just the type of witnesses one should most earnestly seek out in attempts to clarify the UFO puzzle. In various sections of the Condon Report, witness- shortcomings (lack of experience, lack of familiarity with observing things in the sky, basic lack of credibility, etc.) are lamented, yet here, where the backgrounds of

the witnesses and the observing circumstances are highly favorable to getting reliable testimony, the Colorado group did not bother to locate the witnesses. (This is not an isolated example. Even in cases which were conceded to be Unexplained, such as the June 23, 1955 Mohawk Airlines multiple-witness sighting near Utica, N.Y. [p. 143 in Report], or the Jackson, Alabama, November 14, 1956 airline case, both conceded to be unexplained, I found on interviewing key witnesses as part of my cross-check on the Condon Report, that no one from Colorado had ever talked to the witnesses. In still other important instances, only a fraction of the available witnesses were queried in preparing the Condon Report. Suggestions that the Report was based on intensive investigatory work simply are not correct.)

#### 4. Information Gained from Witness-Interviews:

When I contacted Kaser and Brink, they told me I was the first person to query them on the case since their interrogation by an Air Force captain from Colorado Springs, who had come to interview them at Kirtland just after the incident. Subsequently, I secured the Bluebook case-file on this sighting, and ascertained that a Capt. Patrick O. Shere, from Ent AFB did the interrogation on Nov. 8, 1957, just four days after the sighting.

The accounts I secured in 1969 from Kaser and Brink matched impressively the information I found in Shere's 1957 report in the Bluebook case-file. There were a few recollective discrepancies of distance or time estimates in the witness accounts given in 1969, as compared with their 1957 statements to the Air Force, but the agreements were far more significant than the small number of mismatches.

In contrast to the somewhat vague impressions I gained (and other readers would surely also gain) from reading the Condon Report version, here is what is in the Bluebook case-file and what they told me directly.

The object came down in a rather steep dive at the east end of Runway 26, left the flight line, crossed runways, taxiways and unpaved areas at about a 30-degree angle, and proceeded southwestward towards the CAA tower at an altitude they estimated at a few tens of feet above ground. Quickly getting 7x binoculars on it, they established that it had no wings, tail, or fuselage, was elongated in the vertical direction, and exhibited a somewhat eggshaped form (KaCer). It appeared to be perhaps 15-20 ft in vertical dimension, about the size of an automobile on end, and had a single white light in its base. Both men were emphatic in stressing to me that it in no way resembled an aircraft.

It came towards them until it reached a B-58 service pad near the northeast corner of Area D (Drumhead Area, a restricted area lying south of the E-W runway at Kirtland). That spot lay about 3000 ft ENE of the tower, near an old machine-gun calibration bunker still present at Kirtland AFB. There it proceeded to stop completely, hover just above ground in full view for a time that Kaser estimated at about 20 seconds, that Brink suggested to me was more like a minute, and that the contemporary Air Force interrogation implied as being rather more than a minute. Next they said it started moving again, still at very low altitude, still at modest speed, until it-again reached the eastern boundary of the field. At that point, the object climbed at an extremely rapid rate (which Kaser said was far faster than that of such modern jets as the T-38).

The Bluebook report expresses the witness' estimate of the climb rate as 45,000 ft/min, which is almost certainly a too-literal conversion from Mach 1. My phone-interview notes include a quote of Brink's statement to me that, "There was no doubt in my mind that no aircraft I knew of then, or ever operating since then, would compare with it." Both men were emphatic in stating to me that at no time was this object hidden by any buildings. I confirmed through the Albuquerque FAA office that Area D has never had anything but chain-link fence around it, and that no buildings other than scattered one-story metal buildings ever existed either inside or outside Area D in that sector. The bunker is only about 15-20 feet high, judging from my own recent observations and photos of it from the air. The Bluebook interrogation report contains no statements hinting that the object was ever hidden from view by any structures (although the Bluebook file contains the usual number of internally inconsistent and confusingly presented details).

I asked both men whether they alerted anyone else while the foregoing events were taking place. They both indicated that the object was of such unprecedented nature that it wasn't until it shot up into the overcast that they got on the phone to get the CAA Radar Approach Control (RAPCON) unit to look for a fast target to the east. Kaser recalled that a CPN-18 surveillance radar was in use at that RAPCON unit at that time, a point confirmed to me in subsequent correspondence with the present chief of the Albuquerque Airport Traffic Control Tower, Mr. Robert L. Behrens, who also provided other helpful information. Unfortunately, no one who was in the Albuquerque/Kirtland RAPCON unit in 1957 is now available, and the person whom Kaser thought was actually on the CPN-18 that night is now deceased. Thus I have only Kaser and Brink recollections of the radar-plotting of the unknown, plus the less than precise information in the Nov. 6, 1957 TWX to Bluebook. Capt. Shere did not, evidently, take the trouble to secure any information from radar personnel.

As seen on the RAPCON CPN-18, the unknown target was still moving in an easterly direction when the alert call came from the tower. It then turned southward, and as Kaser recalled, moved south at very high speed, though nothing is said about speed in the Kirtland TWX of Nov. 6, 1957. It proceeded a number of miles south towards the vicinity of the Albuquerque Low Frequency Range Station, orbited there for a number of minutes, came back north to near Kirtland, took up a trail position about a half-mile behind an Air Force C-46 just then leaving Kirtland, and moved offscope with the C-46. The Nov. 8, 1957 report from Commander, 34th Air Div. to ADC and to the Air Technical Intelligence Command closed with the rather reasonable comment: "Sighting and descriptions conform to no known criteria for identification of UFOs." The followup report of Nov. 13, 1957, prepared by Air Intelligence personnel from Ent AFB, contains a number of relevant comments on the experience of the two witnesses (23 years of tower control work between them as of that date), and on their intelligence, closing with the remarks: "In the opinion of the interviewer, both sources (witnesses) are considered completely competent and reliable."

## 5. Critique of the Evaluation in the Condon Report:

The Kirtland AFB case is a rather good (though not isolated) instance of the general point I feel obliged to make on the basis of my continuing check of the Condon Report: In it we have not been given anything superior to the generally casual and often incompetent level of case-analysis that marked Bluebook's handling of the UFO problem in past years.

In the Bluebook files, this case is carried as "Possible Aircraft". Study of the 21-page case-file reveals that this is based solely on passing comment made by Capt. Shere in closing his summary letter of November 8: "The opinion of the preparing officer is that this object may possibly have been an unidentified aircraft, possibly confused by the runways at Kirtland AFB. The reasons for this opinion are: (a) The observers are considered competent and reliable sources, and in the opinion of this interviewer actually saw an object they could not identify. (b) The object was tracked on a radar scope by a competent operator. (c) The object does not meet identification criteria for any other phenomena."

The stunning non sequitor of that final conclusion might serve as an epitome of 22 years of Air Force response to unexplainable objects in our airspace. But when one then turns to the Condon Report's analysis and evaluation, a Report that was identified to the public and the scientific community as the definitive study of UFOs, no visible improvement is found. Ignoring almost everything of interest in the case-file except that a lighted airborne object came down near Kirtland airfield and left, the Condon Report covers this whole intriguing case in two short paragraphs, cites the Air Force view, embellishes it a bit by speaking of the lost aircraft as "powerful" (presumably to account for its observed Mach 1 climb-out) and suggesting that it was "flying without flight plan" (this explains why it was wandering across runways and taxiways at night, in a rain, at an altitude of a few tens of feet), and the Report then closes off the case with a terse conclusion: "There seems to be no reason to doubt the accuracy of this analysis."

Two telephone calls to the two principal witnesses would have confronted the Colorado investigators with

emphatic testimony, supporting the contents (though not the conclusions) of the Bluebook file, and that would have rendered the suggested "powerful private aircraft" explanation untenable. By not contacting the witnesses and by overlooking most of the salient features of the reported observations, this UFO report has been left safely in the "explained" category where Bluebook put it. One has here a sample of the low scientific level of investigative and evaluative work that will be so apparent to any who take the trouble to study carefully and thoroughly the Condon Report on UFOs. AAAS members are urged to study it carefully for themselves and to decide whether it would be scientifically advisable to accept it as the final word on the 22-year-long puzzle of the UFO problem. I submit that it is most inadvisable.

**From:** [Jason Wright](#)  
**To:** [chair@iaaseti.org](#); [vicechairs@iaaseti.org](#); [secretary@iaaseti.org](#)  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Kathryn E L Denning](#); [STEVEN DICK](#); [Eghigian, Greg](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#); [Clément Vidal](#); [Hector Socas-Navarro](#); [Anamaria Berea](#); [\(b\) \(6\)](#); [Julia DeMarines](#); [Chelsea Haramia](#); [Margaret Turnbull](#); [Franck Marchis](#); [Steve Croft](#)  
**Subject:** [EXTERNAL] Ad Hoc Subcommittee Report  
**Date:** Friday, May 21, 2021 11:06:43 AM  
**Attachments:** [IAA SETI PC Ad Hoc Subcommittee on UFOs.pdf](#)

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To the Executive of the IAA PC on SETI:

Please accept the attached report from the ad hoc subcommittee that formed to discuss the inclusion/exclusion of UFO abstracts from PC meetings.

--

-----  
Jason T Wright  
Professor of Astronomy & Astrophysics  
Director, Penn State Extraterrestrial Intelligence Center  
Acting Director, Center for Exoplanets and Habitable Worlds  
[NEID Instrument Team Project Scientist](#)  
he/him/his  
<https://sites.psu.edu/astrowright/>  
[@Astro\\_Wright](#)

## Report of the Ad Hoc Subcommittee on UFO Studies with Respect to IAA SETI Permanent Committee Business

In response to an online discussion on the community list regarding the rejection of UFO-related abstracts at a Permanent Committee meeting, this ad hoc subcommittee met to draft a document explaining the position of the Permanent Committee on the topic, and to recommend further actions.

There was considerable discussion and difference of opinion in the ad hoc subcommittee on both the nature of UFO research and its propriety for the Permanent Committee. Many members' positions were nuanced, but broadly speaking many felt that UFO studies were inherently inconsistent with the work of the committee and out of scope; others felt that UFO studies should be included if they could satisfy certain criteria for scientific rigor and relevance to the Permanent Committee's goals.

Several factors complicated the conversation. One was that the existing terms of reference explicitly exclude UFO studies, but the draft revision to the Terms of Reference circulated to the Committee by the executive on 28 November 2020 do not. Another is that a few UFO-related abstracts have been accepted in the past, and there was a strong desire from some members to lay out explicit criteria under which they would be accepted in the future.

A large majority of the subcommittee supported the Permanent Committee examining these potentially contentious issues in more detail, for instance through polling of the membership, defining the scope of the committee more precisely, and having more guidance regarding the acceptance criteria for abstracts.

A plurality of the subcommittee supported the following positions:

- UFO studies can, in principle, be conducted well and have significant scientific value
- UFO studies are generally out of scope for the Permanent Committee
  - One reason is that the PC has historically focused on astronomical and social aspects of SETI, which use different methods (astronomy and social science) than employed in UFO studies
  - Another reason is that UFO studies in general have not met the necessary evidentiary criteria for demonstrating that UFOs might have anything to do with alien technology
- There is no bar or prejudice against any PC member who, in addition to their work relevant to the PC, also engages in UFO-related research

Therefore, a majority of the subcommittee recommends that the Permanent Committee:

1. Change the wording of the scope of the committee in its terms of reference [Draft, 28 November 2020] to read that it “examines topics related to the possible existence of extant or extinct intelligent and/or technological life having arisen beyond Earth.” [i.e. strike “all” from “all topics”]. If that draft is not adopted and the old terms of reference are retained, similarly strike “all” from the second sentence of the old terms.
2. If the draft terms of reference are adopted, add a UFO exclusion reading “the committee’s work does not include studies of UFOs or Unidentified Aerial Phenomena” (i.e., maintain the exclusion that was in the original ToR.)
3. Adopt a statement (given below) explaining this exclusion
4. Convene a subcommittee or subcommittees charged with **some or all** of the following, at the PC’s discretion:
  - Defining the scope of work of the Permanent Committee
  - Formalizing the process by which abstracts are accepted or rejected
  - Polling Permanent Committee members on their positions regarding UFO research
  - Exploring the boundaries between UFO research and SETI, in particular the extent to which they complement or diverge from one another
  - Considering and making recommendations regarding whether to uphold, modify, or remove the exclusion on UFO research. This could, in principle, include laying out specific criteria whereby UFO abstracts would be accepted.

A minority of the subcommittee objects to a categorical bar against UFO-related research for the time being, even paired with a recommendation that the Permanent Committee re-examine that bar in the near future, and recommends that the PC reject the first two recommendations. This minority recommends that the PC:

1. Remove this sentence from the terms of reference: “These terms of reference exclude any consideration of UFO phenomena.”
2. If the draft terms of reference from 2020 are adopted, then they should not include any statements that exclude the PC from consideration of UFO phenomena.
3. Draft a longer document that explains the criteria by which abstracts will be evaluated for relevance to the IAA SETI PC.
4. Consider performing further work to explore and constrain any boundaries between ongoing UFO studies and astronomical SETI. Such efforts could include building collaborations with existing organizations that engage in the scientific study of UFOs.

Attached below are the two reports from the subcommittee for the PC to consider when deciding which recommendations to follow.

# Majority Report of the Ad Hoc Subcommittee on UFO Studies with Respect to IAA SETI Permanent Committee Business

Anamaria Berea, Kathryn Denning, Steven Dick, Greg Eghigian, Chelsea Haramia, Franck Marchis, Hector Socas-Navarro, Clément Vidal, Jason T. Wright

## Summary:

In response to an online discussion on the community list regarding the propriety of UFO-related abstracts at Committee meetings, this ad hoc subcommittee met to draft a document explaining the exclusion of such work and to recommend further actions. There was considerable discussion and difference of opinion regarding where the boundary between UFO studies and the activities of the committee should lie. The majority opinion was to let the exclusion stand. We recommend slightly altering the terms of reference to reflect this, issuing a statement explaining the exclusion. We also recommend the committee consider an additional, longer document explaining the full scope of the committee. We acknowledge the interest of committee members and members of the community in more fully exploring the boundaries between UFO studies and astronomical SETI, including whether it should be moved.

## Recommendations to the PC:

1. Change the wording of the scope of the committee in its terms of reference [Draft, 28 November 2020] to read that it “examines topics related to the possible existence of extant or extinct intelligent and/or technological life having arisen beyond Earth.” [i.e. strike “all” from “all topics”]. If that draft is not adopted and the old terms of reference are retained, similarly strike “all” from the second sentence of the old terms.
2. If the draft terms of reference are adopted, add a UFO exclusion reading “the committee’s work does not include studies of UFOs or Unidentified Aerial Phenomena” (i.e., maintain the exclusion that was in the original ToR.)
3. Adopt the below statement explaining this exclusion
4. Convene a subcommittee or subcommittees charged with **some or all** of the following, at the PC’s discretion:
  - Defining the scope of work of the Permanent Committee
  - Formalizing the process by which abstracts are accepted or rejected
  - Polling Permanent Committee members on their positions regarding UFO research
  - Exploring the boundaries between UFO research and SETI, in particular the extent to which they complement or diverge from one another
  - Considering and making recommendations regarding whether to uphold, modify, or remove the exclusion on UFO research. This could, in principle, include laying out specific criteria whereby UFO abstracts would be accepted.

**Statement:**

The Permanent Committee on SETI for the International Academy of Astronautics “examines topics related to the possible existence of extant or extinct intelligent and/or technological life having arisen beyond Earth.” The question has arisen as to why the committee does not consider the study of Unidentified Flying Objects (i.e. UFOs, or the related concept of Unidentified Aerial Phenomena or UAPs) to be within its purview. Indeed, given that there is a popular association of them with alien technology, it is understandable that it seems strange to many that the committee does not include the investigation of UFOs as having extraterrestrial origin in its scope.

There are two reasons for this exclusion.

The first reason is based on the nature of the evidence for UFOs. The cultural association of UFOs with alien spacecraft is primarily driven by social trends, not by strong, durable physical evidence that has withstood objective scientific scrutiny. As such, their study has no strong connection to the goals of the committee.

A second reason is related to the scope of work the committee does. Since its inception, the committee has focused on the astronomical search for technological life, for instance using telescopes to search for radio waves, and the policies and practice concerning potential detection of alien life. As such, committee membership comprises primarily astronomers who specialize in these detection methods (in addition to experts in other domains).

The committee appreciates that studies of UFOs are done around the world with varying methods and varying degrees of rigor, but given that those studies are not our focus or our expertise, we have not reviewed them as a committee. Such work is the purview of experts in atmospheric science, aviation, military equipment, aircraft sensors and cameras, aerodynamicists, psychologists, and the like. The vast majority of their work will involve identifying UFOs using methods that committee members are unfamiliar with, and so are beyond the committee's scope.

Although this committee does not generally include research into UFOs/UAP in its activities, we do not assert that such research is necessarily inappropriate or unscientific, or that Committee members should not individually engage in such work. Although as a committee, we do not collectively evaluate the scientific merit of claims about UFOs being extraterrestrial in origin, we do appreciate the value of such scientific reviews and assessments. Collectively, our activities focus on the astronomy-based search for evidence of extraterrestrial intelligence and closely related topics.

Finally, we note that the committee does occasionally accept abstracts for topics outside its scope at its meetings; however, we expect such exceptions to be rare and well justified.

# Minority Report of the Ad Hoc Subcommittee on UFO Studies with Respect to IAA SETI Permanent Committee Business

Jacob Haqq-Misra, Ravi Kopparapu

## Summary:

A document drafted by an ad hoc subcommittee advocates for the exclusion of UFO studies from the activities of the IAA SETI Permanent Committee (PC), which nominally represents the majority opinion of the ad hoc subcommittee. As an alternative to this majority opinion, the present document is a minority report that instead argues for the inclusion of UFO studies among the activities of the PC in some cases. We recommend altering the terms of reference to reflect this broadened scope. We acknowledge that not all committee members may be personally interested in scientific investigation of UFOs, but we argue that any UFO investigations that demonstrate genuine scientific merit and relevance to the IAA SETI PC should not be automatically excluded.

## Recommendations to the PC:

- Remove this sentence from the terms of reference: "These terms of reference exclude any consideration of UFO phenomena."
- If the draft terms of reference from 2020 are adopted, then they should not include any statements that exclude the PC from consideration of UFO phenomena.
- Draft a longer document that explains the criteria by which abstracts will be evaluated for relevance to the IAA SETI PC.
- Consider performing further work to explore and constrain any boundaries between ongoing UFO studies and astronomical SETI. Such efforts could include building collaborations with existing organizations that engage in the scientific study of UFOs.

## Statement:

The primary goal of the IAA SETI PC is "to examine all aspects of possible future contact with extraterrestrial civilizations, with special reference to international issues and activities." The terms of reference state that this goal should be supported by activities that include "planetary science missions designed to search for evidence of extraterrestrial life, the astronomical search for extrasolar planets, and the recovery of possible Martian microfossils on the Earth." Similarly, the draft terms of reference from 2020 state that the IAA SETI PC "examines all topics related to the possible existence of extant or extinct intelligent and/or technologically capable life having arisen beyond Earth" and emphasize that "special attention is paid to international and interdisciplinary issues and activities."

The question recently arose as to why the current IAA SETI PC terms of reference explicitly exclude UFO (Unidentified Flying Objects) or UAP (Unidentified Aerial Phenomena) studies from consideration. We acknowledge that this exclusion may have been driven by a desire to delineate the scientific activities of SETI from cultural trends that associate UFOs with extraterrestrial life. However, we suggest that the broad exclusion of UFOs/UAP from the IAA SETI PC could undermine the ability of the committee to genuinely “examine all aspects of possible future contact with extraterrestrial civilizations” because such an exclusion neglects an important scenario that is otherwise considered within the scope of traditional SETI.

Earth provides the only known example of technosignatures. Any other concepts for technosignatures arise from projections of future Earth based on concepts that are physically plausible, even if they may not be realistic for the near future of our own civilization. The idea of searching for radio/optical beacons, megastructures, or terraforming all invoke future scenarios of civilization on Earth that could lead to such detectable technosignatures. One such scenario is the idea that extraterrestrials might send exploratory spacecraft to the Solar System. Searching for evidence of such nearby extraterrestrial technology has been described as Solar System SETI or the Search for Extraterrestrial Artifacts (SETA).

The SETA scenario was first proposed by Ron Bracewell in 1960 and has been explored by many other SETI researchers since. A handful of SETA searches have been conducted, which include observations of Earth-moon Lagrange points and analysis of high-resolution lunar images. Such searches are motivated by the scenario that extraterrestrial technology could be resident in the Solar System, and perhaps even on a planetary surface. If extraterrestrial technology actually does exist within the Solar System, then its detection would be directly relevant to the primary goal of the IAA SETI PC.

Free-floating extraterrestrial artifacts might be detectable with current or future observatories. Any artifacts on the surface of a planet or moon might be detectable through analysis of high-resolution images as well as robotic or crewed exploration. But what if an extraterrestrial artifact were to enter Earth’s atmosphere? The observation of such an artifact would technically be considered a UFO/UAP until further data could be collected to assess its identity. Would the observation of such a phenomenon be relevant to the SETI research community?

The blanket prohibition on “any consideration of UFO phenomena” by the IAA SETI PC thereby remains at odds with full exploration of the SETA hypothesis. We acknowledge that the vast majority of UFO/UAP sightings have nothing to do with extraterrestrials, and it is even possible that there are no examples of known UFO/UAP events that would qualify as relevant to SETI. But the SETA hypothesis includes the possibility that an extraterrestrial artifact could enter Earth’s atmosphere. Such a phenomenon would be classified as a UFO/UAP, and thus would be out of scope for the PC. In such a scenario, the exclusion of “UFO phenomena” would prevent the PC from achieving its ultimate goal of “contact with extraterrestrial civilizations.” Likewise, this exclusion would contradict the goal of the PC to examine “all topics related to the possible existence of... technologically capable life.”

We do not suggest that the PC invite any and all UFO/UAP abstracts for consideration, as we fully acknowledge that many such abstracts have nothing to do with scientific SETI or do not follow agnostic scientific methodology. Instead, we urge the PC to clarify the process or rubric by which abstracts will be assessed for relevance. We urge the PC to recognize that the success of SETI will require increasing interdisciplinary collaboration, and so the activities of the IAA SETI PC should be inclusive of all areas of scientific inquiry that could lead to the discovery of extraterrestrial technology.

**From:** Jason Wright  
**To:** Julia De Marines  
**Cc:** Kopparapu Ravi Kumar (GSFC-6990); Kathryn E.L Denning; STEVEN DICK; Eghigian Greg; Haqq-Misra Jacob D. (GSFC-6062)[Science Collaborator]; Clément Vidal; Hector Socas-Navarro; Anamaria Berea; (b) (6) Julia DeMarines; Chelsea Haramia; Margaret Turnbull; Franck Marchis; Steve Croft  
**Subject:** [EXTERNAL] Re: IAA PC UFO Report  
**Date:** Friday, May 21, 2021 6:43:36 PM

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Hi, Julia, I just submitted the report to the IAA PC SETI Executive, but I can resend another copy with your name on the majority report if you like.

On Fri, May 21, 2021 at 6:04 PM Julia De Marines <(b) (6)> wrote:

I think it reads well! Great job everyone! I didn't have any additional useful feedback or comments. Sorry I couldn't help more with this. I was a bit tunnel-visioned with school.

How do I sign on?

Best,  
Julia

On Thu, May 20, 2021 at 5:35 AM Jason Wright <(b) (6)> wrote:

Reminder: I will submit this to the PC Executives tomorrow.

**Klara, Maggie, Julia, Clément, and Steve** I invite you to read and sign on.

Jason

On Mon, May 17, 2021 at 10:28 AM Jason Wright <(b) (6)> wrote:

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

1 page(s) containing duplicate information is/are held in the file.

**From:** [Julia De Marines](#)  
**To:** [Jason Wright](#)  
**Cc:** [Kopparapu Ravi Kumar \(GSFC-6990\)](#); [Kathryn E L Denning](#); [STEVEN DICK](#); [Eghigian Greg](#); [Haqq-Misra Jacob D. \(GSFC-6062\)](#)[Science Collaborator]; [Clément Vidal](#); [Hector Socas-Navarro](#); [Anamaria Berea](#); (b) (6) [Julia DeMarines](#); [Chelsea Haramia](#); [Margaret Turnbull](#); [Franck Marchis](#); [Steve Croft](#)  
**Subject:** [EXTERNAL] Re: IAA PC UFO Report  
**Date:** Friday, May 21, 2021 8:15:00 PM

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That would be great, thank you!

And I have more thoughts on the minority report but I'm afraid I'm out of time.

I wanted to put out there that IAA SETI PC is concerned with searching for extraterrestrial intelligence/technology and isn't currently concerned with the search for terrestrial-based artifacts even though the mission statement of the PC is broad. There really isn't a set of methods or credible training/education associated with that search at the present time, unless I am mistaken (there are very few "out" scientists in the field), so there is not an established vetting process with qualified people. From my knowledge, it appears to be individuals who have taken it upon themselves to study UFO/UAPs that are not really integrated or supported by the Academy. I think it would be worthy to have qualified individuals be included in SETI meetings in the future but how to vet them is another issue. For example, at the last SSOCIA conference, there was someone there who presented who wasn't an academic who was spewing outlandish things like "life on Mars" and IMO I'm not sure this is the correct venue to entertain non-credible opinions. I know there was some talk of this in the previous email threads (I will have to go back and re-read) but wanted to at least say that I'm excited that we can have these conversations and do this with careful thought/grace to be credible yet inclusive of this subject in the future. It's a tricky line to walk and also a tricky subject to communicate to the public, as we've seen.

My thoughts are likely not unique and I look forward to seeing what comes out of this. Apologies for not being more of a part of the conversation earlier!

Best,

Julia

On Fri, May 21, 2021 at 3:43 PM Jason Wright <(b) (6)> wrote:

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

2 page(s) containing duplicate information is/are held in the file.

**From:** Claudio Maccone  
**To:** Jason Wright; (b) (6)  
**Cc:** Kopparapu, Ravi Kumar (GSFC-6990); Kathryn E L Denning; STEVEN DICK; Eghigian, Greg; Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]; Clément Vidal; Hector Socas-Navarro; Anamaria Berea; (b) (6) Julia DeMarines; Chelsea Haramia; Margaret Turnbull; Franck Marchis; Steve Croft  
**Subject:** [EXTERNAL] Re: Ad Hoc Subcommittee Report  
**Date:** Saturday, May 22, 2021 12:18:38 PM  
**Importance:** High

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Dear Jason and All,

Thanks very much for sending this Report to the Executives of the IAA SETI Permanent Committee.

It is our intention to hold the first Online Meeting (after the pandemic) of the IAA SETI Permanent Committee on Wednesday, June 23rd, 2021, and I am now preparing the relevant Agenda.

It is my intention to devote some time of this Online Meeting on June 23rd to allow a preliminary dissemination of your Report among all Members of the IAA SETI Permanent Committee as well as among other interested attendees, since the Meeting is in principle OPEN to anyone interested in SETI. Please kindly **SELECT** the person(s) that will present this Report and keep in mind that the allotted time may not be higher than fifteen minutes.

Thanks very much for your work on this report and keep in touch soon again, when I will make the Agenda public.

Sincerely,

Claudio (Maccone)

Chair, IAA SETI Permanent Committee.

On 5/22/2021 2:21 AM, Jason Wright wrote:

Please accept the attached **amended** report from the ad hoc subcommittee that formed to discuss the inclusion/exclusion of UFO abstracts from PC meetings.

(We added a 13th-hour signatory).

On Fri, May 21, 2021 at 11:05 AM Jason Wright <(b) (6)> wrote:

To the Executive of the IAA PC on SETI:

Please accept the attached report from the ad hoc subcommittee that formed to discuss the inclusion/exclusion of UFO abstracts from PC meetings.

--

-----  
Jason T Wright  
Professor of Astronomy & Astrophysics  
Director, Penn State Extraterrestrial Intelligence Center  
Acting Director, Center for Exoplanets and Habitable Worlds  
NEID Instrument Team Project Scientist  
he/him/his  
<https://sites.psu.edu/astrowright/>  
[@Astro\\_Wright](#)

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Jason T Wright  
Professor of Astronomy & Astrophysics  
Director, Penn State Extraterrestrial Intelligence Center  
Acting Director, Center for Exoplanets and Habitable Worlds  
NEID Instrument Team Project Scientist  
he/him/his  
<https://sites.psu.edu/astrowright/>  
[@Astro\\_Wright](#)

**From:** [Jacob Haqq Misra](#)  
**To:** [Jacob Haqq Misra](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Cc:** [Franck Marchis](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Jason Wright](#); [Eghigian, Greg](#); [Kathryn E L Denning](#); [Julia DeMarines](#); [Hector Socas-Navarro](#); [Anamaria Berea](#); [Chelsea Haramia](#); [Clément Vidal](#); [Julia DeMarines](#); [Margaret Turnbull](#); [STEVEN DICK](#); [Steve Croft](#); (b) (6)  
**Subject:** Re: [EXTERNAL] Ad Hoc Subcommittee Report  
**Date:** Sunday, May 23, 2021 5:29:13 PM

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Let me see if I can reschedule my other commitment...

On Sun, May 23, 2021 at 5:27 PM Jacob Haqq Misra <(b) (6)> wrote:  
I would be happy to, but I have already agreed to give a talk to another group at 10am ET on June 23.

On Sun, May 23, 2021 at 12:03 PM Franck Marchis <(b) (6)> wrote:  
I am planning to attend but it will be great to have Ravi or Jacob.  
regards  
F.

On May 23, 2021, at 6:53 AM, Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Perhaps Jacob?

---

**From:** Jason Wright <(b) (6)>  
**Date:** Sunday, May 23, 2021 at 9:41 AM  
**To:** "Eghigian, Greg" <(b) (6)>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]"  
<(b) (6)> Kathryn E L Denning <(b) (6)> Julia De  
Marines <(b) (6)> Hector Socas-Navarro  
<(b) (6)> Anamaria Berea <(b) (6)> Chelsea  
Haramia <(b) (6)> Clément Vidal <(b) (6)>  
Franck Marchis <(b) (6)> Julia DeMarines  
<(b) (6)> "Kopparapu, Ravi Kumar (GSFC-6990)"  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, Margaret Turnbull  
<(b) (6)> STEVEN DICK <(b) (6)>  
Steve Croft <(b) (6)> <(b) (6)>  
<(b) (6)>  
**Subject:** [EXTERNAL] Re: Ad Hoc Subcommittee Report

OK, the (virtual) meeting is 7am PT = 10am ET = 14:00UT on June 23. I can make that time, so I'll plan to present our report.

Who else plans to attend that could serve as my backup if I can't make it for whatever reason?

Jason

On Sun, May 23, 2021 at 9:31 AM Eghigian, Greg <(b) (6)> wrote:

Yes, I also agree.

Greg Eghigian  
Professor of History  
Penn State University

Department of History  
108 Weaver Building  
Penn State University  
University Park, PA 16802  
USA  
Email: (b) (6)

---

**From:** Jacob Haqq Misra <(b) (6)>  
**Date:** Sunday, May 23, 2021 at 7:31 AM  
**To:** Kathryn E L Denning <(b) (6)>  
**Cc:** Julia De Marines <(b) (6)> Hector Socas-Navarro  
<(b) (6)> Anamaria Berea <(b) (6)> Chelsea  
Haramia <(b) (6)> Clément Vidal <(b) (6)>  
Greg Eghigian <(b) (6)> Franck Marchis <(b) (6)>  
<(b) (6)> <(b) (6)> <(b) (6)>  
<(b) (6)> Julia DeMarines  
<(b) (6)> "Kopparapu, Ravi Kumar (GSFC-6990)"  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, Margaret Turnbull  
<(b) (6)> STEVEN DICK <(b) (6)>  
Steve Croft <(b) (6)> <(b) (6)>  
<(b) (6)>

**Subject:** Re: Ad Hoc Subcommittee Report

Works for me.

On Sat, May 22, 2021 at 6:47 PM Kathryn E L Denning <(b) (6)>  
wrote:

Ditto

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**From:** Julia De Marines <(b) (6)>  
**Sent:** Saturday, May 22, 2021 2:23 PM  
**To:** Hector Socas-Navarro <(b) (6)>  
**Cc:** Anamaria Berea <(b) (6)> Chelsea Haramia

<(b) (6)> Clément Vidal <(b) (6)> Eghigian,  
Greg <(b) (6)> Franck Marchis <(b) (6)> Haqq-Misra,  
Jacob D. (GSFC-6062)[Science Collaborator] <(b) (6)> Jason Wright  
<(b) (6)> Julia DeMarines  
<(b) (6)> Kathryn E L Denning  
<(b) (6)> Kopparapu, Ravi Kumar (GSFC-6990)  
<ravikumar.kopparapu@nasa.gov>; Margaret Turnbull  
<(b) (6)> STEVEN DICK <(b) (6)>  
Steve Croft <(b) (6)> <(b) (6)>  
**Subject:** Re: Ad Hoc Subcommittee Report

Agreed.

On Sat, May 22, 2021 at 11:08 AM Hector Socas-Navarro

<(b) (6)> wrote:

I think you should do it if you can, Jason

Hector

El sáb., 22 may. 2021 18:51, Jason Wright <(b) (6)>  
escribió:

Any takers to do the presentation?

Depending on the time zone, I could do it, but I need to see when it is  
exactly, first.

Jason

On Sat, May 22, 2021 at 12:18 PM Claudio Maccone

<(b) (6)> wrote:

Dear Jason and All,

Thanks very much for sending this Report to the Executives of the IAA SETI  
Permanent Committee.

It is our intention to hold the first Online Meeting (after the pandemic) of the IAA  
SETI Permanent Committee on Wednesday, June 23rd, 2021, and I am now  
preparing the relevant Agenda.

It is my intention to devote some time of this Online Meeting on June 23rd to  
allow a preliminary dissemination of your Report among all Members of the IAA  
SETI Permanent Committee as well as among other interested attendees, since  
the Meeting is in principle OPEN to anyone interested in SETI. Please kindly  
**SELECT** the person(s) that will present this Report and keep in mind that  
the allotted time may not be higher than fifteen minutes.

Thanks very much for your work on this report and keep in touch soon again,  
when I will make the Agenda public.

Sincerely,

Claudio (Maccone)

Chair, IAA SETI Permanent Committee.

On 5/22/2021 2:21 AM, Jason Wright wrote:

Please accept the attached **amended** report from the ad hoc subcommittee that formed to discuss the inclusion/exclusion of UFO abstracts from PC meetings.

(We added a 13th-hour signatory).

On Fri, May 21, 2021 at 11:05 AM Jason Wright

<(b) (6)> wrote:

To the Executive of the IAA PC on SETI:

Please accept the attached report from the ad hoc subcommittee that formed to discuss the inclusion/exclusion of UFO abstracts from PC meetings.

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-----  
Jason T Wright  
Professor of Astronomy & Astrophysics  
Director, Penn State Extraterrestrial Intelligence  
Center  
Acting Director, Center for Exoplanets and Habitable  
Worlds  
[NEID Instrument Team Project Scientist](#)  
he/him/his  
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he/him/his  
<https://sites.psu.edu/astrowright/>  
[@Astro\\_Wright](#)

-----  
**Julia DeMarines (she/her)**

PhD Student UC Berkeley | [Earth and Planetary Science Department](#) |  
Berkeley SETI Research Center | [Breakthrough Listen Lab](#) |  
National Geographic | [Explorer](#) | [Grosvenor Teacher Fellow](#) |  
BMS Institute of Science | [Research Scientist](#) |  
2019 AGU Voices of Science | [Advocate](#) |  
Ad Astra Academy | [Education Manager](#) |  
[SAGANet.org](#) | [Co-Founder](#) |

[Space in Your Face!](#)  
[JuliaDeMarines.com](#)

+(b) (6)

"The Universe is a pretty big place, it's bigger than anything anyone has ever dreamed of before. So if it's just us, seems like an awful waste of space." - Carl Sagan (Contact)

-----  
Jason T Wright  
Professor of Astronomy & Astrophysics  
Director, Penn State Extraterrestrial Intelligence Center  
Acting Director, Center for Exoplanets and Habitable Worlds  
[NEID Instrument Team Project Scientist](#)



he/him/his

<https://sites.psu.edu/astrowright/>

[@Astro\\_Wright](#)

## Report of the Ad Hoc Subcommittee on UFO Studies with Respect to IAA SETI Permanent Committee Business

In response to an online discussion on the community list regarding the rejection of UFO-related abstracts at a Permanent Committee meeting, this ad hoc subcommittee met to draft a document explaining the position of the Permanent Committee on the topic, and to recommend further actions.

There was considerable discussion and difference of opinion in the ad hoc subcommittee on both the nature of UFO research and its propriety for the Permanent Committee. Many members' positions were nuanced, but broadly speaking many felt that UFO studies were inherently inconsistent with the work of the committee and out of scope; others felt that UFO studies should be included if they could satisfy certain criteria for scientific rigor and relevance to the Permanent Committee's goals.

Several factors complicated the conversation. One was that the existing terms of reference explicitly exclude UFO studies, but the draft revision to the Terms of Reference circulated to the Committee by the executive on 28 November 2020 do not. Another is that a few UFO-related abstracts have been accepted in the past, and there was a strong desire from some members to lay out explicit criteria under which they would be accepted in the future.

A large majority of the subcommittee supported the Permanent Committee examining these potentially contentious issues in more detail, for instance through polling of the membership, defining the scope of the committee more precisely, and having more guidance regarding the acceptance criteria for abstracts.

A plurality of the subcommittee supported the following positions:

- UFO studies can, in principle, be conducted well and have significant scientific value
- UFO studies are generally out of scope for the Permanent Committee
  - One reason is that the PC has historically focused on astronomical and social aspects of SETI, which use different methods (astronomy and social science) than employed in UFO studies
  - Another reason is that UFO studies in general have not met the necessary evidentiary criteria for demonstrating that UFOs might have anything to do with alien technology
- There is no bar or prejudice against any PC member who, in addition to their work relevant to the PC, also engages in UFO-related research

Therefore, a majority of the subcommittee recommends that the Permanent Committee:

1. Change the wording of the scope of the committee in its terms of reference [Draft, 28 November 2020] to read that it “examines topics related to the possible existence of extant or extinct intelligent and/or technological life having arisen beyond Earth.” [i.e. strike “all” from “all topics”]. If that draft is not adopted and the old terms of reference are retained, similarly strike “all” from the second sentence of the old terms.
2. If the draft terms of reference are adopted, add a UFO exclusion reading “the committee’s work does not include studies of UFOs or Unidentified Aerial Phenomena” (i.e., maintain the exclusion that was in the original ToR.)
3. Adopt a statement (given below) explaining this exclusion
4. Convene a subcommittee or subcommittees charged with **some or all** of the following, at the PC’s discretion:
  - Defining the scope of work of the Permanent Committee
  - Formalizing the process by which abstracts are accepted or rejected
  - Polling Permanent Committee members on their positions regarding UFO research
  - Exploring the boundaries between UFO research and SETI, in particular the extent to which they complement or diverge from one another
  - Considering and making recommendations regarding whether to uphold, modify, or remove the exclusion on UFO research. This could, in principle, include laying out specific criteria whereby UFO abstracts would be accepted.

A minority of the subcommittee objects to a categorical bar against UFO-related research for the time being, even paired with a recommendation that the Permanent Committee re-examine that bar in the near future, and recommends that the PC reject the first two recommendations. This minority recommends that the PC:

1. Remove this sentence from the terms of reference: “These terms of reference exclude any consideration of UFO phenomena.”
2. If the draft terms of reference from 2020 are adopted, then they should not include any statements that exclude the PC from consideration of UFO phenomena.
3. Draft a longer document that explains the criteria by which abstracts will be evaluated for relevance to the IAA SETI PC.
4. Consider performing further work to explore and constrain any boundaries between ongoing UFO studies and astronomical SETI. Such efforts could include building collaborations with existing organizations that engage in the scientific study of UFOs.

Attached below are the two reports from the subcommittee for the PC to consider when deciding which recommendations to follow.

# Majority Report of the Ad Hoc Subcommittee on UFO Studies with Respect to IAA SETI Permanent Committee Business

Anamaria Berea, Julia DeMarines, Kathryn Denning, Steven Dick, Greg Eghigian, Chelsea Haramia, Franck Marchis, Julia De Marines, Hector Socas-Navarro, Clément Vidal, Jason T. Wright

## Summary:

In response to an online discussion on the community list regarding the propriety of UFO-related abstracts at Committee meetings, this ad hoc subcommittee met to draft a document explaining the exclusion of such work and to recommend further actions. There was considerable discussion and difference of opinion regarding where the boundary between UFO studies and the activities of the committee should lie. The majority opinion was to let the exclusion stand. We recommend slightly altering the terms of reference to reflect this, issuing a statement explaining the exclusion. We also recommend the committee consider an additional, longer document explaining the full scope of the committee. We acknowledge the interest of committee members and members of the community in more fully exploring the boundaries between UFO studies and astronomical SETI, including whether it should be moved.

## Recommendations to the PC:

1. Change the wording of the scope of the committee in its terms of reference [Draft, 28 November 2020] to read that it “examines topics related to the possible existence of extant or extinct intelligent and/or technological life having arisen beyond Earth.” [i.e. strike “all” from “all topics”]. If that draft is not adopted and the old terms of reference are retained, similarly strike “all” from the second sentence of the old terms.
2. If the draft terms of reference are adopted, add a UFO exclusion reading “the committee’s work does not include studies of UFOs or Unidentified Aerial Phenomena” (i.e., maintain the exclusion that was in the original ToR.)
3. Adopt the below statement explaining this exclusion
4. Convene a subcommittee or subcommittees charged with **some or all** of the following, at the PC’s discretion:
  - Defining the scope of work of the Permanent Committee
  - Formalizing the process by which abstracts are accepted or rejected
  - Polling Permanent Committee members on their positions regarding UFO research
  - Exploring the boundaries between UFO research and SETI, in particular the extent to which they complement or diverge from one another
  - Considering and making recommendations regarding whether to uphold, modify, or remove the exclusion on UFO research. This could, in principle, include laying out specific criteria whereby UFO abstracts would be accepted.

**Statement:**

The Permanent Committee on SETI for the International Academy of Astronautics “examines topics related to the possible existence of extant or extinct intelligent and/or technological life having arisen beyond Earth.” The question has arisen as to why the committee does not consider the study of Unidentified Flying Objects (i.e. UFOs, or the related concept of Unidentified Aerial Phenomena or UAPs) to be within its purview. Indeed, given that there is a popular association of them with alien technology, it is understandable that it seems strange to many that the committee does not include the investigation of UFOs as having extraterrestrial origin in its scope.

There are two reasons for this exclusion.

The first reason is based on the nature of the evidence for UFOs. The cultural association of UFOs with alien spacecraft is primarily driven by social trends, not by strong, durable physical evidence that has withstood objective scientific scrutiny. As such, their study has no strong connection to the goals of the committee.

A second reason is related to the scope of work the committee does. Since its inception, the committee has focused on the astronomical search for technological life, for instance using telescopes to search for radio waves, and the policies and practice concerning potential detection of alien life. As such, committee membership comprises primarily astronomers who specialize in these detection methods (in addition to experts in other domains).

The committee appreciates that studies of UFOs are done around the world with varying methods and varying degrees of rigor, but given that those studies are not our focus or our expertise, we have not reviewed them as a committee. Such work is the purview of experts in atmospheric science, aviation, military equipment, aircraft sensors and cameras, aerodynamicists, psychologists, and the like. The vast majority of their work will involve identifying UFOs using methods that committee members are unfamiliar with, and so are beyond the committee’s scope.

Although this committee does not generally include research into UFOs/UAP in its activities, we do not assert that such research is necessarily inappropriate or unscientific, or that Committee members should not individually engage in such work. Although as a committee, we do not collectively evaluate the scientific merit of claims about UFOs being extraterrestrial in origin, we do appreciate the value of such scientific reviews and assessments. Collectively, our activities focus on the astronomy-based search for evidence of extraterrestrial intelligence and closely related topics.

Finally, we note that the committee does occasionally accept abstracts for topics outside its scope at its meetings; however, we expect such exceptions to be rare and well justified.

# Minority Report of the Ad Hoc Subcommittee on UFO Studies with Respect to IAA SETI Permanent Committee Business

Jacob Haqq-Misra, Ravi Kopparapu

## Summary:

A document drafted by an ad hoc subcommittee advocates for the exclusion of UFO studies from the activities of the IAA SETI Permanent Committee (PC), which nominally represents the majority opinion of the ad hoc subcommittee. As an alternative to this majority opinion, the present document is a minority report that instead argues for the inclusion of UFO studies among the activities of the PC in some cases. We recommend altering the terms of reference to reflect this broadened scope. We acknowledge that not all committee members may be personally interested in scientific investigation of UFOs, but we argue that any UFO investigations that demonstrate genuine scientific merit and relevance to the IAA SETI PC should not be automatically excluded.

## Recommendations to the PC:

- Remove this sentence from the terms of reference: "These terms of reference exclude any consideration of UFO phenomena."
- If the draft terms of reference from 2020 are adopted, then they should not include any statements that exclude the PC from consideration of UFO phenomena.
- Draft a longer document that explains the criteria by which abstracts will be evaluated for relevance to the IAA SETI PC.
- Consider performing further work to explore and constrain any boundaries between ongoing UFO studies and astronomical SETI. Such efforts could include building collaborations with existing organizations that engage in the scientific study of UFOs.

## Statement:

The primary goal of the IAA SETI PC is "to examine all aspects of possible future contact with extraterrestrial civilizations, with special reference to international issues and activities." The terms of reference state that this goal should be supported by activities that include "planetary science missions designed to search for evidence of extraterrestrial life, the astronomical search for extrasolar planets, and the recovery of possible Martian microfossils on the Earth." Similarly, the draft terms of reference from 2020 state that the IAA SETI PC "examines all topics related to the possible existence of extant or extinct intelligent and/or technologically capable life having arisen beyond Earth" and emphasize that "special attention is paid to international and interdisciplinary issues and activities."

The question recently arose as to why the current IAA SETI PC terms of reference explicitly exclude UFO (Unidentified Flying Objects) or UAP (Unidentified Aerial Phenomena) studies from consideration. We acknowledge that this exclusion may have been driven by a desire to delineate the scientific activities of SETI from cultural trends that associate UFOs with extraterrestrial life. However, we suggest that the broad exclusion of UFOs/UAP from the IAA SETI PC could undermine the ability of the committee to genuinely “examine all aspects of possible future contact with extraterrestrial civilizations” because such an exclusion neglects an important scenario that is otherwise considered within the scope of traditional SETI.

Earth provides the only known example of technosignatures. Any other concepts for technosignatures arise from projections of future Earth based on concepts that are physically plausible, even if they may not be realistic for the near future of our own civilization. The idea of searching for radio/optical beacons, megastructures, or terraforming all invoke future scenarios of civilization on Earth that could lead to such detectable technosignatures. One such scenario is the idea that extraterrestrials might send exploratory spacecraft to the Solar System. Searching for evidence of such nearby extraterrestrial technology has been described as Solar System SETI or the Search for Extraterrestrial Artifacts (SETA).

The SETA scenario was first proposed by Ron Bracewell in 1960 and has been explored by many other SETI researchers since. A handful of SETA searches have been conducted, which include observations of Earth-moon Lagrange points and analysis of high-resolution lunar images. Such searches are motivated by the scenario that extraterrestrial technology could be resident in the Solar System, and perhaps even on a planetary surface. If extraterrestrial technology actually does exist within the Solar System, then its detection would be directly relevant to the primary goal of the IAA SETI PC.

Free-floating extraterrestrial artifacts might be detectable with current or future observatories. Any artifacts on the surface of a planet or moon might be detectable through analysis of high-resolution images as well as robotic or crewed exploration. But what if an extraterrestrial artifact were to enter Earth’s atmosphere? The observation of such an artifact would technically be considered a UFO/UAP until further data could be collected to assess its identity. Would the observation of such a phenomenon be relevant to the SETI research community?

The blanket prohibition on “any consideration of UFO phenomena” by the IAA SETI PC thereby remains at odds with full exploration of the SETA hypothesis. We acknowledge that the vast majority of UFO/UAP sightings have nothing to do with extraterrestrials, and it is even possible that there are no examples of known UFO/UAP events that would qualify as relevant to SETI. But the SETA hypothesis includes the possibility that an extraterrestrial artifact could enter Earth’s atmosphere. Such a phenomenon would be classified as a UFO/UAP, and thus would be out of scope for the PC. In such a scenario, the exclusion of “UFO phenomena” would prevent the PC from achieving its ultimate goal of “contact with extraterrestrial civilizations.” Likewise, this exclusion would contradict the goal of the PC to examine “all topics related to the possible existence of... technologically capable life.”

We do not suggest that the PC invite any and all UFO/UAP abstracts for consideration, as we fully acknowledge that many such abstracts have nothing to do with scientific SETI or do not follow agnostic scientific methodology. Instead, we urge the PC to clarify the process or rubric by which abstracts will be assessed for relevance. We urge the PC to recognize that the success of SETI will require increasing interdisciplinary collaboration, and so the activities of the IAA SETI PC should be inclusive of all areas of scientific inquiry that could lead to the discovery of extraterrestrial technology.

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: How Washington Got Hooked on Flying Saucers  
**Date:** Monday, May 24, 2021 9:12:16 AM

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Ok, Glad that science-based investigation is being advocated.  
I don't know the channels to go through to connect with him.

---

**From:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]"  
<[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>  
**Date:** Monday, May 24, 2021 at 9:03 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: How Washington Got Hooked on Flying Saucers

More later ... but did you see this piece over the weekend?  
<https://www.nytimes.com/2021/05/21/special-series/harry-reid-ufo.html>

Harry Reid might be a good person to connect with.

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

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**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Date:** Friday, May 21, 2021 at 10:00 AM  
**To:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>  
**Subject:** Re: How Washington Got Hooked on Flying Saucers

Ok, Thank you for sending this article.

I read it. And I think it is useful information to keep in mind about the current fever of UAP *\_in the United States\_*. However, I do keep coming back to the same point again and again, and I don't know how to tell these reporters writing these articles. Please do not be myopic and focus only on the recent UAP events as the flagship events. Do not dismiss the whole UFO history because there may be something nefarious *\_in these recent\_* events. This is not specific to U.S. And not specific to armed forces. As we mentioned in our WaPo article, UFOs are *\_not\_* a such restrictive topic. Physical scientists have studied them and found many to be unexplained. Some of them truly bizarre. I really, REALLY, want people to read Science in Default document and my comments. We cannot forget history as though it never happened.

I was thinking last night (late into night). My Twitter feed is full of ridiculing UFO phenomena. Including some of my colleagues. How can they forget history and so fixated on one thing like navy UAP that is popular now? Either they don't know history, or don't care to know the history to score social points. This is becoming a very polarized subject, with even trained scientists not finding out the historical context and ridiculing. I can only reach a conclusion that they are having a 'group approval' syndrome on Twitter. I am scared, and I am very concerned that I am writing that WaPo article. I might become another Avi Loeb. But somewhere in the back of my mind, there is a feeling that I do not need to be. And that is because I feel the presence of the giants of our field (Carl Sagan, James Mc Donald, Allen Hynek) standing behind me. They have done the work, and they think UFO research is important. I can stand firm on their shoulders. The science is with me. If I find there is no science in it, I will not bother about this topic.

Ravi

---

**From:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]"

<lonnie.shekhtman@nasa.gov>

**Date:** Friday, May 21, 2021 at 9:41 AM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Subject:** How Washington Got Hooked on Flying Saucers

<https://newrepublic.com/article/162457/government-embrace-ufos-bad-science>

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

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**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Date:** Thursday, May 20, 2021 at 4:03 PM

**To:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>

**Subject:** Re: Washington Post article draft

Ok great! Looking forward to talk to you on Monday.

---

**From:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]"

<lonnie.shekhtman@nasa.gov>

**Date:** Thursday, May 20, 2021 at 3:43 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Subject:** Re: Washington Post article draft

I know that you still have to get through HQ. But for future reference, WashPo should show you all edits to your story, and you're allowed to reject any that you don't like. You should see, weigh in on, and approve the version that they're going to publish, including the headline.

I also have some ideas from the writers group for you. I'm off tomorrow, so will call you on Monday to share them.

Lonnie

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

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**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Date:** Thursday, May 20, 2021 at 3:19 PM

**To:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>

**Subject:** Re: Washington Post article draft

Thanks! Your comments **\*really\*** helped.

---

**From:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]"

<lonnie.shekhtman@nasa.gov>

**Date:** Thursday, May 20, 2021 at 3:18 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Subject:** Re: Washington Post article draft

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

2 page(s) containing duplicate information is/are held in the file.

**From:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: How Washington Got Hooked on Flying Saucers  
**Date:** Monday, May 24, 2021 10:30:20 AM

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You could start by messaging him/his people through Twitter or Facebook:

<https://twitter.com/SenatorReid>

<https://www.facebook.com/SenatorReid/>

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Monday, May 24, 2021 at 9:13 AM  
**To:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: How Washington Got Hooked on Flying Saucers

Maybe after our article in WaPo is published, they might take notice. Someway we have to find some connection to him. Does your reporter colleagues have any links that could help us?

---

**From:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Date:** Monday, May 24, 2021 at 9:03 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: How Washington Got Hooked on Flying Saucers

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

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**From:** [Jacob Haqq Misra](#)  
**To:** [Franck Marchis](#)  
**Cc:** [Jacob Haqq Misra](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Subject:** Re: [EXTERNAL] IAA PC SETI UFO text  
**Date:** Monday, May 24, 2021 12:17:31 PM

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Thanks Franck! I will be curious to hear what others on the full committee have to say about the SETA comparison.

Jacob

On Sun, May 23, 2021 at 12:25 PM Franck Marchis <(b) (6)> wrote:

Hello

Somehow I had missed your email with your recommendations which are better aligned with my thoughts. You may have seen that I tried to provide inputs in the other one to get closer to your recommendations.

I like the SETA comparison and I think this argument deserves some discussions in our committee.

I hope you can present your ideas at the committee at the end of June.

regards  
Franck M.

On May 17, 2021, at 5:35 AM, Jacob Haqq Misra <(b) (6)> wrote:

What are the next steps for this process? It seems like we are arriving at consensus for the majority and minority reports. I'm not sure if there are still people on this thread who want to contribute, but it seems like we have heard from almost everyone by now. Are we ready to send these documents to the full PC for discussion?

On Fri, May 14, 2021 at 7:58 AM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Thanks Steve, this quote from the article

The way I've framed the thought experiment in recent conversations is this: Imagine, tomorrow, an alien craft crashed down in Oregon. There are no life-forms in it. It's effectively a drone. But it's undeniably extraterrestrial in origin. So we are faced with the knowledge that we're not alone, that we are perhaps being watched, and we have no way to make contact. How does that change human culture and society?

seems close to what we mentioned in the minority report:

But what if an extraterrestrial artifact were to enter Earth's atmosphere? The observation of such an artifact would technically be considered a UFO/UAP until further data could be collected to assess its identity. Would the observation of such a phenomenon be relevant to the SETI research community?

I also wish the writers of the articles in New Yorker and NYT link you sent below advocate for data availability in their articles, in addition to focusing on the opinions on UFOs. Ultimately, the nature of these objects will be known through the scientific analyses of such data. Otherwise, they will always be relegated to fringe science and will never be able to come into the mainstream. They will forever find home in sensational news and documentaries, and the vacuum created by lack of a science investigation that will be filled by someone else which feeds into the never ending cycle of it being a taboo subject.

Ravi

From: Kathryn E L Denning <(b) (6)>  
Date: Thursday, May 13, 2021 at 8:55 PM  
To: STEVEN DICK <(b) (6)> "Kopparapu, Ravi Kumar (GSFC-6990)"  
<ravikumar.kopparapu@nasa.gov>, Jason Wright <(b) (6)> "Eghigian, Greg"  
<(b) (6)> "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]"  
<(b) (6)> Clément Vidal <(b) (6)> Hector Socas-Navarro  
<(b) (6)> Anamaria Berea <(b) (6)> <(b) (6)>  
<(b) (6)> Julia DeMarines <(b) (6)> Chelsea  
Haramia <(b) (6)> Margaret Turnbull <(b) (6)> Franck  
Marchis <(b) (6)> Steve Croft <(b) (6)>  
Subject: RE: [EXTERNAL] IAA PC SETI UFO text

Thanks for sharing that, Steve. Hmm. Might be worth sharing with the whole committee in due course.

I love that Chiang short story he ends with.

Cheers,

KD

From: STEVEN DICK <(b) (6)>  
Sent: Thursday, May 13, 2021 6:51 PM  
To: Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>; Kathryn E L Denning <(b) (6)> Jason Wright <(b) (6)> Eghigian, Greg  
<(b) (6)> Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]  
<(b) (6)> Clément Vidal <(b) (6)> Hector Socas-Navarro  
<(b) (6)> Anamaria Berea <(b) (6)> <(b) (6)>  
Julia DeMarines <(b) (6)> Chelsea Haramia <(b) (6)>  
Margaret Turnbull <(b) (6)> Franck Marchis <(b) (6)> Steve  
Croft <(b) (6)> <(b) (6)>  
Subject: Re: [EXTERNAL] IAA PC SETI UFO text

Today's Ezra Klein column in the NYT is relevant to our discussion. I get a sentence toward the bottom. I told him about our ongoing discussion, but it didn't make it. Perhaps for the better.

<https://www.nytimes.com/2021/05/13/opinion/ufos-aliens-space.html?referringSource=articleShare&https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.nytimes.com%2F2021%2F05%2F13%2Fopinion%2Fufos-aliens-space.html%3FreferringSource%3DarticleShare&data=04%7C01%7Cravikumar.kopparapu%40nasa.gov%7Cdf73225fa134a59f4e008d91672b738%7C7005d45845be48ae8140d43da96dd>

[17b%7C0%7C0%7C637565505317257713%7CUnknown%7CTWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Iik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=%2BoBSj1ZiYtnEgcCLZFK0nyzU0xrOBLoJrxDi2y2YqJA%3D&reserved=0>](https://www.springer.com/gp/book/9783030416133)

Steve

Steven J. Dick  
21406 Clearfork Ct  
Ashburn, VA 20147

(b) (6) (cell)  
(b) (6) mailto:(b) (6)

Space, Time, and Aliens: Collected Works on Cosmos and Culture

<https://www.springer.com/gp/book/9783030416133><<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.springer.com%2Fgp%2Fbook%2F9783030416133&data=04%7C01%7Cravikumar.kopparapu%40nasa.gov%7Cdf73225fa134a59f4e008d91672b738%7C7005d45845be48ae8140d43da96dd17b%7C0%7C0%7C637565505317267667%7CUnknown%7CTWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Iik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=laqAqKUFoHquVqKpuXquRMmd%2B957jqLEPX1gtvtqgK4%3D&reserved=0>>

<https://www.springer.com/gp/book/9783030416133><<https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.cambridge.org%2F9781108426763&data=04%7C01%7Cravikumar.kopparapu%40nasa.gov%7Cdf73225fa134a59f4e008d91672b738%7C7005d45845be48ae8140d43da96dd17b%7C0%7C0%7C637565505317267667%7CUnknown%7CTWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Iik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=Tad54R2tTwidO125JB9tM9US9Is5pKSpMdm7F4P%2BbpQ%3D&reserved=0>>

Astrobiology, Discovery, and Societal

Impact [www.cambridge.org/9781108426763](https://www.cambridge.org/9781108426763)<<https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.cambridge.org%2F9781108426763&data=04%7C01%7Cravikumar.kopparapu%40nasa.gov%7Cdf73225fa134a59f4e008d91672b738%7C7005d45845be48ae8140d43da96dd17b%7C0%7C0%7C637565505317267667%7CUnknown%7CTWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Iik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=Tad54R2tTwidO125JB9tM9US9Is5pKSpMdm7F4P%2BbpQ%3D&reserved=0>>

Classifying the Cosmos. <https://link.springer.com/book/10.1007/978-3-030-10380-4>

<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Flink.springer.com%2Fbook%2F10.1007%2F978-3-030-10380-4&data=04%7C01%7Cravikumar.kopparapu%40nasa.gov%7Cdf73225fa134a59f4e008d91672b738%7C7005d45845be48ae8140d43da96dd17b%7C0%7C0%7C637565505317277620%7CUnknown%7CTWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Iik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=Wz%2BqpWCwaXXE5DxOxMUgfJ9metusZztCI7Y5yoBYRNI%3D&reserved=0>>

Website <http://stevenjdick.com/index.html><<https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fstevenjdick.com%2Findex.html&data=04%7C01%7Cravikumar.kopparapu%40nasa.gov%7Cdf73225fa134a59f4e008d91672b738%7C7005d45845be48ae8140d43da96dd17b%7C0%7C0%7C637565505317277620%7CUnknown%7CTWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Iik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=%2FoWHboANj9HV5gEXAFo2nqrWmzZQMhc3VtCIVlJPAIs%3D&reserved=0>>

<<https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fstevenjdick.com%2Findex.html&data=04%7C01%7Cravikumar.kopparapu%40nasa.gov%7Cdf73225fa134a59f4e008d91672b738%7C7005d45845be48ae8140d43da96dd17b%7C0%7C0%7C637565505317277620%7CUnknown%7CTWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Iik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=%2FoWHboANj9HV5gEXAFo2nqrWmzZQMhc3VtCIVlJPAIs%3D&reserved=0>>

On May 12, 2021, at 2:22 PM, Kopparapu, Ravi Kumar (GSFC-6990)

<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)><<mailto:ravikumar.kopparapu@nasa.gov>>> wrote:

Duplicate email chain - already processed

## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

9 page(s) containing duplicate information is/are held in the file.

**From:** [Domagal-goldman, Shawn D. \(GSFC-6930\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: Washington Post article draft  
**Date:** Tuesday, May 25, 2021 12:07:21 PM

---

Honestly that's better than I expected

-----  
Shawn Domagal-Goldman  
he/him/his  
Branch Chief, Planetary Systems Lab (Code 693)  
NASA Goddard Space Flight Center

Note - If you receive an email from me on nights and/or weekends, that doesn't mean I expect you to read it or reply at that time. If its urgent and I need an immediate reply, I'll be sure to let you know. Otherwise, please read/reply when you can during whatever your working hours happen to be.

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Sent:** Tuesday, May 25, 2021 12:02 PM  
**To:** Domagal-goldman, Shawn D. (GSFC-6930) <shawn.goldman@nasa.gov>  
**Subject:** FW: Washington Post article draft

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Tuesday, May 25, 2021 at 12:02 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

Hi Ravi,

Here is the guidance that I received from HQ.

He is cleared to go, with the caveat that he cannot identify himself as a NASA employee (no NASA job title). It should be listed as his story not the agency's.

Thanks,  
Nancy

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*

*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Tuesday, May 25, 2021 at 11:58 AM  
**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>  
**Subject:** Re: Washington Post article draft

Hi Nancy,  
Any news from HQ?  
Thanks  
Ravi

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Tuesday, May 25, 2021 at 9:02 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

The draft is in review at HQ. I told them about the noon deadline.

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Tuesday, May 25, 2021 at 8:45 AM  
**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>  
**Subject:** Re: Washington Post article draft

I am really, truly sorry to hear that. This is a really difficult time to focus. I completely understand. Let me send the draft and see what the editors say. They may nor may not go ahead, who knows.

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Tuesday, May 25, 2021 at 8:43 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

I apologize on my end. (b) (6)

(b) (6)

I just somehow overlooked your email.

--

*Nancy Neal Jones  
Senior Communications Manager  
Solar System Exploration Division  
NASA's Goddard Space Flight Center  
Office of Communications  
Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Tuesday, May 25, 2021 at 8:35 AM  
**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>  
**Subject:** Re: Washington Post article draft

Hi Nancy,  
Oh,....So, I need to send it before noon today. I can make any final changes,. If any, later before publication.  
Ravi

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Tuesday, May 25, 2021 at 8:29 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

I sent the article to HQ. Somehow, I did not see your original email. My apologies.

--

*Nancy Neal Jones  
Senior Communications Manager  
Solar System Exploration Division  
NASA's Goddard Space Flight Center  
Office of Communications  
Nancy.N.Jones@nasa.gov*

---

**From:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>  
**Date:** Tuesday, May 25, 2021 at 8:17 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Subject:** Re: Washington Post article draft

Hi Ravi,

I was unaware that you had the final. Please send it to me again.

Thanks,

Nancy

--

*Nancy Neal Jones  
Senior Communications Manager  
Solar System Exploration Division  
NASA's Goddard Space Flight Center  
Office of Communications  
Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Date:** Tuesday, May 25, 2021 at 6:35 AM

**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>

**Subject:** Re: Washington Post article draft

Hi Nancy,

I am planning to send the article before noon today (it was due last Friday). Any suggestions on the draft from HQ?

Thanks

Ravi

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>

**Date:** Thursday, May 20, 2021 at 9:10 AM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Mahaffy, Paul R. (GSFC-6900)" <paul.r.mahaffy@nasa.gov>

**Cc:** "Getty, Stephanie A. (GSFC-6900)" <stephanie.a.getty@nasa.gov>, "Malespin, Charles A. (GSFC-6990)" <Charles.A.Malespin@nasa.gov>, "Guzewich, Scott D. (GSFC-6990)" <scott.d.guzewich@nasa.gov>, "Domagal-goldman, Shawn D. (GSFC-6930)" <shawn.goldman@nasa.gov>, "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>

**Subject:** Re: Washington Post article draft

Hi Ravi,

When you have the final copy, I will send it to HQ so that they can have a look before it goes to the

Washington Post. If you recall, we sent the Scientific American article to HQ as well.

Thanks,  
Nancy

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 19, 2021 at 12:34 PM  
**To:** "Mahaffy, Paul R. (GSFC-6900)" <paul.r.mahaffy@nasa.gov>  
**Cc:** "Getty, Stephanie A. (GSFC-6900)" <stephanie.a.getty@nasa.gov>, "Malespin, Charles A. (GSFC-6990)" <Charles.A.Malespin@nasa.gov>, "Guzewich, Scott D. (GSFC-6990)" <scott.d.guzewich@nasa.gov>, "Domagal-goldman, Shawn D. (GSFC-6930)" <shawn.goldman@nasa.gov>, "Nancy N. Jones" <nancy.n.jones@nasa.gov>, "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Washington Post article draft

Hi Paul, Stephanie, Charles, Scott, Shawn, Nancy, Claire and Lonnie,

I was contacted by a Washington Post reporter yesterday to talk about Technosignatures and UAPs. The summary of that discussion resulted in them asking me to write an article for the Post related to UAP (or UFOs), to provide a scientist's perspective. If you remember, this was similar to the one I wrote last year for [Scientific American](#). I wrote a draft of the article and attached with this email. Please let me know if you have any comments or suggestions (or concerns). I tried to stick to science and availability of data.

My co-author is a colleague of mine at Blue Marble Space Institute of Science, Jacob Haqq-Misra.

Thank you  
Ravi

--

Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771

email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Jones, Nancy N. \(GSFC-1300\)](#)  
**Subject:** Re: Washington Post article draft  
**Date:** Tuesday, May 25, 2021 12:42:40 PM

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Hmm..ok thank you. I have a disclaimer at the end.

*The views and opinions expressed in this article are those of the authors and are not necessarily those of NASA or their employers.*

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**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>

**Date:** Tuesday, May 25, 2021 at 12:02 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Subject:** Re: Washington Post article draft

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

4 page(s) containing duplicate information is/are held in the file.

**From:** [Deily, Mary-Ellen](#)  
**To:** [Jacob Haqq Misra](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [ravi.kopparapu](#)  
**Subject:** [EXTERNAL] Re: Your thoughts on a couple of points  
**Date:** Wednesday, May 26, 2021 9:18:38 AM

---

Thank you Jacob!

---

**From:** Jacob Haqq Misra <(b) (6)>  
**Sent:** Wednesday, May 26, 2021 9:17 AM  
**To:** Deily, Mary-Ellen <(b) (6)>  
**Cc:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>; ravi.kopparapu <(b) (6)> Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator] <(b) (6)>  
**Subject:** Re: Your thoughts on a couple of points

CAUTION: EXTERNAL SENDER

Hi Mary-Ellen,

Sure thing, here is some extra text addressing the questions you raised:

*If we want to learn what UAP really are, then we need to conduct a rigorous, international, and interdisciplinary scientific investigation that includes experts from academia, industry, and government. This would require expertise in a wide range of academic disciplines that include astronomy, meteorology, and physics as well as professional experts who are knowledgeable about military aircraft, remote sensing from the ground, and satellite observations. Such an investigation would need to be agnostic toward any specific explanations with the primary goal to collect enough data--including visual, infrared, radar, and other possible observations--that would eventually allow us to deduce the identity of such UAP. Such an investigation would not need to include all or most scientists, as many may still be uninterested in studying UAP. But following this agnostic approach, and relying upon sound scientific and peer-reviewed methods, would go a long way toward lifting the taboo in mainstream science.*

Feel free to edit this down, of course.

Jacob

On Wed, May 26, 2021 at 8:54 AM Deily, Mary-Ellen <(b) (6)> wrote:

Hello Ravi & Jacob,

I still don't have an answer for you, and I'm still working on the draft, so I'm waiting to send it to you. Toward that end, could you send me a couple of sentences on what proper scientific method around studying UAP would look like, as in concrete steps astronomers, physicists or others would take? Name the fields of science important to this, too. Also, is there anything you recommend for lifting the taboo in the science community, or is there

any sign that it is lifting?

Thanks again,

Mary-Ellen

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** FW: [EXTERNAL] Your edited piece, please review and give me your thoughts  
**Date:** Wednesday, May 26, 2021 10:48:20 AM  
**Attachments:** [op-koppa-haqqmisra.docx](#)

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**From:** "Deily, Mary-Ellen" <(b) (6)>  
**Date:** Wednesday, May 26, 2021 at 10:38 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Cc:** "Deily, Mary-Ellen" <(b) (6)>  
**Subject:** [EXTERNAL] Your edited piece, please review and give me your thoughts

See below for a clean copy and the attached, which should allow you to do an "all markup" view in Track Changes. Please don't be taken aback by all the edits. This is not unusual for our pieces. You had a lot of great material, but I needed to edit it down a bit and do a little reordering to make it comply with Post style. Also, unfortunately, I had to trim your bios. I was hoping to include more details, but my boss says we need a 'just the facts' approach.

Please read over it carefully, and make sure my synopses of science -- and all else -- are accurate! There is interest on our end on publishing this, possibly in tomorrow's paper, so please let me know your thoughts as soon as possible.

Thank you again,  
Mary-Ellen

**We need to put science at the center of the UFO question OR Why asking what UFOs are is the wrong question OR We're still not asking the right questions about UFOs**

*Ravi Kopparapu is a planetary scientist. Jacob Haqq-Misra is a research scientist at the Blue Marble Space Institute of Science.*

With a government report due in June on unidentified aerial phenomena (UAP) and a recent "60 Minutes" story on U.S. Navy pilots' sightings and videos of mysterious images, prominent people in politics, the military and national intelligence are finally asking what we're looking at.

It's the wrong question -- or, at least, it's premature.

Before we get to *what* these mysterious phenomena are, we need to be asking *how* we can figure out what they are. This is where scientists, notably absent from the current UAP conversation, come in.

For too long, the scientific study of unidentified flying objects and aerial phenomena -- UFOs and UAPs, in the shorthand -- has been taboo. At the same time, public interest in extraterrestrial life has surged, with two-thirds of respondents to a recent CBS News poll saying they believe there is intelligent life on other planets.

In recent decades, science has focused on other aspects of extraterrestrial inquiry, including the search for signs of life on other planets – think the Mars rover – and techno-signatures -- radio signals that appear to emanate from outside Earth.

The research has been complex, evidence-based and demanding, pulling in scientists from across disciplines and all around the globe. The same should be true for the exploration of UAP sightings. If we want to understand what UAP are, then we need to engage the mainstream scientific community in a concerted effort to study them.

Decades ago, the notion of serious research on UFOs wasn't out of the question.

In the late 1960s, a U.S. Air Force-led effort called Project Blue Book examined several hundred [\[MD1\]](#) [\[MD1\]](#)[\[MD2\]](#) [\[MD2\]](#) UFO reports from the 1950s and 1960s. In 1968, however, another report, commissioned by the Air Force and conducted at the University of Colorado to examine UFO research to that point, stated that “nothing [\[MD3\]](#) [\[MD3\]](#) has come from the study of UFOs ... that has added to scientific knowledge.” Soon after, the Air Force shuttered Project Blue Book. About 700 of the more than 12,000 cases remained “unidentified” at the close of the project.

Despite this, distinguished scientists including astronomer Carl Sagan, physicist James McDonald and astronomer J. Allen Hynek [\[MD4\]](#) [\[MD4\]](#) thought UAP should be investigated scientifically. McDonald, a professor of meteorology and member of the National Academy of Sciences, conducted a rigorous analysis of a few UAP cases that Project Blue Book highlighted as unexplainable.

McDonald documented his methods – extensive interviews with witnesses, detailed accounting of their observations, examination of radar and other technology possibly implicated in the sightings – in “Science in Default,” which he presented in a 1969 American Association for the Advancement of Science symposium. He relied on evidence-based investigation and consideration of all the available data (rather than cherry-picking one instance of an event). He argued that much of the 1968 report was biased and shallow.

“Doesn't a UFO case ... warrant more than a mere shrug of the shoulders from science?” he wrote.

We agree. We need to frame the current UAP/UFO question with the same level of active inquiry, one involving experts from academia in disciplines including astronomy, meteorology and physics, as well as industry and government professionals with knowledge of military aircraft, remote sensing from the ground and satellite observations. Participants would need to be agnostic toward any specific explanations with a primary goal of collecting enough data -- including visual, infrared, radar and other possible observations -- to eventually allow us to deduce the identity of such UAP. Following this agnostic approach, and relying upon sound scientific and peer-reviewed methods, would go a long way toward lifting the taboo in mainstream science.

Without robust, credible data mined by mainstream scientists, UAP studies [\[MD5\]](#) [\[MD5\]](#) will always be viewed as fringe science. With systematic collection of new data, and access to all existing data, we can apply scientific rigor to what has been observed and documented.

Ultimately, understanding UAP is a science problem. We should treat it that way.

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out of [MD1]several thousand cases? later you cite more than 12,000 cases.

[MD2]Hundreds or thousands? See more than 12,000 later in paragraph.

[MD3]I couldn't find this abridged quote--or the two pieces of it in the condon report, at least the version here: <https://files.ncas.org/condon/text/sec-ii.htm>

[MD4]add descriptions of these three

[MD5].

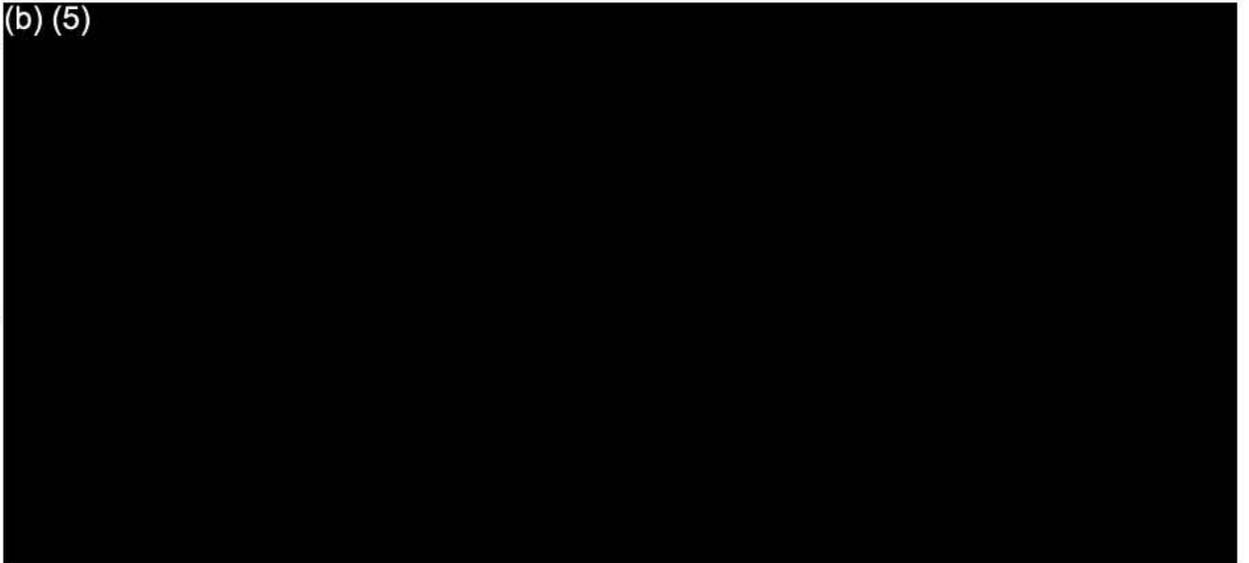
**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Date:** Wednesday, May 26, 2021 11:01:18 AM

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Thank you. This looks good. I have two notable comments that I was hoping we can address before publication.

1. (b) (5)

2.



**From:** [Jones, Nancy N. \(GSFC-1300\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: Washington Post article draft  
**Date:** Wednesday, May 26, 2021 1:41:46 PM

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Thanks for being patient. I hope they get back to us soon. I will follow-up with them at 2:30.

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 1:34 PM  
**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>  
**Subject:** Re: Washington Post article draft

Thank you!

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 1:33 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

Thanks Ravi. I sent it up.

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 1:21 PM  
**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>  
**Subject:** Re: Washington Post article draft

My comments if anyone asks about UFOs, is that majority of UFOs are likely mis-identified phenomena. There are some few cases that are yet to be explained. We do not know what they are, and to know what they are, a scientific investigation is needed and we should avoid *any* speculation. There is no scientific evidence to say they are extra-terrestrials (in my talking points, I do not even invoke 'aliens' or 'life' at all when I talk about UFOs.)

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 1:17 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

Basically , this is if someone in leadership is contacted.

--

*Nancy Neal Jones  
Senior Communications Manager  
Solar System Exploration Division  
NASA's Goddard Space Flight Center  
Office of Communications  
Nancy.N.Jones@nasa.gov*

---

**From:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 1:16 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

They want to know if you have talking points that you typically lean into.

--

*Nancy Neal Jones  
Senior Communications Manager  
Solar System Exploration Division  
NASA's Goddard Space Flight Center  
Office of Communications  
Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 12:42 PM  
**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>  
**Subject:** Re: Washington Post article draft

Thank you. Jacob Haqq-Misra from Blue Marble Space Institute of Science.

If it helps, I have already published another [article in Scientific American](#) last year and used my affiliation and HQ had no issues at that time. It was also on the topic of UFOs.

Ravi

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 12:37 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

Still going back and forth with HQ. Who is your co-author on the op-ed?

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 12:11 PM  
**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>  
**Subject:** Re: Washington Post article draft

Thank you. Today before 3pm. They plan to publish in tomorrow's paper.

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 12:11 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

HQ asked when do they need an answer?

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*

*Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 11:49 AM  
**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>  
**Subject:** Re: Washington Post article draft

Thank you

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 11:48 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

Hi Ravi,  
I just sent an email to HQ requesting guidance.  
Thanks,  
Nancy

--

*Nancy Neal Jones  
Senior Communications Manager  
Solar System Exploration Division  
NASA's Goddard Space Flight Center  
Office of Communications  
Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 11:44 AM  
**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>  
**Subject:** Re: Washington Post article draft

Hi Nancy,  
The Washington Post is asking if we can reconsider putting my affiliation. My co-author's affiliation is in there, and mine is not. People might google and find anyway and that may raise more questions or un-necessary conspiracy talking points. If I am allowed, I will ask Post to include a disclaimer that my opinions are not NASA's.  
Thanks  
Ravi

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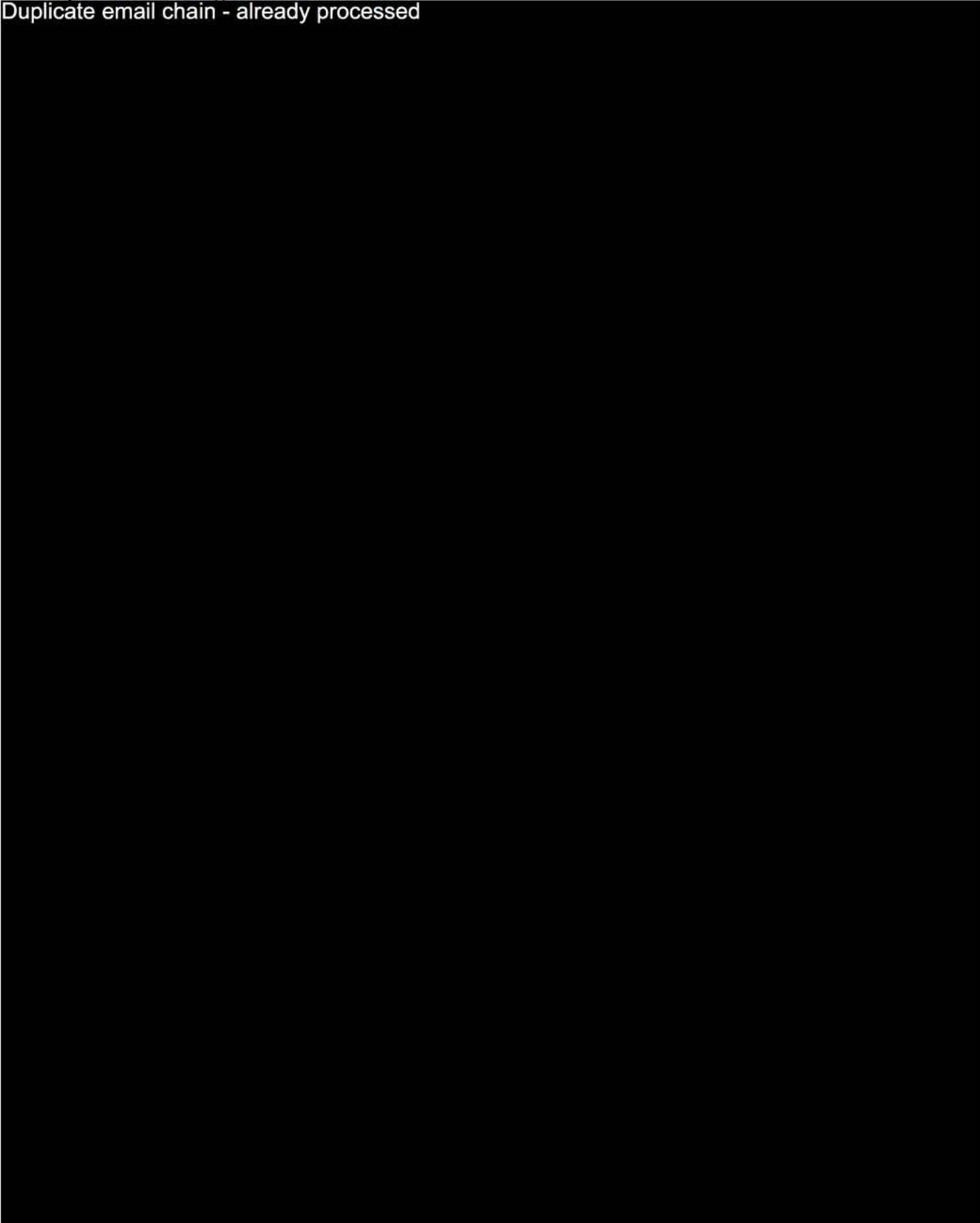
**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>

**Date:** Tuesday, May 25, 2021 at 12:02 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Subject:** Re: Washington Post article draft

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

4 page(s) containing duplicate information is/are held in the file.

**From:** [Deily, Mary-Ellen](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Subject:** Re: [EXTERNAL] Checking in: Are you close to sending me those two changes?  
**Date:** Wednesday, May 26, 2021 2:15:56 PM

---

thanks, working on this now.

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Sent:** Wednesday, May 26, 2021 2:13 PM  
**To:** Deily, Mary-Ellen <(b) (6)> Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator] <(b) (6)>  
**Subject:** Re: [EXTERNAL] Checking in: Are you close to sending me those two changes?

Yes, that affiliation is good. And yes, adding disclaimer would also be good.  
Thanks

---

**From:** "Deily, Mary-Ellen" <(b) (6)>  
**Date:** Wednesday, May 26, 2021 at 2:10 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Subject:** Re: [EXTERNAL] Checking in: Are you close to sending me those two changes?

Excellent! That's great! This is good for Post readers and for NASA, I believe. Thank you.

So should your bio read RK... is a planetary scientist at NASA Goddard Space Flight Center.

And we'll add back in a disclaimer.

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Sent:** Wednesday, May 26, 2021 2:07 PM  
**To:** Deily, Mary-Ellen <(b) (6)> Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator] <(b) (6)>  
**Subject:** Re: [EXTERNAL] Checking in: Are you close to sending me those two changes?

So I heard back and HQ is ok to use my NASA affiliation.

---

**From:** "Deily, Mary-Ellen" <(b) (6)>  
**Date:** Wednesday, May 26, 2021 at 1:59 PM  
**To:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, ravi kopparapu <(b) (6)>  
**Subject:** Re: [EXTERNAL] Checking in: Are you close to sending me those two changes?

Wonderful. I'm sending it to our copy desk for their review. Thank you.

---

**From:** Jacob Haqq Misra <(b) (6)>  
**Sent:** Wednesday, May 26, 2021 1:49 PM  
**To:** Deily, Mary-Ellen <(b) (6)>  
**Cc:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>; ravi kopparapu <(b) (6)> Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator] <(b) (6)>  
**Subject:** Re: [EXTERNAL] Checking in: Are you close to sending me those two changes?

Looks great, thank you!

On Wed, May 26, 2021 at 1:32 PM Deily, Mary-Ellen <(b) (6)> wrote:

Got it. I think leaving out the international wording works. Thank you. I'm hoping to move this to our copy desk shortly. You'll get a pre-publication copy to sign off on...but do let me know, Jacob, if you have concerns before then.

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Sent:** Wednesday, May 26, 2021 1:27 PM  
**To:** Deily, Mary-Ellen <(b) (6)> ravi kopparapu <(b) (6)> Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator] <(b) (6)>  
**Subject:** Re: [EXTERNAL] Checking in: Are you close to sending me those two changes?

Hi Mary-Ellen,  
Thank you. Yes, I thought the 'alien' connection is more important to address (or not) than pointing out that they are international.  
The only place where I thought it could go was after this sentence (new sentence in italics).

"Decades ago, the notion of serious research on UFOs wasn't out of the question. *And they seem to be studied by other countries [that]archive.neocities.org]* [gcc02.safelinks.protection.outlook.com] [gcc02.safelinks.protection.outlook.com] as well"

I think all else looks good. Jacob, any comments?  
Ravi

---

**From:** "Deily, Mary-Ellen" <(b) (6)>  
**Date:** Wednesday, May 26, 2021 at 1:12 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, ravi kopparapu <(b) (6)> "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Subject:** Re: [EXTERNAL] Checking in: Are you close to sending me those two changes?

I've added your link, and hopefully I caught your other changes. See below. (I didn't see

anything added about an international approach, which is fine with me, but I wanted to make sure I didn't miss it.)

*Ravi Kopparapu is a planetary scientist. Jacob Haqq-Misra is a research scientist at the Blue Marble Space Institute of Science.*

With a government report due in June on unidentified aerial phenomena (UAP) and a recent "60 Minutes" story on U.S. Navy pilots' sightings and videos of mysterious images, prominent people in politics, the military and national intelligence [are finally asking](#) [\[gcc02.safelinks.protection.outlook.com\]](#) [\[gcc02.safelinks.protection.outlook.com\]](#) [\[gcc02.safelinks.protection.outlook.com\]](#) what we're looking at.

It's the wrong question — or, at least, it's premature.

Before we get to *what* these mysterious phenomena are, we need to be asking *how* we can figure out what they are. This is where scientists, notably absent from the current UAP conversation, come in.

For too long, the scientific study of unidentified flying objects and aerial phenomena — UFOs and UAPs, in the shorthand — has been taboo. A big driver of that taboo is the vacuum of knowledge being filled by unscientific claims thanks to a lack of scientific investigation.

In recent decades, science has focused on aspects of extraterrestrial inquiry, including the search for signs of life on other planets — [think the Mars rover](#) [\[gcc02.safelinks.protection.outlook.com\]](#) [\[gcc02.safelinks.protection.outlook.com\]](#) [\[gcc02.safelinks.protection.outlook.com\]](#) — and [techno-signatures](#) [\[astrobiology.nasa.gov\]](#) [\[gcc02.safelinks.protection.outlook.com\]](#) [\[gcc02.safelinks.protection.outlook.com\]](#) — radio signals that appear to emanate from outside Earth.

The research has been complex, evidence-based and demanding, pulling in scientists from across disciplines and all around the globe. The same should be true for the exploration of UAP sightings. If we want to understand what UAP are, then we need to engage the mainstream scientific community in a concerted effort to study them.

Decades ago, the notion of serious research on UFOs wasn't out of the question.

In the late 1960s, a U.S. Air Force-led effort called Project Blue Book examined thousands of UFO reports from the 1950s and 1960s. In 1968, however, another report, commissioned by the Air Force and conducted at the University of Colorado to examine UFO research to that point, [stated that](#) [\[gcc02.safelinks.protection.outlook.com\]](#) [\[gcc02.safelinks.protection.outlook.com\]](#)

[\[gcc02.safelinks.protection.outlook.com\]](#) "nothing has come from the study of UFOs ... that has added to scientific knowledge." Soon after, the Air Force shuttered Project Blue Book. About 700 of the more than 12,000 cases remained "unidentified" at the close of the project.

Despite this, distinguished scientists including astronomer Carl Sagan, physicist James McDonald and astronomer J. Allen Hynek thought UAP should be investigated scientifically. McDonald, a professor of meteorology and member of the National Academy of Sciences, conducted a rigorous analysis of a few UAP cases that [Project Blue Book](#) [\[gcc02.safelinks.protection.outlook.com\]](#) [\[gcc02.safelinks.protection.outlook.com\]](#) [\[gcc02.safelinks.protection.outlook.com\]](#) highlighted as unexplainable.

McDonald documented his methods – extensive interviews with witnesses, detailed

accounting of their observations, examination of radar and other technology possibly implicated in the sightings — in "[Science in Default](#) [[gcc02.safelinks.protection.outlook.com](#)] [[gcc02.safelinks.protection.outlook.com](#)] [[gcc02.safelinks.protection.outlook.com](#)]," which he presented in a 1969 American Association for the Advancement of Science symposium. He relied on evidence-based investigation and consideration of all the available data (rather than cherry-picking one instance of an event). He argued that much of the 1968 report was biased and shallow. "Doesn't a UFO case ... warrant more than a mere shrug of the shoulders from science?" he wrote.

We need to frame the current UAP/UFO question with the same level of active inquiry, one involving experts from academia in disciplines including astronomy, meteorology and physics, as well as industry and government professionals with knowledge of military aircraft, remote sensing from the ground and satellite observations. Participants would need to be agnostic toward any specific explanations with a primary goal of collecting enough data — including visual, infrared, radar and other possible observations — to eventually allow us to deduce the identity of such UAP. Following this agnostic approach, and relying upon sound scientific and peer-reviewed methods, would go a long way toward lifting the taboo in mainstream science.

Without robust, credible data mined by mainstream scientists, UAP studies will always be viewed as fringe science. With systematic collection of new data, and access to all existing data, we can apply scientific rigor to what has been observed and documented. Ultimately, understanding UAP is a science problem. We should treat it that way.

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Sent:** Wednesday, May 26, 2021 12:47 PM  
**To:** Deily, Mary-Ellen <(b) (6)> ravi kopparapu  
<(b) (6)> Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]  
<(b) (6)>  
**Subject:** Re: [EXTERNAL] Checking in: Are you close to sending me those two changes?

**CAUTION: EXTERNAL SENDER**

Hi Mary-Ellen,

Thank you. I was just about to send this. We are attaching our edits to the article. As we discussed on phone, we think the article should avoid mentioning any hints about connecting UFOs with extra-terrestrial life, as there is no solid scientific evidence.

Regarding Condon report comment, It is in Section I, "Conclusions and Recommendations" here:

<https://files.ncas.org/condon/text/sec-i.htm> [[files.ncas.org](#)]  
[[gcc02.safelinks.protection.outlook.com](#)] [[gcc02.safelinks.protection.outlook.com](#)]  
[[gcc02.safelinks.protection.outlook.com](#)]

I am still on hold with the affiliation usage from HQ. I will know one way or the other soon.

Best  
Ravi

---

**From:** "Deily, Mary-Ellen" <(b) (6)>

**Date:** Wednesday, May 26, 2021 at 12:44 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, ravi kopparapu <(b) (6)> "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>

**Subject:** [EXTERNAL] Checking in: Are you close to sending me those two changes?

Hi Ravi (and Jacob),

Are you able to send me your suggested updates yet? Sorry to press.

Thanks,

Mary-Ellen

**From:** [Jones, Nancy N. \(GSFC-1300\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: Washington Post article draft  
**Date:** Wednesday, May 26, 2021 2:31:35 PM

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Thanks.

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Date:** Wednesday, May 26, 2021 at 2:31 PM  
**To:** "Nancy N. Jones" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>  
**Subject:** Re: Washington Post article draft

Oh boy....i am working ('sweating') on it...will send asap.

---

**From:** "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>  
**Date:** Wednesday, May 26, 2021 at 2:30 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: Washington Post article draft

FYI: The talking points will go to the Administrator's level. We need them as soon as possible.

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

---

**From:** "Nancy N. Jones" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>  
**Date:** Wednesday, May 26, 2021 at 2:14 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: Washington Post article draft

Hi Ravi,  
HQ said it's ok to use your NASA affiliation.

Please update and add to the following talking points.

- The majority of UFOs are likely mis-identified phenomena. There are some few cases that are yet to be explained.
- A scientific investigation is needed, and speculation should be avoided.
- There is no scientific evidence to say they are extra-terrestrials.

--  
*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 2:00 PM  
**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>  
**Subject:** Re: Washington Post article draft

They said it will publish tomorrow's printed version. So they will need to finalize by this evening.

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 1:53 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

Next question, when will this publish tomorrow?

--  
*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

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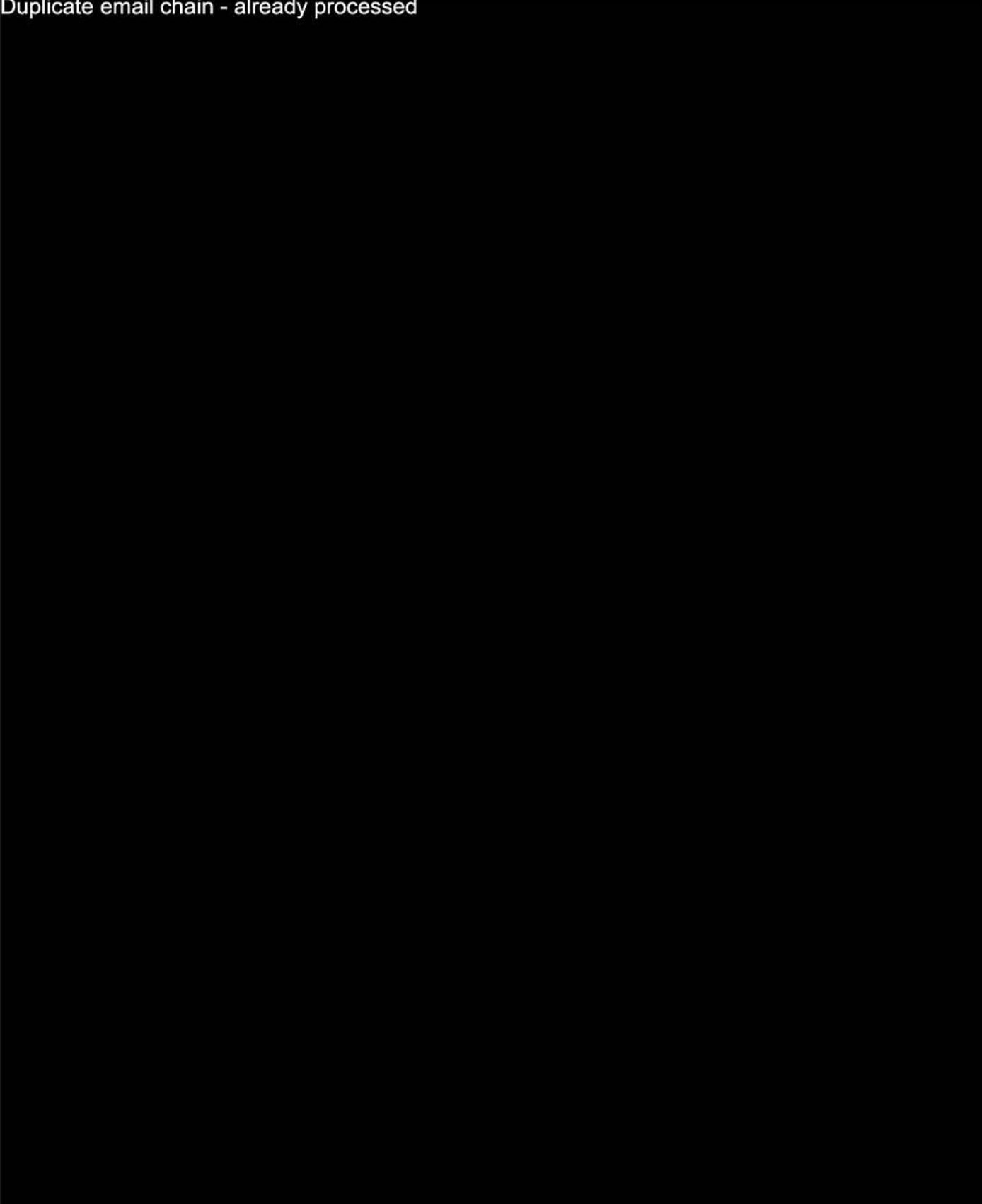
**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Date:** Wednesday, May 26, 2021 at 1:34 PM

**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>

**Subject:** Re: Washington Post article draft

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

7 page(s) containing duplicate information is/are held in the file.

**From:** [Jones, Nancy N. \(GSFC-1300\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: Washington Post article draft  
**Date:** Wednesday, May 26, 2021 2:46:02 PM

---

Thanks I sent it up.

---  
*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

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**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Date:** Wednesday, May 26, 2021 at 2:34 PM  
**To:** "Nancy N. Jones" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>  
**Subject:** Re: Washington Post article draft

Hi Nancy,  
Here:

- The majority of UFOs are likely mis-identified phenomena. There are some cases that are yet to be explained.
- A scientific investigation is needed, and speculation should be avoided. One should be strictly agnostic.
- There is no scientific evidence to say they are extra-terrestrials.
- Data collection and availability is the only way to know what they are. Let the data and science drive the discussion.
- Science is unforgiving. Data is the authority. Our feelings and opinions are irrelevant.
- Scientists use scientific methods to validate claims. All claims must pass scientific test.
- A notable aspect surrounding the media coverage of UFOs is the absence of scientific or expert opinion.

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**From:** "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>  
**Date:** Wednesday, May 26, 2021 at 2:14 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: Washington Post article draft

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

8 page(s) containing duplicate information is/are held in the file.

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Malhi, Sabrina](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)](#)[Science Collaborator]  
**Cc:** (b) (6) [Johnson, Trey](#)  
**Subject:** Re: [EXTERNAL] RE: An edit of your column  
**Date:** Wednesday, May 26, 2021 3:51:16 PM

---

Looks good to me as well.

---

**From:** "Malhi, Sabrina" <(b) (6)>  
**Date:** Wednesday, May 26, 2021 at 3:43 PM  
**To:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, (b) (6) <(b) (6)> "Johnson, Trey" <(b) (6)>  
**Subject:** [EXTERNAL] RE: An edit of your column

Great. I will wait to hear back from your coauthor, too. Thanks!

Thank you,  
Sabrina Malhi  
**Multiplatform Editor, Opinions**  
The Washington Post  
(b) (6)

---

**From:** Jacob Haqq Misra <(b) (6)>  
**Sent:** Wednesday, May 26, 2021 3:41 PM  
**To:** Malhi, Sabrina <(b) (6)>  
**Cc:** ravikumar.kopparapu@nasa.gov; (b) (6) (b) (6) Johnson, Trey <(b) (6)>  
**Subject:** Re: An edit of your column

CAUTION: EXTERNAL SENDER

Looks good to me!

On Wed, May 26, 2021 at 3:33 PM Malhi, Sabrina <(b) (6)> wrote:

Hi all,

Below is an edit of your column. If you need to many any changes, please do so in red font. We also need you all to confirm your bios.

***Ravi Kopparapu is a planetary scientist at NASA Goddard Space Flight Center. Jacob Haqq-Misra is a research scientist at the Blue Marble Space Institute of Science. [Is this accurate?]***

With a government report due in June on unidentified aerial phenomena (UAP) and a recent “60 Minutes” story on U.S. Navy pilots’ sightings and videos of mysterious images, prominent people in politics, the military and national intelligence are finally asking: What are we looking at?

It’s the wrong question — or, at least, it’s premature.

Before we get to *what* these mysterious phenomena are, we need to be asking *how* we can figure out what they are. This is where scientists, notably absent from the current UAP conversation, come in.

For too long, the scientific study of unidentified flying objects and aerial phenomena — UFOs and UAPs, in the shorthand — has been taboo. A big driver of that taboo is the vacuum of knowledge that is being filled by unscientific claims thanks to a lack of scientific investigation.

In recent decades, science has focused on aspects of extraterrestrial inquiry, including the search for signs of life on other planets — think the Mars rover— and techno-signatures [astrobiology.nasa.gov] — radio signals that appear to emanate from outside Earth.

The research has been complex, evidence-based and demanding, pulling in scientists from across disciplines and all around the globe. The same should be true for the exploration of UAP sightings. If we want to understand what UAP are, then we need to engage the mainstream scientific community in a concerted effort to study them.

Decades ago, the notion of serious research on UFOs wasn’t out of the question.

In the late 1960s, a U.S. Air Force-led effort called Project Blue Book examined thousands of UFO reports from the 1950s and 1960s. In 1968, however, another report, commissioned by the Air Force and conducted at the University of Colorado to examine UFO research to that point, stated that [files.ncas.org] “nothing has come from the study of UFOs ... that has added to scientific knowledge.” Soon after, the Air Force shuttered Project Blue Book. About 700 of the more than 12,000 cases remained “unidentified” at the close of the project.

Despite this, distinguished scientists including astronomer Carl Sagan, physicist James E. McDonald and astronomer J. Allen Hynek thought UAP should be investigated scientifically. McDonald, a professor of meteorology and member [physicstoday.scitation.org] of the National Academy of Sciences, conducted a rigorous analysis of a few UAP cases that Project Blue Book [archives.gov] highlighted as unexplainable.

McDonald documented his methods — extensive interviews with witnesses, detailed accounting of their observations, examination of radar and other technology possibly implicated in the sightings — in “Science in Default [kirkmcd.princeton.edu],” which he presented in a 1969 American Association for the Advancement of Science symposium. He relied on evidence-based investigation and consideration of all the available data (rather than cherry-picking one instance of an event). He argued that much of the 1968 report was biased and shallow.

“Doesn’t a UFO case ... warrant more than a mere shrug of the shoulders from science?” he wrote.

We need to frame the current UAP/UFO question with the same level of active inquiry, one

involving experts from academia in disciplines including astronomy, meteorology and physics, as well as industry and government professionals with knowledge of military aircraft, remote sensing from the ground and satellite observations. Participants would need to be agnostic toward any specific explanations with a primary goal of collecting enough data — including visual, infrared, radar and other possible observations — to eventually allow us to deduce the identity of such UAP. Following this agnostic approach, and relying upon sound scientific and peer-reviewed methods, would go a long way toward lifting the taboo in mainstream science.

Without robust, credible data mined by mainstream scientists, UAP studies will always be viewed as fringe science. With a systematic collection of new data, and access to all existing data, we can apply scientific rigor to what has been observed and documented.

Ultimately, understanding UAP is a science problem. We should treat it that way.

*The views expressed are the authors' own.*

Thank you,

Sabrina Malhi

**Multiplatform Editor, Opinions**

The Washington Post

(b) (6)

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Deily, Mary-Ellen](#)  
**Subject:** Re: [EXTERNAL] Here is our standard disclaimer language  
**Date:** Wednesday, May 26, 2021 6:00:13 PM

---

Thanks!

---

**From:** "Deily, Mary-Ellen" <(b) (6)>  
**Date:** Wednesday, May 26, 2021 at 5:59 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: [EXTERNAL] Here is our standard disclaimer language

Shoot. I thought I emailed. It's online now  
here: <https://www.washingtonpost.com/opinions/2021/05/26/we-need-put-science-center-ufo-question/>

<p>Image removed by sender.</p> 	<p><u><a href="#">Opinion   We need to put science at the center of the UFO question - The Washington Post</a></u></p>
<p>Ravi Kopparapu is a planetary scientist at NASA Goddard Space Flight Center. Jacob Haqq-Misra is a research scientist at the Blue Marble Space Institute of Science. With a government report due in ...</p>	
<p><a href="http://www.washingtonpost.com">www.washingtonpost.com</a></p>	

And, it will go in tomorrow's print edition too.

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Sent:** Wednesday, May 26, 2021 5:51 PM  
**To:** Deily, Mary-Ellen <(b) (6)>  
**Subject:** Re: [EXTERNAL] Here is our standard disclaimer language

Hi Mary-Ellen,  
Any update on when the article might be published? NASA folks are asking me.  
Thanks  
Ravi

---

**From:** "Deily, Mary-Ellen" <(b) (6)>

**Date:** Wednesday, May 26, 2021 at 2:38 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>

**Subject:** Re: [EXTERNAL] Here is our standard disclaimer language

Hopefully, it will go online later today. I'm not sure yet if it will make print for tomorrow. I'll keep you posted.

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>

**Sent:** Wednesday, May 26, 2021 2:35 PM

**To:** Deily, Mary-Ellen <(b) (6)> Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator] <(b) (6)>

**Subject:** Re: [EXTERNAL] Here is our standard disclaimer language

CAUTION: EXTERNAL SENDER

Sounds good!

Was asked when this will appear? (as in today or tomorrow morning, or evening?)

---

**From:** "Deily, Mary-Ellen" <(b) (6)>

**Date:** Wednesday, May 26, 2021 at 2:32 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>

**Subject:** [EXTERNAL] Here is our standard disclaimer language

The views expressed are the authors' own.

**From:** [Jacob Haqq Misra](#)  
**To:** [Deily, Mary-Ellen](#)  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Subject:** [EXTERNAL] Re: Looks like the piece will be in tomorrow's paper, too  
**Date:** Wednesday, May 26, 2021 6:28:29 PM

---

Great, thank you!

On Wed, May 26, 2021 at 4:49 PM Deily, Mary-Ellen <(b) (6)> wrote:

Your op-ed is online now here: <https://www.washingtonpost.com/opinions/2021/05/26/we-need-put-science-center-ufo-question/>

And, my understanding is that it's also scheduled to run in tomorrow's paper.



## Opinion | We need to put science at the center of the UFO question - The Washington Post

Ravi Kopparapu is a planetary scientist at NASA Goddard Space Flight Center. Jacob Haqq-Misra is a research scientist at the Blue Marble Space Institute of Science. With a government report due in...

[www.washingtonpost.com](https://www.washingtonpost.com)

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Malhi, Sabrina](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Cc:** [Johnson, Trey](#)  
**Subject:** Re: [EXTERNAL] RE: An edit of your column  
**Date:** Wednesday, May 26, 2021 8:19:23 PM

---

Thank you.

---

**From:** "Malhi, Sabrina" <(b) (6)>  
**Date:** Wednesday, May 26, 2021 at 8:10 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Cc:** "Johnson, Trey" <(b) (6)>  
**Subject:** Re: [EXTERNAL] RE: An edit of your column

Hi Ravi,

Here is a link to the online version: <https://www.washingtonpost.com/opinions/2021/05/26/we-need-put-science-center-ufo-question/>

The print copy is going to be in the paper tomorrow.

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Sent:** Wednesday, May 26, 2021 5:09 PM  
**To:** Malhi, Sabrina <(b) (6)> Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator] <(b) (6)>  
**Cc:** Johnson, Trey <(b) (6)>  
**Subject:** Re: [EXTERNAL] RE: An edit of your column

Hi Sabrina,  
NASA folks are asking when this piece would come out. Will it be today in the evening? Or tomorrow?  
Thanks  
Ravi

---

**From:** "Malhi, Sabrina" <(b) (6)>  
**Date:** Wednesday, May 26, 2021 at 3:43 PM  
**To:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, <(b) (6)> <(b) (6)> "Johnson, Trey" <(b) (6)>  
**Subject:** [EXTERNAL] RE: An edit of your column

Duplicate email chain - already processed

## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

3 page(s) containing duplicate information is/are held in the file.



**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Date:** Thursday, May 27, 2021 7:05:34 AM

---

Final article:

<https://www.washingtonpost.com/opinions/2021/05/26/we-need-put-science-center-ufo-question/>

**From:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Date:** Thursday, May 27, 2021 9:00:32 AM

---

In recent decades, science has focused on aspects of extraterrestrial inquiry, including the search for signs of life on other planets — think the Mars rover— and techno-signatures — radio signals that appear to emanate from outside Earth.

The research has been complex, evidence-based and demanding, pulling in scientists from across disciplines and all around the globe. The same should be true for the exploration of UAP sightings. If we want to understand what UAP are, then we need to engage the mainstream scientific community in a concerted effort to study them.

**From:** [Jones, Nancy N. \(GSFC-1300\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: Washington Post article draft  
**Date:** Thursday, May 27, 2021 9:14:48 AM

---

Hi Ravi,  
Thanks for sending the link.  
Thanks,  
Nancy

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Date:** Wednesday, May 26, 2021 at 6:00 PM  
**To:** "Nancy N. Jones" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>  
**Subject:** Re: Washington Post article draft

Hi Nancy,  
Apparently it is online now:

<https://www.washingtonpost.com/opinions/2021/05/26/we-need-put-science-center-ufo-question/>

---

**From:** "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>  
**Date:** Wednesday, May 26, 2021 at 5:11 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: Washington Post article draft

Thanks Ravi.

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

**Date:** Wednesday, May 26, 2021 at 5:08 PM  
**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>  
**Subject:** Re: Washington Post article draft

Not from the previous one. Let me ask again.

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 5:07 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

Hi Ravi,  
Has the contact given you an update?  
Thanks,  
Nancy

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 3:03 PM  
**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>  
**Subject:** Re: Washington Post article draft

Hi Nancy,  
I got this reply:

Hopefully, it will go online later today. I'm not sure yet if it will make print for tomorrow. I'll keep you posted.

I can ask for specifics more.

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 3:01 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

Hi Ravi,  
Can you send a quick note to your WP contact to verify that the op-ed will go online tomorrow morning? We know that it will be in tomorrow's printed paper, but will it be online early?

Thanks,  
Nancy

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Date:** Wednesday, May 26, 2021 at 2:34 PM

**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>

**Subject:** Re: Washington Post article draft

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

8 page(s) containing duplicate information is/are held in the file.

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Jones, Nancy N. \(GSFC-1300\)](#)  
**Subject:** Re: Washington Post article draft  
**Date:** Thursday, May 27, 2021 9:43:02 AM

---

Hi Nancy,  
Sure, so far none.  
Thanks  
Ravi

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Thursday, May 27, 2021 at 9:42 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: Washington Post article draft

Hi Ravi,

If you get media inquiries, please notify me before doing interviews.

Thanks,  
Nancy

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, May 26, 2021 at 6:00 PM  
**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>  
**Subject:** Re: Washington Post article draft

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

10 page(s) containing duplicate information is/are held in the file.

**From:** [Shekhtman Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**To:** [Kopparapu Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] NASA Morning Briefing for Thursday, May 27, 2021  
**Date:** Thursday, May 27, 2021 9:45:13 AM

---

It's the daily NASA-related headlines email that goes out to all comms and probably senior leadership.

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Thursday, May 27, 2021 at 9:41 AM  
**To:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: [EXTERNAL] NASA Morning Briefing for Thursday, May 27, 2021

Oh nice...Not sure what is this, but good. I hope it will make people think a bit on this.

---

**From:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Date:** Thursday, May 27, 2021 at 9:39 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** FW: [EXTERNAL] NASA Morning Briefing for Thursday, May 27, 2021

In the Top Story list below ...

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

---

**From:** Bulletin Intelligence <nasa@BulletinIntelligence.com>  
**Date:** Thursday, May 27, 2021 at 6:57 AM  
**To:** "nasa@BulletinIntelligence.com" <nasa@BulletinIntelligence.com>  
**Subject:** [EXTERNAL] NASA Morning Briefing for Thursday, May 27, 2021

**[Click to access](#) iPhone-optimized online version, download options, archive and an audio reader.**

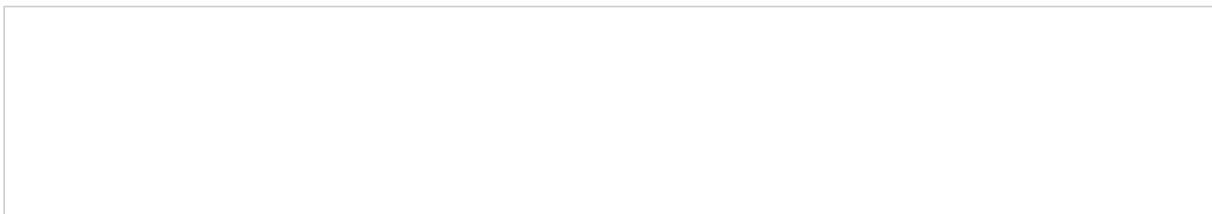


Image removed by sender. NASA Morning Briefing



Thursday, May 27, 2021 7:00 AM EDT

### Editor's Note

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- [SpaceX Is About To Hit A Ridiculous Milestone \(BGR\)](#)
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- [SpaceX Launches And Lands Falcon 9 Rocket For 85th Time \(Bloomberg\)](#)
- [Viasat Threatens To Sue FCC Over SpaceX's Starlink Plan \(Law360\)](#)
- [Is SpaceX's Starlink Mega Constellation An Environmental Problem? The FCC Says 'No' \(Forbes\)](#)
- [Starlink V1.0 L28 Mission Completes First "Shell" Of Satellites For Worldwide Coverage \(NASA Space Flight\)](#)
- [EU Court Rejects OHB Bid To Suspend European Space Agency Decisions \(Reuters\)](#)
- [Editorial: Flight Puts Virgin, NM In Space Race \(Albuquerque Journal\)](#)

## Top Stories

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### **NASA Tests Techniques For X-59 Low-Boom Flights**

[Aviation Week](#) (5/26) "Validating the quiet supersonic performance of NASA's X-59 QueSST low-boom flight demonstrator will require precise measurement of the shock waves generated by the aircraft and how they propagate through the atmosphere to the ground. To that end, the agency has flight tested a visual navigation..."

### **Interview With NASA Administrator On Climate Change**

[Spectrum News 13 \(FL\)](#) (5/26) "NASA is all about space exploration. But now its mission is expanding to tackle a growing problem on our planet. Spectrum News 13's Samantha Joe Roth speaks with NASA's new administrator about how the agency plans to tackle climate change."

### **NASA, Industry Face Challenges In Free Flyer Development**

[Aviation Week](#) (5/26) "Questions surround NASA's strategy for transitioning human activities in low Earth orbit from the aging International Space Station (ISS) to multiple commercial free flyers, with potential industry partners curious about the agency's funding commitment. NASA plans a two-phase, multiyear effort to..."

### **U.S Firms GM, Lockheed Aim For The Moon With Lunar Rover Venture**

[Reuters](#) (5/26, Staff) "U.S. firms General Motors (GM) and Lockheed Martin Corp will develop a vehicle to drive NASA astronauts around on the moon's surface, they said on Wednesday,

competing for a space project that could also promote their brands on earth. GM and Lockheed said they would collaborate to make a battery-powered, autonomous Lunar Terrain Vehicle for NASA's Artemis lunar landing program, which aims to return U.S. astronauts to the moon as early as 2024."

### **Capital Calls: Jeff Bezos And Elon Musk's D.C. Space Battle**

[Reuters](#) (5/26) "COUNTDOWN. A fight between Elon Musk and Jeff Bezos over whose rocket firm will dominate the space race is about egos as big as the universe. But a battle in Washington, D.C. over funding for the National Aeronautics and Space Administration shows the contest centers just as much on earthly influence. NASA wants to go to the moon by 2024, and Musk's SpaceX and Bezos' Blue Origin both thought they would win funding to do so. But in April, the agency made a surprise decision to pick only SpaceX, citing a budget shortfall and technical factors. Blue Origin challenged the choice as unfair and risky."

### **Opinion: We Need To Put Science At The Center Of The UFO Question**

[Washington Post](#) (5/26) "Ravi Koppurapu is a planetary scientist at NASA Goddard Space Flight Center. Jacob Haqq-Misra is a research scientist at the Blue Marble Space Institute of Science. With a government report due in June on unidentified aerial phenomena (UAP) and a recent '60 Minutes' story on U.S. Navy pilots' sightings and videos of mysterious images, prominent people in politics, the military and national intelligence are finally asking: What are we looking at?"

### **SolarWinds Hack 'A Big Wakeup Call,' NASA's Human Spaceflight Chief Says**

[SPACE](#) (5/26, Wall) "The effects of the SolarWinds hack extend out into the final frontier. In December 2020, news broke that a cyberattack had breached the defenses of the U.S. Treasury Department and one branch of the Department of Commerce. ... That same month, The Washington Post reported that NASA was one of those nine infiltrated agencies. NASA leaders know that the space agency, with its huge stores of advanced technical data, is an inviting target for hackers and therefore take significant measures to head them off. Even still it was compromised, and that shook the agency up."

## **Flight**

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### **NASA Tests Techniques For X-59 Low-Boom Flights**

[Aviation Week](#) (5/26) "Validating the quiet supersonic performance of NASA's X-59 QueSST low-boom flight demonstrator will require precise measurement of the shock waves generated by the aircraft and how they propagate through the atmosphere to the ground. To that end, the agency has flight tested a visual navigation..."

### **Watch NASA Prepare For Our Flying-car Future**

[Mashable](#) (5/26, Lekach) "Instead of taking a bus or train to work, what about a flying car? A Nova TV special, The Great Electric Airplane Race, airing Wednesday night on PBS, explores the possibility of using autonomous, battery-powered flight for commuting or taxi trips. As part of his research into electric flight, reporter Miles O'Brien visited NASA's Ames Research Center and hopped into its 10-story vertical motion simulator to see what it would be like to fly around San Francisco in one of these vehicles."

## **Earth**

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### **Interview With NASA Administrator On Climate Change**

[Spectrum News 13 \(FL\)](#) (5/26) "NASA is all about space exploration. But now its mission is

expanding to tackle a growing problem on our planet. Spectrum News 13's Samantha Joe Roth speaks with NASA's new administrator about how the agency plans to tackle climate change."

### **Lunar Eclipse: Photos Of The Super Flower Blood Moon May 26**

Florida Today (5/26, Rice) "Sky watchers in some parts of the country witnessed one of the greatest sky spectacles of the year Wednesday morning as a full moon, supermoon and lunar eclipse happened at the same time, creating the super flower blood moon. ... 'Because the orbit of the moon is not a perfect circle, the moon is sometimes closer to the Earth than at other times during its orbit,' according to NASA."

### **Total Lunar Eclipse Turns Moon Red: Relive The 'Super Flower Blood Moon'**

CNET News (5/26, Kooser) "A total lunar eclipse turned our celestial neighbor a rusty red on May 26. If you were in Africa or Europe, or simply slept through the show, you can still enjoy the images and livestream reruns of the 'super flower blood moon' and its lovely lava-like color. ... The astronauts on the International Space Station got a look at the supermoon and the eclipse from their vantage point in orbit around Earth. And photographers down on Earth also snapped some stunners."

### **Stunning Lunar Eclipse Photos And Videos Show 2021 Supermoon**

Newsweek (5/26, Palmer) "Images and videos have been shared online of the rare 'Super Flower Blood Moon' which is appearing in the night sky this week. ... The Earth's atmosphere then filters the light as it passes, giving the moon a dark reddish glow. According to NASA, the more dust or clouds in Earth's atmosphere there are during the eclipse, the redder the moon will appear."

### **Rare "Super Flower Blood Moon" Lunar Eclipse Captured In Stunning Photos From Around The World**

CBS News (5/26, Lewis) "Skywatchers around the world were treated to the most spectacular full moon of the year in the early morning hours on Wednesday. May 26 marked not just a supermoon, but also a lunar eclipse, or so-called 'blood moon.' According to NASA, a blood moon occurs during a total lunar eclipse, when the Earth is positioned directly between the moon and the sun. Earth's atmosphere filters the sunlight, scattering blue light but allowing red light to pass through."

### **Blood Moon Lunar Eclipse Enthralls Viewers**

Fox News (5/26, Musto) "A super 'Blood Moon' captured the attention of viewers across the world on Wednesday. ... According to NASA, the Blood Moon occurs during a total lunar eclipse when the Earth aligns itself between the moon and the sun."

### **Rising Global Temperatures 'Inexorably Closer' To Climate Tipping Point**

Reuters (5/26, Januta) "There is now a 40% chance that global temperatures will temporarily reach 1.5 degrees Celsius above pre-industrial levels in the next five years – and these odds are rising, a U.N. report said on Wednesday. ... The WMO uses temperature data from multiple sources including NASA and the National Oceanic and Atmospheric Administration (NOAA)."

### **NASA To Design New 'Earth System Observatory' As Part Of National Push Against Climate Change**

SPACE (5/26, Gohd) "NASA will design new, Earth-focused missions to support our growing understanding of climate change and provide important information to those on Earth impacted by its effects, the agency announced May 24 as part of a new Biden administration plan to 'enhance climate resilience.' The Biden administration, prior to meeting with climate and homeland security

team members on May 24, announced earlier that day in a White House release that it will support the development of NASA's new 'Earth System Observatory' — a series of next-generation climate data systems that will be used to better track climate change and its impact on communities around the world."

## **Humans in Space**

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### **NASA, Industry Face Challenges In Free Flyer Development**

Aviation Week (5/26) "Questions surround NASA's strategy for transitioning human activities in low Earth orbit from the aging International Space Station (ISS) to multiple commercial free flyers, with potential industry partners curious about the agency's funding commitment. NASA plans a two-phase, multiyear effort to..."

### **This Is What It's Like To Walk In Space**

CNN (5/26, Strickland) "When astronauts venture outside of the International Space Station to go on spacewalks, the most important thing they have to do is focus. This may sound simple, but imagine trying to focus on a memorized set of tasks while stepping out of an airlock and wearing a 300-pound spacesuit – with the glow of planet Earth and the sun and the dark void of the universe all around you. A tether connects you to the space station, and the absence of gravity keeps you from falling."

### **The Astronauts On Challenger Made Up The Perfect Crew**

Air & Space Smithsonian Magazine (5/26, Tedeschi) "On the morning of January 28, 1986, NASA launched the space shuttle Challenger from the Kennedy Space Center in Florida. The crew included the first Jewish astronaut, the second Black astronaut, and NASA's first Teacher in Space, Christa McAuliffe. In his latest book, *The Burning Blue*, Kevin Cook documents the crew's many achievements—and the flawed decision-making that led to their deaths. Cook spoke with *Air & Space* senior associate editor Diane Tedeschi in April."

### **NASA Is Sending A Batch Of Adorable Squids To The Space Station**

SlashGear (5/26, Roston) "Early next month, NASA will load a bunch of scientific experiments onto a cargo capsule destined for the International Space Station. One of these experiments involves a bunch of tiny, adorable squids. According to the space agency, the critters will be part of an experiment on the effects of spaceflight on beneficial microbes and their interactions with their hosts."

### **ISS Astronaut Snaps Super Flower Blood Moon And Lunar Eclipse From Orbit**

CNET News (5/26, Kooser) "Life is a little different on the International Space Station. The residents see 16 sunrises and 16 sunsets every day, and there are no pesky clouds to get in the way of their moon views. Astronaut Akihiko Hoshide captured scenic views of the May 26 supermoon and lunar eclipse from orbit. Hoshide is with the Japan Aerospace Exploration Agency (JAXA) and is part of the SpaceX Crew-2 mission that arrived at the ISS in April."

### **Astronauts On Set: Space Station May Host Wave Of TV Shows And Films**

New York Times (5/26, Chang) "Who wants to be an astronaut? If the answer is you, there's a reality TV show, appropriately titled 'Who Wants to Be an Astronaut?', that you ought to apply for. The Discovery Channel is seeking to cast about 10 would-be astronauts to compete during the series's eight-episode run next year for a seat on a real-life trip to the International Space Station, followed by live coverage of the launch of the winner on a SpaceX rocket."

## **SpaceX Cargo Mission To Carry Water Bears, Baby Squids To Space Station**

[UPI](#) (5/26, Hays) "SpaceX's 22nd cargo resupply mission, slated to launch no earlier than June 3, will see several unique science experiments – involving water bears, baby squids and kidney stones – ferried to the International Space Station. Like so many experiments before them, the bulk of the experimental setups being carried aboard SpaceX CRS-22 are designed to illuminate the health risks facing astronauts."

## **NASA Astronaut Peggy Whitson Joining Private Mission To ISS**

[KTLA-TV Los Angeles](#) (5/26) "Retired NASA astronaut Peggy Whitson is dusting off her spacesuit for another trip to space. But this time, she's flying private."

## **Moon to Mars**

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### **U.S Firms GM, Lockheed Aim For The Moon With Lunar Rover Venture**

[Reuters](#) (5/26, Staff) "U.S. firms General Motors (GM) and Lockheed Martin Corp will develop a vehicle to drive NASA astronauts around on the moon's surface, they said on Wednesday, competing for a space project that could also promote their brands on earth. GM and Lockheed said they would collaborate to make a battery-powered, autonomous Lunar Terrain Vehicle for NASA's Artemis lunar landing program, which aims to return U.S. astronauts to the moon as early as 2024."

### **Lockheed Martin And GM Are Working On An Electric Moon Buggy**

[The Verge](#) (5/26, Roulette) "Lockheed Martin and General Motors unveiled plans on Wednesday to build an autonomous buggy-like vehicle that future astronauts can use to zip around the surface of the Moon. The two companies collaborated to pitch a conceptual Lunar Terrain Vehicle to NASA's Artemis program, a Moon exploration campaign that calls for various robots, vehicles, and scientific bases to be planted on the lunar surface within the next decade."

### **Lockheed Martin And GM Partner To Develop New Moon Buggy For NASA Astronauts And Cargo**

[CNBC](#) (5/26, Sheetz) "Lockheed Martin and General Motors are partnering to develop a new type of lunar vehicle for NASA to use during its upcoming Artemis missions to the moon, the companies announced Wednesday. 'Surface mobility is critical to enable and sustain long-term exploration of the lunar surface. These next-generation rovers will dramatically extend the range of astronauts,' Lockheed Martin executive vice president Rick Ambrose said in a statement."

### **GM And Lockheed Martin Are Making A Self-driving Moon Buggy For NASA**

[SlashGear](#) (5/26, Davies) "NASA's astronauts need a new Moon ride, and GM and Lockheed Martin are aiming to hand them the keys to not just one but a whole fresh generation of lunar vehicles. The Lunar Terrain Vehicle, or LTV, is the first of a series of electric transportation options which NASA has put the call out for, as it tries to replicate the success of the commercial crew program for a new Moon rover."

### **Lockheed Martin And GM Partner Up To Build Next-gen Lunar Rover**

[New Atlas](#) (5/27, Szondy) "Lockheed Martin and General Motors are teaming up to develop a next-generation rover for NASA's Artemis program. Called the Lunar Terrain Vehicle (LTV), it will not only carry astronauts about, but will also operate autonomously. The 1972 Apollo 17 mission was not only the last time astronauts walked on the Moon, but also the last time they drove on it. Among the equipment packed in Cernan and Schmitt's Lunar Module was a 460-lb (260-kg) electric-powered Lunar Roving Vehicle (LRV) of a type that first flew on Apollo 15. Able to travel at

a blistering 11.2 mph (18.0 km/h), it carried the astronauts up to 4.7 miles (7.6 km) from the landing site – allowing them to explore much more of the area.”

### **Lockheed Martin And GM Planning Self-Driving Rovers For NASA’s Return To The Moon**

Forbes (5/26, Reimann) “General Motors and aerospace giant Lockheed Martin are teaming up to develop new lunar vehicles that astronauts will use on NASA’s upcoming missions to the Moon, the companies announced Wednesday, as the two push to join Elon Musk’s SpaceX as industry partners to bring humans back to the Moon in the next few years.”

### **Lockheed, General Motors Team Up On Lunar Rover Plan**

UPI (5/26, Brinkmann) “Two American corporate giants, defense firm Lockheed Martin and automaker General Motors, will develop new lunar rovers for upcoming moon missions, the companies announced Wednesday. Lockheed and GM plan a fleet of robotic and piloted rovers, which would move farther than Apollo’s three so-called moon buggies, according to a news release. The farthest distance an Apollo rover traveled was about 4.7 miles from the landing site.”

### **GM, Lockheed Team Up On Potential New-Era Moon Rover For NASA**

Bloomberg (5/26, Bachman) “General Motors Co. and Lockheed Martin Corp. are teaming up to develop a new lunar rover for the next time NASA has astronauts motoring around the moon. The Lunar Terrain Vehicle will be designed to travel farther than the Apollo-era rovers, which drove 4.7 miles (7.6 kilometers) from the landing site, GM and Lockheed said Wednesday. While NASA hasn’t announced a contract for a lunar rover, a formal request for proposals could come later this year despite uncertainty about the timing and funding of the next moon mission.”

### **GM, Lockheed Martin Developing A Next-generation Lunar Rover**

NBC News (5/26, Chow) “General Motors and the aerospace firm Lockheed Martin are teaming up to develop a next-generation lunar rover that NASA astronauts could use on future missions to explore the moon, the two companies announced Wednesday. The planned vehicle is expected to be part of the companies’ efforts to bid on a contract under NASA’s Artemis program, which aims to return astronauts to the moon by 2024.”

### **Lockheed Martin, GM Team Up To Build New Astronaut Moon Buggy**

SPACE (5/26, Wall) “Two titans of industry are teaming up to build an astronaut car for the moon. Lockheed Martin and GM announced today (May 26) that they’re developing a crewed lunar rover for potential use by NASA’s Artemis program, which aims to establish a sustainable human presence on and around the moon by the end of the decade.”

### **GM’s Newest Vehicle: Off-road, Self-driving Rover For Moon**

AP (5/26, Dunn) “General Motors is teaming up with Lockheed Martin to produce the ultimate off-road, self-driving, electric vehicles — for the moon. The project announced Wednesday is still in the early stages and has yet to score any NASA money. But the goal is to design light yet rugged vehicles that will travel farther and faster than the lunar rovers that carried NASA’s Apollo astronauts in the early 1970s, the companies said.”

### **GM Joins Lockheed Martin To Design A Moon Buggy For NASA Astronauts**

CNET News (5/26, Mack) “General Motors says it aims to help NASA bring electric and autonomous vehicles to the moon this decade to allow Artemis astronauts to zip around the lunar surface. The legacy car company announced Wednesday that it’s teaming up with longtime NASA contractor Lockheed Martin to develop new moon buggies.”

## **NASA's VIPER Rover To Look For Water, Resources On Moon**

Fox News (5/26, Musto) "NASA's ambitious lunar program Artemis will send the agency's first mobile robot to the moon in late 2023. The Volatiles Investigating Polar Exploration Rover, also known as VIPER, would search the planet for ice and other resources on and below its surface that could potentially be harvested for long-term exploration in the future."

## **'Marscapes' Plans Landscape Art Of Red Planet In Kickstarter Project**

SPACE (5/26, Howell) "A new art project on Kickstarter offers backers the chance to gain 'raised landscapes' of Mars in celebration of the Mariner 9 spacecraft's 50th anniversary. ... Mariner 9 made it to the Red Planet on Nov. 14, 1971 to do NASA's first orbital mapping of Mars. To scientists' surprise, the spacecraft arrived in the middle of a dust storm — showing that the planet was not a moon-like quiet desert, as previous flybys hinted. After the regolith subsided, Mariner 9 spotted several volcanoes (including the Arizona-sized Olympus Mons) along with a gigantic gully system (now called Valles Marineris) that dwarfs the Grand Canyon on Earth."

## **Op-Ed | Artemis 2026: Celebrating America's 250th With The Next Humans On The Moon**

Space News (5/26, Bender) "On July 4, 2026, the United States will celebrate the 250th anniversary of its independence. America should commemorate this historical milestone in 2026 by landing humans on the moon for the first time since 1972. Sending humanity back to the moon in 2026 is not only technically feasible, but it also fits squarely in the projected timeline for NASA's already existing plan to return astronauts to the lunar surface — the Artemis program."

## **Hawley, Sanders Decry \$10B 'Bailout' To Jeff Bezos Tucked Into Bill To Rebuff China**

Fox Business (5/26) "Former Connecticut Senator Joe Lieberman (I) provides insight into the Senate Republicans proposing a counteroffer on Biden's infrastructure plan. Sens. Josh Hawley and Bernie Sanders are speaking out against a \$10 billion corporate 'bailout' to Blue Origin, a space flight company founded by Amazon's Jeff Bezos. ... The amendment would come after the company lost out on a multibillion-dollar NASA contract to SpaceX, run by Elon Musk. It would provide additional funding for NASA to carry out the Human Landing System program, and direct NASA to have two lander programs, giving Blue Origin another shot."

## **Capital Calls: Jeff Bezos And Elon Musk's D.C. Space Battle**

Reuters (5/26) "COUNTDOWN. A fight between Elon Musk and Jeff Bezos over whose rocket firm will dominate the space race is about egos as big as the universe. But a battle in Washington, D.C. over funding for the National Aeronautics and Space Administration shows the contest centers just as much on earthly influence. NASA wants to go to the moon by 2024, and Musk's SpaceX and Bezos' Blue Origin both thought they would win funding to do so. But in April, the agency made a surprise decision to pick only SpaceX, citing a budget shortfall and technical factors. Blue Origin challenged the choice as unfair and risky."

## **Bernie Sanders Is Fighting A Massive 'Bailout' To Jeff Bezos' Space Company**

Vice (5/26, Ferreira) "The icy rivalry between space companies SpaceX and Blue Origin, which are owned respectively by billionaires Elon Musk and Jeff Bezos, has now spilled into the US Senate. Senator Bernie Sanders (I-Vermont) introduced an amendment to a funding bill on Monday seeking to stop a plan to secure \$10 billion in government funding, some of which would likely go to Blue Origin to provide redundancy for a project contracted to SpaceX last month. Sanders called the funding 'the multibillion dollar Bezos Bailout' in his amendment. Though Musk and Bezos have traded personal taunts before, their feud has been amplified since April by NASA's decision to award SpaceX a prestigious \$2.9 billion contract to build a 'human landing system' for the Artemis program, which aims to return astronauts to the surface of the Moon this decade."

## **South Korea Is The Latest Nation To Join NASA's Artemis Accords**

[SlashGear](#) (5/26, Roston) "NASA has announced that South Korea is now among the countries that have signed the Artemis Accords, joining other nations like the UK, UAE, Japan, Canada, Australia, and more. The Artemis Accords set forth a series of principles that the countries will follow, including everything from the public release of data to the safe and peaceful exploration of our Moon."

## **NASA's Artemis Mission**

[WESH-TV Orlando \(FL\)](#) (5/26) "NASA sent astronauts to the moon with the Apollo program and now we are going back with Artemis. This program will explore parts of the moon we've never been to before."

## **China's First Mars Rover Is Finally Cruising**

[BGR](#) (5/26, Wehner) "On the list of big surprises in space science over the past decade, the fact that China has rapidly become one of the major players in space exploration has to be near the top. The country, which watched for decades as the United States, Russia (and formerly, the Soviet Union), and European countries launched ever more advanced orbiters, landers, and rovers, has caught up to and in some cases surpassed its peers by completing some very difficult missions. The latest happens to be on Mars, where the China National Space Administration sent a trio of high-tech machines last year."

## **Solar System and Beyond**

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### **Black Holes, Aliens, Multiverse & Mars: Space TED Talks You Need To Watch**

[SPACE](#) (5/26, Plummer) "This enlightening talk centers on our oldest cosmic neighbors, asteroids, and their importance to us here on Earth. Not only can asteroids shed light on the beginnings of the solar system, they also pose a massive risk to our safety. ... Carrie Nugent is part of the team that uses NASA's NEOWISE telescope, a very valuable telescope that was pulled out of retirement and reprogrammed to search the skies for asteroids and catalog them."

### **Jupiter's Ocean Moon Europa May Have Deep-sea Volcanoes**

[SPACE](#) (5/26, Wall) "The Jupiter moon Europa may be an even more promising abode for life than scientists had thought. ... In a decade or so, researchers should be able to test and supplement such Europa modeling work with a wealth of new data, thanks to NASA's Europa Clipper mission."

### **Europa May Have Active Volcanoes On Its Ocean Floor**

[SlashGear](#) (5/26, McGlaun) "One of the more interesting objects in the solar system, when it comes to searching for the potential for extraterrestrial life, is Jupiter's moon Europa. On the surface, Europa looks like a giant frozen eyeball covered in veins. It's hard to imagine activity under that frozen surface, but scientists believe that the rocky layer underneath that frozen surface could be hot enough to melt, creating undersea volcanoes. NASA scientists have conducted new research and computer modeling indicating volcanic activity may have occurred on the seafloor of Europa in the recent past and could be happening still."

## **Space Tech**

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### **Russia To Launch Nuclear-powered Spaceship To The Moon, On To Venus, Then Jupiter**

[The Hill](#) (5/26, Srikanth) "More than half a century after NASA successfully sent the world's first nuclear reactor into orbit, Russia is moving forward with plans to launch a nuclear-powered

spaceship into space. It'll take quite the spacecraft to travel from the Moon to Venus and then Jupiter over 50 months in deep space. Russia's space agency thinks their nuclear-powered transport and energy module will do it in 2030, reported TASS, the Russian News Agency."

## Various

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### **Opinion: We Need To Put Science At The Center Of The UFO Question**

[Washington Post](#) (5/26) "Ravi Kopparapu is a planetary scientist at NASA Goddard Space Flight Center. Jacob Haqq-Misra is a research scientist at the Blue Marble Space Institute of Science. With a government report due in June on unidentified aerial phenomena (UAP) and a recent '60 Minutes' story on U.S. Navy pilots' sightings and videos of mysterious images, prominent people in politics, the military and national intelligence are finally asking: What are we looking at?"

### **SolarWinds Hack 'A Big Wakeup Call,' NASA's Human Spaceflight Chief Says**

[SPACE](#) (5/26, Wall) "The effects of the SolarWinds hack extend out into the final frontier. In December 2020, news broke that a cyberattack had breached the defenses of the U.S. Treasury Department and one branch of the Department of Commerce. ... That same month, The Washington Post reported that NASA was one of those nine infiltrated agencies. NASA leaders know that the space agency, with its huge stores of advanced technical data, is an inviting target for hackers and therefore take significant measures to head them off. Even still it was compromised, and that shook the agency up."

### **New Documentary Explores 'Star Trek,' Nichelle Nichols And NASA's 1970s Astronaut Search**

[SPACE](#) (5/26, Howell) "In the 1970s, 'Star Trek' actor Nichelle Nichols saw an astronaut corps lacking in diversity and did what she could to change it. The story of how Nichols went about it – and the various people she inspired – is told in the new documentary 'Woman In Motion: Nichelle Nichols, Star Trek and the Remaking of NASA.'"

### **Nichelle Nichols' New NASA Documentary Is Romantic And Unflinching**

[io9](#) (5/26) "Early on in the new documentary Woman in Motion, Star Trek legend Nichelle Nichols discusses the idea of the blurred lines between the fantastical and the real in her job as Lieutenant Uhura, a character in equal parts history-making and yet also held back by the harsh realities of the era her character was made in. The documentary itself, going far beyond that 23rd century future and all the way back into our own history, is a similar adventure. Directed by The Highwaymen's Todd Thompson—and now coming to Paramount+ after a limited theatrical debut earlier this year—Woman in Motion: Nichelle Nichols, Star Trek and the Remaking of NASA showcases a fascinating balancing act."

### **NASA Projects Over Budget And Behind Schedule, According To GAO Report**

[Florida Today](#) (5/26, McCarthy) "NASA major projects continue to be behind schedule and over budget, according to a new report from the Government Accountability Office. This is the fifth consecutive year of cost overruns and lagging production, the report says."

## Other

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### **Falcon 9 Completes Its 100th Successful Flight In A Row [Updated]**

[Ars Technica](#) (5/26, Berger) "Update, 3:30 pm EDT: Under bright blue skies, the Falcon 9 rocket took off from Florida on Wednesday afternoon and promptly delivered its Starlink payload into orbit. This booster has truly become the workhorse of the global launch industry:"

### **SpaceX Is About To Hit A Ridiculous Milestone**

[BGR](#) (5/26, Wehner) "If it seems like SpaceX launches have gotten a bit, well, boring lately it's probably because so many of them go off without a hitch. Sure, the SpaceX Starship prototypes have been having a rough go of things, but the Falcon 9 is so reliable at this point that launches come and go without much fanfare. In fact, the SpaceX Starlink launch that is scheduled to take place today, May 26th, 2021, will be the 100th consecutive successful Falcon 9 launch, assuming all goes as planned."

### **SpaceX Bolsters Starlink Network With 60 More Satellites**

[Aviation Week](#) (5/26) "A SpaceX Falcon 9 rocket delivered the 29th batch of Starlink satellites into orbit on May 26 as the company expanded beta trials of its high-speed internet service to Belgium and the Netherlands. More than 500,000 people have placed orders or put down deposits to try the service..."

### **SpaceX Launches More Starlink Satellites As Orders Reach Half A Million**

[Florida Today](#) (5/26, Kelly) "A SpaceX Falcon 9 rocket helped deliver another batch of 60 Starlink satellites to low-Earth orbit Wednesday, further advancing the internet-beaming constellation that has already secured half a million pre-orders. 'To date, over half a million people have placed an order or put down a deposit for Starlink,' Youmei Zhou, a SpaceX propulsion engineer, said during a webcast leading up to the 2:59 p.m. launch from Cape Canaveral Space Force Station."

### **SpaceX Launches And Lands Falcon 9 Rocket For 85th Time**

[Bloomberg](#) (5/26) "SpaceX Launches and Lands Falcon 9 Rocket for 85th Time"

### **Viasat Threatens To Sue FCC Over SpaceX's Starlink Plan**

[Law360](#) (5/26) "Satellite provider Viasat Inc. has asked the Federal Communications Commission to halt rival SpaceX's updating of its Starlink satellite fleet, saying the proposed changes pose environmental concerns that the FCC didn't adequately consider and that Viasat plans to challenge in federal court. In a recent filing, Viasat said the FCC should put SpaceX's plan on ice while the D.C. Circuit assesses whether the fleet of low-Earth orbit broadband satellites will cause harmful light pollution and dangerous space debris."

### **Is SpaceX's Starlink Mega Constellation An Environmental Problem? The FCC Says 'No'**

[Forbes](#) (5/26, O'Callaghan) "The Federal Communications Commission (FCC) has said SpaceX's Starlink constellation does not require an environmental review, after concerns were raised about its impact on the night sky and the atmosphere. In May 2019, SpaceX began the launch and deployment of its Starlink constellation, a planned group of up to 42,000 satellites in orbit designed to beam the internet to Earth from space."

### **Starlink V1.0 L28 Mission Completes First "Shell" Of Satellites For Worldwide Coverage**

[NASA Space Flight](#) (5/26, Davenport) "SpaceX's 16th Falcon 9 launch of the year on Wednesday May 26 lifted off with 60 Starlink satellites to finish the first of five orbital shells for the constellation. Liftoff from Space Launch Complex 40 (SLC-40) occurred on time at 2:59 PM EDT (18:59 UTC). The Starlink constellation promises to provide high speed broadband internet to millions worldwide that lack the ability to obtain this type of service now."

### **EU Court Rejects OHB Bid To Suspend European Space Agency Decisions**

[Reuters](#) (5/26, Staff) "Europe's second-top court on Wednesday rejected an application by German satellite company OHB System AG to suspend two public procurement decisions by the European

Space Agency. The Luxembourg-based General Court also dismissed OHB's application for interim relief."

### **Editorial: Flight Puts Virgin, NM In Space Race**

Albuquerque (NM) Journal (5/26) "Saturday was a big day for Virgin Galactic, Spaceport America, commercial space flight and New Mexico. After years of delays, Virgin Galactic's VSS Unity successfully shot into space after breaking away from its mothership at 44,000 feet. Unity climbed about 55 miles above Earth before gliding down to Spaceport America, the world's first purpose-built commercial spaceport near Truth or Consequences."

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**From:** [Jacob Haqq Misra](#)  
**To:** [Beatriz Villarroel](#)  
**Cc:** [Jacob Haqq Misra](#); [Kopparapu, Ravi Kumar \(GSFC-699.0\)\[UNIV MARYLAND COLLEGE PARK\]](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** [EXTERNAL] Re: WAPO article  
**Date:** Thursday, May 27, 2021 11:15:39 AM

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Thanks!

On Thu, May 27, 2021 at 11:09 AM Beatriz Villarroel

(b) (6) wrote:

Great article enjoyed reading it a lot

//B.

Den tors 27 maj 2021 kl 15:37 skrev Jacob Haqq Misra <(b) (6)>

Attached!

On Thu, May 27, 2021 at 10:36 AM Carolyn Porco (b) (6) wrote:

Could someone attach the article to an email and send it ... for those of us who don't subscribe?

Thank you  
CP

On 5/27/2021 6:32 AM, STEVEN DICK wrote:

Yes, well said:

<https://www.washingtonpost.com/opinions/2021/05/26/we-need-put-science-center-ufo-question/>

Steven J. Dick  
21406 Clearfork Ct  
Ashburn, VA 20147

(b) (6) (cell)

(b) (6)

Space, Time, and Aliens: Collected Works on Cosmos and Culture

<https://www.springer.com/gp/book/9783030416133>

Astrobiology, Discovery, and Societal Impact [www.cambridge.org/9781108426763](http://www.cambridge.org/9781108426763)

## Classifying the

Cosmos. <https://link.springer.com/book/10.1007/978-3-030-10380-4>

Website <http://stevenjdick.com/index.html>

On May 26, 2021, at 7:19 PM, Kelly C Smith

(b) (6) wrote:

Jacob,

I just wanted to say nice job on the WAPO article! This is a very tricky issue, but I think you guys hit just the right note.

Stay Safe,

Kelly

“Rank does not confer privilege or give power. It imposes responsibility.”

– Peter

Drucker

Kelly C. Smith, M.S., Ph.D., Da.D.

He/him/his

Alumni Master Teacher

Professor and Chair

Department of Philosophy & Religion

Clemson University

126C Hardin Hall

Clemson, South Carolina 29634 USA

(b) (6) (Cell)

Research Page: <http://kcs098.wixsite.com/research>

--

Find the IAA SETI website at: <https://iaaseti.org>

Find the upcoming SETI meeting calendar

at: <https://iaaseti.org/en/meetings/>

Code of Conduct (Interim):

<https://www.aiaa.org/about/Governance/Code-of-Ethics>

<https://www.aiaa.org/about/Governance/Anti-Harassment-Policy>

---

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--

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Code of Conduct (Interim):

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--

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--

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---

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**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Beatriz Villarroel](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Subject:** Re: [EXTERNAL] Re: WAPO article  
**Date:** Thursday, May 27, 2021 11:53:33 AM

---

Thanks Beatriz!

---

**From:** Beatriz Villarroel <(b) (6)>  
**Date:** Thursday, May 27, 2021 at 11:10 AM  
**To:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
"Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** [EXTERNAL] Re: WAPO article

Great article! I enjoyed reading it a lot.

//B.

Den tors 27 maj 2021 kl 15:37 skrev Jacob Haqq Misra <(b) (6)>

Attached!

On Thu, May 27, 2021 at 10:36 AM Carolyn Porco <(b) (6)> wrote:

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## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

3 page(s) containing duplicate information is/are held in the file.

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Hautaluoma, Grey \(HQ-NA020\)](#); [Jones, Nancy N. \(GSFC-1300\)](#)  
**Subject:** Re: Washington Post article draft  
**Date:** Thursday, May 27, 2021 1:07:31 PM

---

Thank you. I have asked my immediate supervisors and they provided similar answers. I am not planning to accept any sort of payment anyway.  
I am planning to reply to WaPo and tell them that I cannot accept (and do not want) the payment.  
Thanks  
Ravi

---

**From:** "Hautaluoma, Grey (HQ-NA020)" <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>  
**Date:** Thursday, May 27, 2021 at 1:05 PM  
**To:** "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>, "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** RE: Washington Post article draft

Yes, please talk to the lawyers. I do not think you can accept payment for this.

---

**From:** Jones, Nancy N. (GSFC-1300) <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>  
**Sent:** Thursday, May 27, 2021 12:29 PM  
**To:** Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** Hautaluoma, Grey (HQ-NA020) <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>  
**Subject:** Re: Washington Post article draft

Hi Ravi,

I have not heard of payment for an op-ed piece. I don't think you can take payment from a news organization for writing an op-ed. You may want to reach out to Paul and Stephanie for guidance.

If you want to reach out to one of our lawyers, I have worked with Matt Johnston in code 140.

Please relay any guidance you receive to me and Grey Hautaluoma before reaching back out to the Post.

Grey is the Goddard News Chief. I will be out of the office tomorrow, so please follow-up with him.

Thanks,  
Nancy

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
[Nancy.N.Jones@nasa.gov](mailto:Nancy.N.Jones@nasa.gov)

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

**Date:** Thursday, May 27, 2021 at 12:05 PM  
**To:** "Nancy N. Jones" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>  
**Subject:** Re: Washington Post article draft

Hi Nancy,

I got an email from WaPo to fill some forms for 'payment' processing. I had not realized that they were thinking to pay me. As a CS, am I even allowed to accept this payment? I will not be heartbroken, but I want to know more about the protocols to follow as a CS.

Thanks

Ravi

---

**From:** "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>  
**Date:** Thursday, May 27, 2021 at 9:42 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: Washington Post article draft

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## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

10 page(s) containing duplicate information is/are held in the file.

**From:**

(b) (6)

**To:**

[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov); Kopparapu, Ravi Kumar (GSFC-6990)

**Subject:**

[EXTERNAL] Asking the Right Questions

**Date:**

Thursday, May 27, 2021 1:46:14 PM

---

Dear Ravi,

Here is a narrative about an experience I had a few months ago in the Dominican Republic, and how it could factor into the UFO query/enigma.

In 2002, 2 years after my father died from diabetes complications (in Santo Domingo), neighbors told me that a basketball sized ball of green light hovered over our family home. I lived in Rhode Island, USA at the time.

On a visit I asked around, and was told that many in the neighborhood knew of the incident. Some years later the woman who cares for my aging stepmom (and my stepmom herself) had also seen the light - which she described as "beautiful".

Needless to say I was always curious about this, and have had an interest in UFO'S since I was 14 (1969), as I then saw several round objects flying over that city.

A few months ago I spent a year in Guayacanes, a fishing village 12 miles from my father's property (now being rented out).

I have a meditation practice, and one night, on the beach (during a meditation) I asked the universe for proof of the event on 2002 (19 years prior). Several days later, while on the roof of our tiny hotel - a tiny but very bright green light flew overhead. 3 more lights would follow in the following days (as if to underscore the experience).

So how can I make sense of this?

I believe the questions must probe deeper into the areas of consciousness. And it makes sense: science and technology are not the only frontier. Advanced beings are likely intimately connected to us.

(b) (6)

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Gran, Rani C. \(GSFC-1300\)](#); [Hautaluoma, Grey \(HQ-NA020\)](#); [Jones, Nancy N. \(GSFC-1300\)](#)  
**Cc:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: Washington Post article draft  
**Date:** Friday, May 28, 2021 10:42:09 AM

---

Hi all,

I did the interview, it was only for a few minutes and basically repeated our points from the WaPo article. They also asked me about my own research into exoplanets and life detection with upcoming telescopes, so it was a pretty smooth interview.

And yes, I would love to have one-on-one practice. I have been doing these interviews for many years but never formally had someone coaching me. I just picked up things as I went on. So it would be great if I can get some coaching from professionals.

Also, **an important** question: If I do get any requests over the long weekend, should I go ahead and do the interviews, after first informing you all about any upcoming ones? I am sure you all have better things to do over the long weekend than to respond to my emails.

Thanks

Ravi

---

**From:** "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Date:** Friday, May 28, 2021 at 10:17 AM  
**To:** "Hautaluoma, Grey (HQ-NA020)" <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>, "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>  
**Cc:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>  
**Subject:** Re: Washington Post article draft

Hi,

Ravi, I suspect you are going to get a lot of interview requests over the weekend. Do you want to do some one-on-one practice?

Rani

--  
Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** "Hautaluoma, Grey (HQ-NA020)" <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>

**Date:** Friday, May 28, 2021 at 10:12 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Cc:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>, Rani Gran <rani.c.gran@nasa.gov>  
**Subject:** RE: Washington Post article draft

I'm sorry I missed this, Ravi. Did you do the interview?

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Sent:** Thursday, May 27, 2021 8:04 PM  
**To:** Jones, Nancy N. (GSFC-1300) <nancy.n.jones@nasa.gov>; Hautaluoma, Grey (HQ-NA020) <grey.hautaluoma-1@nasa.gov>  
**Cc:** Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC] <lonnie.shekhtman@nasa.gov>; Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>  
**Subject:** FW: Washington Post article draft

Hi all,  
I sent this email to Nancy but she is out of office. Can someone respond and let me know if this is ok?  
Thank you  
Ravi

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Thursday, May 27, 2021 at 8:02 PM  
**To:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Cc:** "Hautaluoma, Grey (HQ-NA020)" <grey.hautaluoma-1@nasa.gov>  
**Subject:** Re: Washington Post article draft

Hi Nancy and Grey  
I was contacted by LBC radio in London for an interview tonight at 10pm ET. Should I say yes?  
Thanks  
Ravi

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Thursday, May 27, 2021 at 9:42 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

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## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

11 page(s) containing duplicate information is/are held in the file.

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#); [Jones, Nancy N. \(GSFC-1300\)](#)  
**Cc:** [Andreoli, Claire \(GSFC-1300\)](#)  
**Subject:** Re: [EXTERNAL] Leonard David Media Inquiry: New UAP story  
**Date:** Friday, May 28, 2021 10:45:33 AM

---

Thank you!!!!

---

**From:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Date:** Friday, May 28, 2021 at 10:37 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Cc:** "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>  
**Subject:** Re: [EXTERNAL] Leonard David Media Inquiry: New UAP story

I think this looks awesome, Ravi. Some tiny suggested tweaks from me, including using UAPs instead of UFOs going forward to distinguish yourself from Ufologists ...

Thank you for your inquiry. My approach to the upcoming Pentagon report is "wait and see." It may or may not reveal anything new to us. I would like to point out that the history of UAP scientific studies in the U.S. is not limited to the released video snippets, which is a good reminder to avoid painting the whole phenomena with one broad brush. Additionally, this is not a U.S.-specific issue, nor is it limited to observations by U.S. armed forces. There may not be a single explanation to *all* such observations. What I would like to suggest is that we not leap to any conclusions when the findings of the report are made public. The report would be immensely helpful if the data that informed it are made publicly available so that more experts can look at it and hopefully reach a consensus on the nature of some of the unexplained events. Otherwise, there will always be conspiracy theories shrouding, and inhibiting, a proper scientific method of investigating UAPs.

Lonnie

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

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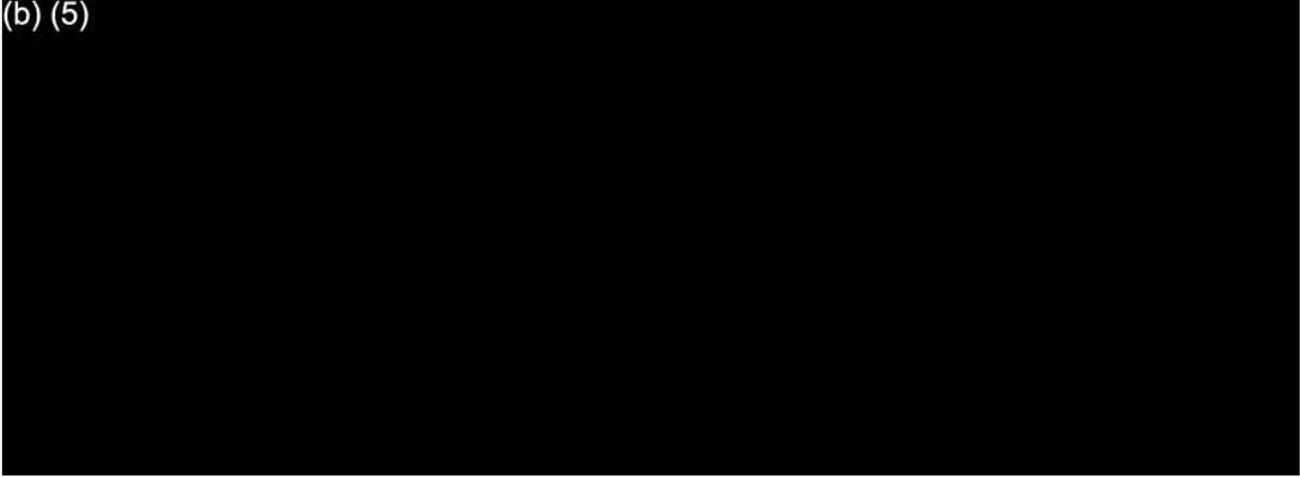
**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Friday, May 28, 2021 at 9:55 AM  
**To:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>, "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>

**Cc:** "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>

**Subject:** Re: [EXTERNAL] Leonard David Media Inquiry: New UAP story

Here is my draft response:

(b) (5)



---

**From:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]"

<lonnie.shekhtman@nasa.gov>

**Date:** Friday, May 28, 2021 at 9:27 AM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>

**Cc:** "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>

**Subject:** Re: [EXTERNAL] Leonard David Media Inquiry: New UAP story

... and so it begins!

Sending comments based on your original WashPo story is a good idea, Ravi. Let me know if you need another pair of eyes on those.

Thanks,  
Lonnie

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Friday, May 28, 2021 at 9:24 AM  
**To:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Cc:** "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** FW: [EXTERNAL] Leonard David Media Inquiry: New UAP story

Hi Nancy, Claire and Lonnie,  
A reporter asked me for a comment on my WaPo story (see below). My plan is to send comments based on the original version of the WaPo story that I sent to all of you (and was approved by Paul Mahaffy and HQ). The original version is attached.  
Thanks  
Ravi

---

**From:** '(b) (6)' <(b) (6)>  
**Reply-To:** '(b) (6)' <(b) (6)>  
**Date:** Friday, May 28, 2021 at 9:19 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, '(b) (6)' <(b) (6)>  
**Subject:** [EXTERNAL] Leonard David Media Inquiry: New UAP story

Ravi:

I am writing a new story on the Unidentified Aerial Phenomenon (UAP) task force report - supposedly to be issued late next month.

I'd like to add your voice to this...I did see your new piece in the Washington Post - but perhaps you could amplify your views?

Here's the premise of my story:

UAP Report: A "Nothingburger"? Some UFO/UAP experts see the Pentagon's report late next month as seminal - others see it as dubious and worthless.

I am asking leading skeptics and UAP/UFO believers what they think such a report could/will not say and...what next?

Please do send any comments for consideration that you might have for this story.

Thanks,  
Leonard

**From:** [Eghigian, Greg](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Cc:** [\(b\) \(6\)](#) [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Subject:** Re: [EXTERNAL] Re: Historical incidents of UFOs  
**Date:** Friday, May 28, 2021 10:53:53 AM  
**Attachments:** [Reliability of eyewitness reports to a major aviation accident.pdf](#)

---

Ravi,

Yes, I see where you are going here. Once again, I think the issue you raise is worthy of serious and lengthy discussion (and perhaps at some point we should chat via Zoom or phone about all this).

I would argue that the distinction between “hard data” and “cultural phenomena” should not be viewed as itself a hard and fast one. The two have historically been quite entangled.

UFO reports since the beginning have primarily relied on a number of sources:

1. Witnesses
2. Radar
3. Physical traces (e.g., ground impression where a saucer supposedly landed)
4. Artifacts (presumed to be from the craft)
5. Photographs and film

#3 and #4 have been relatively rare and, to my knowledge, have not turned up anything even close to definitive. #5 has been the focus of a lot of attention, of course. But to date, I’m not aware of any photographic evidence or film footage that has been unequivocally deemed indicative of something extraordinary/otherworldly (this includes the Navy film footage that has gotten so much attention).

Radar – as you note – has been commonly used as compelling evidence. McDonald, as you point out, placed great emphasis on this. I am not schooled in radar technology, nor am I a historian of technology. So, I would have to defer to those who have more specialized knowledge. So, I have more questions than answers. What was the nature of radar technology at any given point in history? What could radar detect and also what could it not detect at any given point in time? What kinds of false positives has radar been subject to? Are there certain kinds of conditions under which radar technology is especially taxed?

Without question, however, the “hard data” that has by far been relied upon for reports more than anything else has been witness testimonials. In this regard, we should not forget that “radar” falls under this category as well, since the radar technicians are brought in to discuss their recollections and experiences. Witness testimony – even among those deemed to be “trained” or “professional” – has been shown to be remarkably unreliable and inconsistent (see, for example, the article I’ve attached on eyewitnesses to aircraft accidents).

But it’s not just unreliability that I would emphasize. It is that time and time again, when you dig into cases, you find two things: that witnesses’ stories change over time and that even before any initial report, witnesses have discussed and shared their memories and thoughts with others beforehand. The famous Rendelsham Forest case in the UK from 1980 is an excellent example of this. My colleague David Clarke has studied it in detail, talking to many of the principals involved, and he has found time and again all sorts of “adjustments”

witnesses have made in their testimony. One need not attribute malice or deceit to witnesses, in these cases, but rather what we see going on is a process of individuals harmonizing their recollections with peer reflections and prevailing narratives – a rather natural, mundane human response.

So, from my perspective, if all we all we had to rely on were records of radar traces, we wouldn't have much of a UFO mystery. Conversation instead might well revolve around trying to figure out what's wrong with the technology. Evidence from photography and physical traces and artifacts has remained inconclusive and highly questionable. Witnesses therefore serve as the foundation of the UFO phenomenon.

I make this point, then, less to say that this proves how spurious or unreliable UFO reports are than to say that one cannot neatly excise the cultural and psychological facets from the hard data dimensions.

I'll be interested hearing your thoughts.

Indeed, I hope all this can be pursued in a more sustained manner down the road. I hope our institute here at Penn State or some other institution finds some funding to put together a conference, workshop, or colloquium of some kind, so that those of working along these lines can share our findings and thoughts.

Cheers,  
Greg

Greg Eghigian  
Professor of History  
Penn State University

Department of History  
108 Weaver Building  
Penn State University  
University Park, PA 16802  
USA  
Email: (b) (6)

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Date:** Thursday, May 27, 2021 at 9:03 PM

**To:** Greg Eghigian <(b) (6)>

**Cc:** (b) (6) <(b) (6)>

**Subject:** Re: [EXTERNAL] Re: Historical incidents of UFOs

Hi Greg,

Thank you. It is certainly interesting that the modern era of “flying saucers” and UFO reports in the U.S took off after the Kenneth Arnold event. And before that, as you mentioned in your article, phantom Zeppelin sightings.

I am trying to reconcile these “visual” sightings in the history with physical data (radar observations)

in many of the unexplained cases discussed in project blue book, and more importantly in James Mc Donald's "Science in Default". If the cultural, societal, and environmental conditions at that time could potentially explain the interest and corresponding "sightings" by the general population, how do we explain the hard data collected by these studies? How can we make sense of these diverging views on UFOs by social scientists who studied the cultural association of UFOs with aliens, and physical scientists like James Mc Donald and Allen Hynek who actually looked at hard data?

I have been having a hard time coming up with a cohesive explanation that could combine the two aspects. Cultural phenomena cannot explain the hard data. It appears to me that there are two parallel lines of thought here. There may be connecting points, but they do not overlap.

Any insights you may have on this will prove very valuable to me. I

Thanks

Ravi

---

**From:** "Eghigian, Greg" <(b) (6)>  
**Date:** Thursday, May 27, 2021 at 5:19 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Subject:** [EXTERNAL] Re: Historical incidents of UFOs

Hi Ravi,

It's actually a rather challenging historical question. The issue is one of asking what exactly one is looking for in the historical record.

Without question, societies dating back to antiquity have commented on anomalous things in the skies. Historians generally agree that many – if not most – of these observations were likely meteors and comets. Though one must be careful, since some sources were likely not intended to be reporting some empirical reality, but rather to comment about the nature of the divine, the gods, or the Creator.

“Celestial wonders” as such, however, are a long way from our more contemporary concept of the UFO. Ufologists since the 1950s have attempted to portray these observations and reports as instances of alien craft being spotted, but to do so is to take these observations out of their historically specific contexts and grant the sources an accuracy and purpose they lacked. (The most famous example of this kind of “research” is the work of Erich von Däniken, but he has had imitators in numerous parts of the world).

Now, we do have reports of sightings of odd airships in the 19<sup>th</sup> century (before the invention of the airplane and zeppelin, but after the development of hot air balloons) in the U.S., UK, southern Africa, Australia, and New Zealand. These, however, were generally described as vehicles that looked either like marine vessels (often equipped with steam engines) or like elaborate hot air balloons. In other words, they appear to have been projections of existing technologies. Media historians argue there is good reason to view these reports as likely nothing more than fabrications of local newspapers in hope of selling more papers. Moreover,

commentators at the time viewed these “airships” as decidedly terrestrial in nature, likely the invention of some eccentric tinkerer who had finally cracked the key to flight (a big obsession of the century). I’ve written a small article on this aspect of things. You can find it at: <https://www.smithsonianmag.com/history/how-ufo-reports-change-with-technology-times-180968011/>

As I point out in that article, there were other strange airship reports in the early part of the 20<sup>th</sup> century, and most of these were linked to war scares.

What made the post-World War II era distinctive when it comes to unidentified aerial sightings was the minting of an image (the “flying saucer”) and two narratives (they are the work of extraterrestrials + the government knows more than it is telling). All three of these elements originated in the U.S. and were “exported” throughout the world via international news agencies. By the early-1950s, most of the world’s reading public – including those on the other side of the “Iron Curtain” – were familiar with these three elements, and newspapers and magazines all over began reporting on sightings in their home countries (Latin America proved to be a major hotbed in this regard).

In the end, then, our contemporary discussion of UFOs cannot be historically extricated from its links to flying saucers and to the idea of advanced aeronautic technology. But, of course, that cognitive frame was lacking before the 18<sup>th</sup> and 19<sup>th</sup> centuries. So, when we go searching for sightings before 1947, we almost invariably embark on a rather anachronistic search for past candidates.

I hope that proves to be of some help.

Best,  
Greg

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**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Date:** Thursday, May 27, 2021 at 2:29 PM

**To:** Greg Eghigian <(b) (6)>

**Cc:** (b) (6) <(b) (6)>

**Subject:** Historical incidents of UFOs

Hi Greg,

I am writing to you about a nagging question that is on my mind for a long time now. First of all, I have been reading your articles on the Air&Space magazine website, and in particular I liked your [2017 article](#). Most importantly, [the link](#) you provided about other countries setting up offices to study UFOs is very helpful.

I am wondering if there are any reports about UFOs before World War II? I see Wikipedia lists quite a few of them, but that may not be the most reliable source. The link above regarding other countries setting up UFO offices is mostly western countries. Even if no offices were set up, are there not any reports from developing countries? I find it curious that the modern era of UFOs started right after World War II and in the west. I guess I am not fully aware of any historical (reliable) reports before the 1940s or in other non-western countries.

Thanks

Ravi

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11-14-2014

## Reliability of Eyewitness Reports to a Major Aviation Accident

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Dr. Percy Walker, director of Britain's Ministry of Aviation accident inspector branch in the early 1960's, was said by *The Sunday Times* to have researched more crashes than anybody else in the world (Air Correspondent, 1962). In the same article he was quoted as saying that eyewitnesses to aviation accidents are "almost always wrong" (p. 8). Contemporary accident investigation textbooks employ more measured language (Strauch, 2002; Wood & Sweginnis, 2006) but they do note that inconsistencies are often found among eyewitness accounts. In the 50 years since Dr. Walker's statement, research into eyewitness testimony has advanced considerably; however there remains a paucity of published empirical studies regarding the validity and reliability of aviation crash witness statements.

We have long known eyewitness testimony to be less than completely reliable (Loftus 1996; Toglia, Reed, Ross & Lindsay, 2006). Over a century ago Münsterberg (1908) gave many examples, including the time a revolver was fired during a lecture. The dramatic scene was all play-acting, part of a controlled experiment. Similar experimental techniques are still used in eyewitness research, but have limitations (Memon, Mastroberardino & Fraser, 2008). Field and archival techniques further expand our understanding (Wells, Memon & Penrod, 2006), and have included studies of witness records of large traumatic events such as the *Titanic* sinking (Riniolo, Loledin, Drakulic & Payne, 2003), the Oklahoma City Federal Building bombers (Memon & Wright, 1999) and the 9/11 attacks (Altmann, 2003). But despite over 100 years of research, and more than 2,000 papers published on eyewitness identification in the past 30 years, studies on aircraft accident eyewitness reports remain scarce. Dodge (1983) found variability in witness accounts of a major aviation crash, but the sample size ( $n = 20$ ) was relatively small and all witnesses were on-board survivors of the crash they were describing.

There are many variables known to influence eyewitness accuracy (Brewer & Wells, 2011). Memory of an event can be changed by exposure to misinformation about the event (Zaragoza & Lane, 1994), by reactivating the memory (St. Jacques & Schacter, 2013), by trauma and perceived culpability (Foster & Naylor, 1999), by social conformity (Edelson, Sharot, Dolan & Dudai, 2011), and by talking about the event (Wright, Memon, Skagerberg & Gabbert, 2009). However people evaluating the statements are often not aware of these issues. A review of eyewitness reliability in motor vehicle crashes (Robins, 2009) notes that juries show a "marked preference" for eyewitness evidence over what should be the more compelling physical evidence. A survey of potential jurors in the District of Columbia (Schmechel, O'Toole, Easterly & Loftus, 2006) finds they "misunderstand how memory generally works and how particular factors ...

affect the accuracy of eyewitness testimony” (p. 194). Even informed psychologists may be misled. Chan, Thomas and Bulevich (2009) show “real-life eyewitness memory may be even more susceptible to misinformation than is currently envisioned” (p.66).

Following a summary of several aircraft accidents that seem to provide some qualitative support to claims of mistaken eyewitness accounts, we subject the extensive archival witness record of a major aviation accident to statistical analysis. The aim of the study, to demonstrate the reliability of eyewitness reports to a major aviation accident, is achieved with several statistical analyses converging towards a conclusion of unreliability.

### **Qualitative Examples of Aviation Accident Eyewitness Validity and Reliability**

There are many aircraft accident reports where eyewitnesses are generally in agreement with each other and the final accident probable cause; for example the takeoff of a DC-9 seen by 100 external observers where “none of the witnesses described smoke or flames coming from any part of the airplane other than the right engine” (National Transportation Safety Board, 1987). Sometimes a single eyewitness can supply otherwise ephemeral evidence, as for example the farmhand who reported that something fell off an accident aircraft: “Whizzed past me [h]ead it did, and when I dug it out of ground a large chunk of ice it were” (Brown, 1962, p. 38). The probable cause of the crash was determined to be inflight icing based largely on the farmhand’s account. However there are also many well-recorded cases that support the late Dr. Walker’s contention, cases where aviation accident eyewitnesses report seeing things that did not happen or substantially confuse the order of events.

At an airshow in 1952, a supersonic fighter disintegrated in the air causing the death of both crew and 29 spectators (Staff, 1952). Over 100,000 people witnessed the accident. A public appeal was put out for witness accounts and photographs to help solve the mystery, resulting in several thousand letters being collected. Rivas and Bullen (2008) found “many of the accounts are touchingly detailed and well intentioned, but the whole of the vast mail was of little use” (p. 186). The vital clue that led to determination of probable cause was supplied by a cine film. The in-flight breakup happened in less than a second, and almost all the eyewitnesses, including experienced pilots, gave grossly inaccurate accounts when compared to the film record.

Investigating the mid-air collision of a passenger DC-9 and a Marine Corps F-4 the National Transportation Safety Board (NTSB) found “witnesses in the area of the accident gave widely varying accounts” (NTSB, 1972). Five people described both aircraft on steady courses prior to the collision, but fifteen people described the fighter aircraft in a rolling or evasive maneuver prior to the collision.

Wilkinson (1977) quotes an eyewitness to a crash describing a light aeroplane just before impact as “heading right toward the ground—straight down” (p.102). However photographs of the crash site clearly showed the aeroplane plane hit flat and at a low enough angle to skid for almost 1,000 feet. Two expert eyewitnesses to a crash on takeoff of a MD-82 stated that the wing flaps were extended, but the Board determined the flaps were in fact not extended (NTSB, 1988). What was initially reported as a possible bombing of a B767 due to many eyewitness accounts of the plane first exploding in fire (Johnson, 1991; Kelly & Elliott, 1991) turned out to be caused by the uncommanded activation of an engine thrust reverser (Aircraft Accident Investigation Committee, 1993).

When a fuel tank explosion caused a B747 to descend in pieces from 13,000 feet, the fireball was seen by hundreds of people, about one-third of who reported that they observed a streak of light moving upward in the sky (NTSB, 2000). However there was no evidence that a missile struck the plane, and physical examination of the wreckage unequivocally supports the cause as a fuel tank explosion. Thirty-eight of the witnesses described a streak of light as ascending vertically. Forty-five reported that a streak moved to the east, 23 that it moved to the west, 18 that it moved to the south, and 4 that it moved to the north.

When a MD-82 crashed on takeoff initial reports included eyewitness accounts of an engine catching fire as the aeroplane heading down the runway (Goodman, Todd & Koch 2008; Naughton & Strange, 2008). However analysis showed that engine performance was normal on takeoff, and that the cause of the crash was failure to set the flaps (CIAIAC, 2008).

A Cessna 310R that crashed following a steep descent was observed by several witnesses. All described to the NTSB (2012) a nose-down, vertical descent to ground contact. However some described the engine sound as “full throttle,” “wide open,” “really loud,” and “never let up on [the] throttle” But others stated the engine was “puttering” or “quit” before the descent (para. 3). One witness believed he had seen a meteorite. A veteran aviation journalist wrote of the eyewitness accounts, “as is often the case, they disagreed” (McClellan, 2013, p. 84).

Considering these examples, it's understandable that not just journalists are unconvinced by accident eyewitness accounts. NTSB Member John Goglia declared that eyewitness reports of aeroplane crashes are often mistaken (Halbfinger & Wald, 2003), and NTSB spokesperson Ted Lopatkiewicz asserted "eyewitness testimony at a plane crash ... is unreliable" (Wald, 2002, p. 5). These professional opinions are not however shared by the general public (Simons & Chabris, 2011). Eyewitness reports are often given prominence in press reports and used in legal actions. Philosophers have long grappled with the dual ideas of human conviction and disagreement, with Renouvier declaring in 1859 that "properly speaking, there is no certainty; there are only people who are certain" (Schulz, 2010, p. 159). Decades of experience have led aviation crash investigators to discount eyewitness accounts, and instead rely on flight recorders, radar recordings and physical evidence to determine cause. There are, however, no systematic published studies of aviation crash eyewitness accounts to validate investigators beliefs. This is due in part to the problems of creating a controlled experiment. It is much easier for a psychology lab to stage a fistfight or a robbery, than it is to stage a burning airliner coming out of the sky.

### **Description of AA587 Crash**

On the morning of November 12<sup>th</sup>, 2001, an American Airlines wide-body A300 jet climbed into clear sunny skies over New York City on what was planned to be a routine flight. A few minutes later flight 587 violently pitched down and crashed into the middle of a residential neighborhood (Kleinfeld, 2001). All 260 people on board died, along with an additional five people on the ground. Coming two months after the 9/11 attacks, there were initially fears that this may have been another terrorist attack. A large NTSB and Federal Bureau of Investigation (FBI) effort was mounted to determine what happened, an investigation that included interviewing hundreds of eyewitnesses.

The NTSB determined that the probable cause of flight 587's accident was co-pilot rudder inputs that resulted in the vertical stabilizer breaking off from the fuselage and falling into Jamaica bay (NTSB, 2004). The loss of a primary aerodynamic flight control surface and substantial change in center of mass caused the jet to pitch down and dive towards the ground. Recovery was impossible. Fifteen seconds after rudder separation the plane crashed into the quiet Belle Harbor suburb of Queens, New York, a three-kilometer (1.8 mile) by one kilometer (0.6 mile) (at its widest) neighborhood located on a barrier peninsula between Jamaica Bay and the Atlantic Ocean (figure 1). The majority of the aircraft made landfall close to the geographic center of the community, destroying three homes and damaging six others in a post-impact fire. Both

engines separated from the wings before impact, landing about 200 metres from the main wreckage. The accident was not survivable for the airplane occupants.



*Figure 1.* Photograph of Belle Harbor. Taken from an altitude of 2000 feet over the Atlantic Ocean, looking northwest with Jamaica Bay and New York City in the background; it was into the center of this neighborhood that American Airlines 587 crashed. (Photo by author D. English.)

The weather that morning was clear and brisk. Immediately before the accident JFK airport reported the wind to be from 310° at 11 knots, visibility unrestricted, a few clouds at 4,300 feet with a temperature of 6° C. The sun was positioned 22.5° above the horizon, bearing 142° true (NTSB, 2004). *The Times* called it a brilliant, blue sky (Kleinfield 2001). Belle Harbor residents are under a busy flight path for JFK departures, so they are used to seeing airliners pass overhead. Flight 587 was determined by the NTSB to have been viewed by a total of 354 witnesses that provided sufficient detail to document. More pertinently, the majority of witnesses were concentrated in Belle Harbor. It is extremely rare to have such a numerous, compact group unexpectedly observe a nearby low-altitude airliner crash in good weather from all angles. The fact that these eyewitnesses must have had an emotional reaction to the disaster, and no doubt later watched TV news reports, and/or read newspaper accounts of the accident, and discussed their observations with others, before making their statements might seem to diminish their use in eyewitness research. It is known that human memory is strikingly susceptible to social (Wright, Memon, Skagerberg & Gabbert, 2009) and other sullyng influences (Foster & Naylor 1999; Robins, 2009). But since we are concerned with real world accident investigations this seeming contamination is the more expected condition, the reality of actual witness statements, and maybe gives archival methodology more validity than experimental techniques (Christianson, 1992).

## **Materials and Methods**

Recording witness statements was earnest work due to the number of fatalities and the immediate lack of a clear cause. Interviews were undertaken by a large number of NTSB, local police and FBI agents. Using the NTSB Witness Group Factual Report (Schiada, 2002) as a model, we created an Excel spreadsheet containing all 354 witness summaries. While there are considerable original records of the interviews, it was not recorded how the questions were posed, or what other reports (media/social) may have influenced the witness. Our dataset used only the original consensus NTSB Witness Group interpretation of each witness's testimony.

Our goal in constructing a dataset to analyze was to have the highest likelihood of finding reliability. By removing obvious outliers and controlling for geographic position we stood the best chance of discovering patterns. And if no patterns are found in this clean dataset, we strengthen the hypothesis that data from eyewitness reports are unreliable. We removed witnesses that were moving on boats, trains, planes or whose position was otherwise uncertain. We also removed witnesses who were many kilometers from the crash site, resulting in a dataset containing 239 Belle Harbor witnesses (defined as all ground witness between 149<sup>th</sup> Street and 108<sup>th</sup> Street). Coding the witness location into the dataset would allow us to control for position relative to the crash. We determined the geographic coordinates of the Belle Harbor witnesses using the information reported in the NTSB Appendixes A and B (street address or textual description of location) in combination with an examination of Google Earth and Google Street View. The resulting Keyhole Markup Language (KML) file is rendered as figure 2 using the USGS National Map Viewer. Location was initially coded into the spreadsheet using a city-block grid centered on the crash site at 131<sup>st</sup> Street and Newport Avenue. We then performed a matrix rotation, giving us witness location using Cartesian coordinates with origin at main crash site, abscissa as position left or right of aircraft track, and ordinate as position along aircraft track. We also converted the Cartesian coordinates into polar coordinates for analysis based on distance from the crash site. The data were now in a useful format to allow us to perform a series of statistical measures on the witness statements.



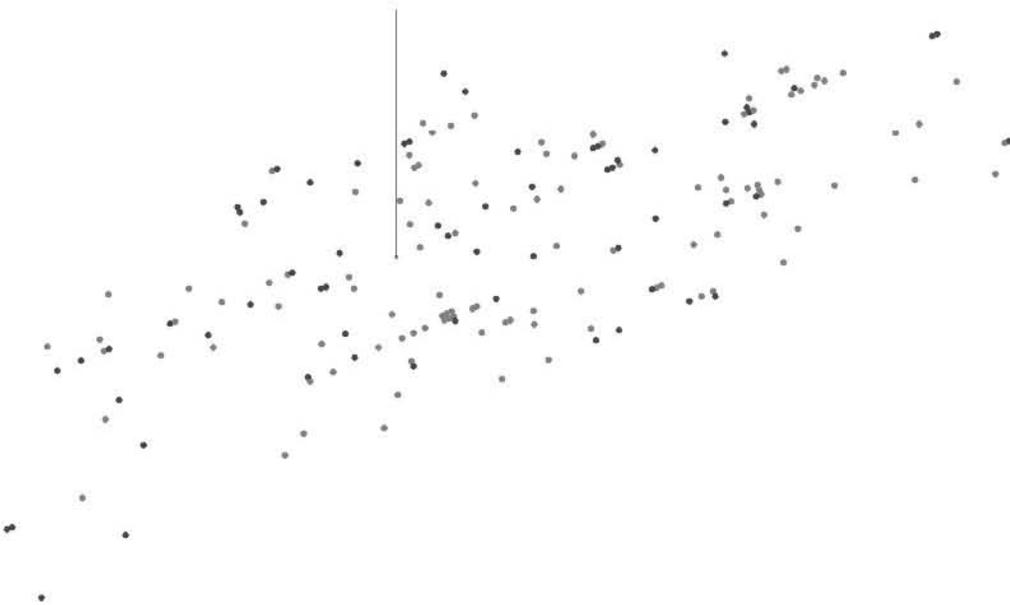
Figure 2. Eyewitness Locations. The red marker shows the path of the aircraft's tip.

### Analysis 1: Fire

Of the 239 Belle Harbor witnesses, 183 reported about the fire not before it impacted the ground. TB stated that the number of witnesses who specifically did not see any fire" (Schiada, 2002, p. 4) leaves 56 witnesses no opinion on this question. Our analysis used only those witnesses that expressed a definite opinion, in a subsequent collection of the witness pool.

Belle Harbor witnesses were being on the ground. The distribution of the 183 witnesses that reported either "seeing no fire (65) or some fire" was investigated using RStudio 0.97.311 (R Core Team, 2012) and MATLAB 2011a (MATLAB,

2011) software with all tests of significance at a  $p = .05$  criterion. The majority opinion of all eyewitnesses expressing an opinion on pre-impact fire is statistically significant (using chi-square test with an equally divided fire/no-fire null hypothesis ( $\chi^2 [1, N = 183] = 15.35, p < .001$ ). Graphical mapping shows little discernable geographic pattern (figure 3). Separate logistic regression analyses with fire/no-fire as the binary categorical dependent variable and a geographic dimension (in km) as the independent (predictor) variable reveals no significant relationship along the abscissa ( $b = 0.39 p = .109$ ), the ordinate ( $b = 0.14 p = .788$ ), or distance from the crash site ( $b = -0.22 p = .567$ ). This confirms the intuitive conclusion from the graphical mapping that there is no preferred orientation for these eyewitness reports. Indeed, the overall distribution of the fire witnesses compared to no-fire witnesses appears by eye to be about the same. This more general assertion is harder to test, as the witness pool was drawn from a decidedly non-uniformly distributed population (on a peninsula, tending to be on busy streets or popular locations).



**Figure 3.** Was there pre-impact fire? Witnesses that reported seeing pre-impact fire are in red, those that saw no fire in blue. The gray line is the flight path. Some locations jittered to prevent overplotting.

We investigated independence with a two-tailed two-dimensional paired Kolmogorov-Smirnov test. Peacock's algorithm (Peacock, 1983) determines whether two sets of data arise from the same or different distributions without making any assumptions of the distribution. While the Kolmogorov-Smirnov test has sometimes been considered a weak form of analysis, it has the required advantage here that it is non-parametric and distribution free. Use of Peacock's test for multi-dimensional data sets is well established (Lopes, Reid & Hobson, 2007). The null hypothesis is that both data sets are drawn from the same continuous distribution. For the fire/no fire distributions, the null hypothesis is not rejected ( $D = 0.167$ ,  $p = 0.200$ ), suggesting that indeed the fire and no-fire distributions are the same.

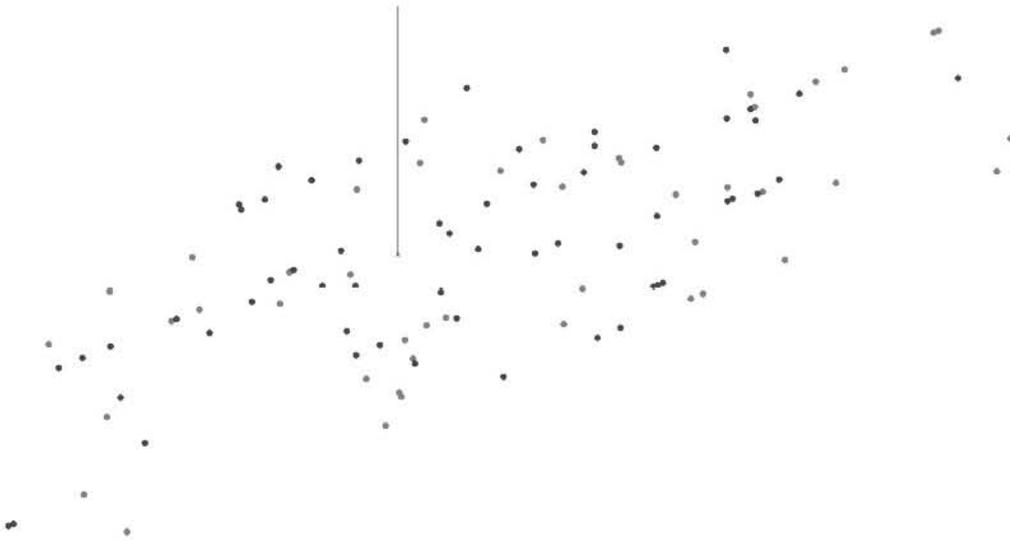
Assuming the distribution of fire/no-fire witnesses to be uniform, we can calculate the results of polling smaller samples of witnesses from the group without regard to location. While the majority opinion is statistically significant, the variance is considerable. This becomes increasingly important when considering the small number of witnesses that view most aviation accidents. Applying hypergeometric distribution analysis to the dataset values, a poll of 5 witnesses reveals a 24% probability that a majority of such a sample would have reported seeing no pre-impact fire (the opposite of the majority opinion in the population). With 10 witnesses there is still a 9% probability that a majority would report no fire, and a 92% probability that 2 of the 10 would report against the population majority opinion. Clearly the variance found in this compact eyewitness population means that eyewitness consensus in commonly sized witness samples is unlikely and that a majority of such a sample may disagree with the population majority opinion.

As to location of the fire, Belle Harbor observers that saw fire offered varying details: 7% said there was a fire in the right engine, 7% in the right wing, 6% in the tail, 41% in the fuselage, 9% in the left engine, 17% in the left wing, 14% in a miscellaneous area, 4% in an undefined wing, and 4% in an undefined engine. The NTSB determined "witnesses who reported observing the airplane on fire were most likely observing a fire from the initial release of fuel or the effects of engine compressor surges" (NTSB, 2004). The engines themselves suffered no in-flight fire, and there was probably no other pre-impact fire.

## **Analysis 2: Smoke**

Belle Harbor witnesses were not in agreement about the airliner leaving a smoke trail or not before it impacted the ground. The distribution of the 105 witnesses that reported either no smoke (60) or some smoke (45) was investigated

using the same tools and methods. Again, graphical mapping shows no discernable geographic pattern (figure 4). The majority opinion of no smoke is not statistically significant using a chi-square test with a no preference null hypothesis ( $\chi^2 [1, N = 105] = 2.14, p = .143$ ). Logistic regression analyses show no significant relationship to the smoke/no smoke reports along the abscissa ( $b = 0.30 p = .296$ ) or the ordinate ( $b = -0.14 p = .818$ ). There is an observed trend for an increased probability to report smoke with increasing distance from the crash site, but this was not statistically significant ( $b = 0.93 p = .066$ ). A two-tailed two-dimensional paired Kolmogorov-Smirnov test does not reject the null hypothesis that the two data sets are drawn from the same continuous distribution ( $D = 0.239, p = 0.200$ ).



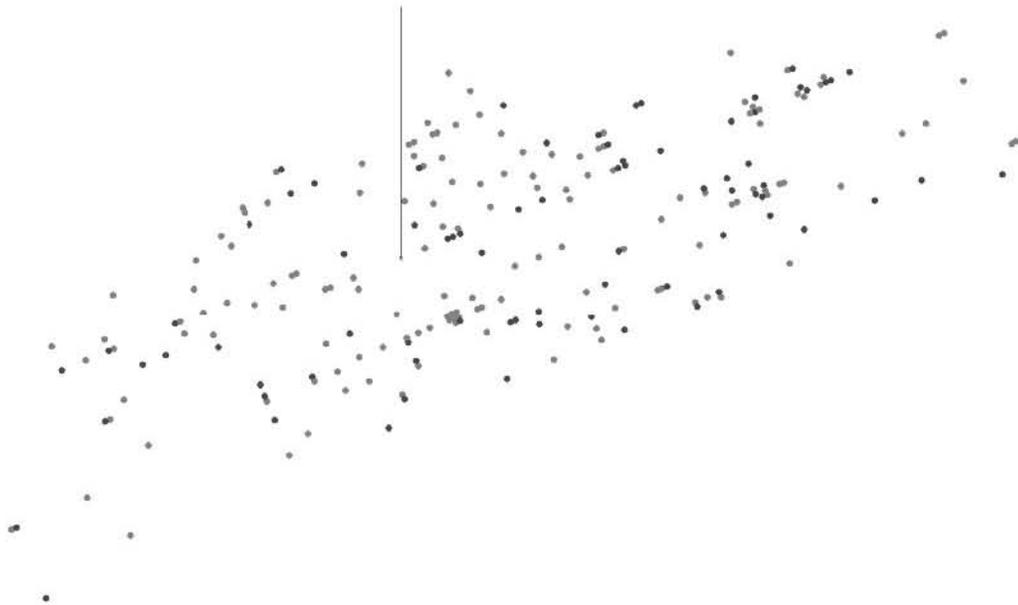
*Figure 4.* Was there pre-impact smoke? Witnesses that reported seeing pre-impact smoke in red, those that reported no smoke in blue. The gray line is the flight path.

Hypergeometric distribution analysis reveals that if five random witnesses were polled from the group, there is a 36% probability that a majority of them would have reported pre-impact smoke, the opposite of the no smoke majority with this population. With 10 witnesses there is still a 21% probability that a majority would report smoke, and a 97% probability that 2 of the 10 would report against the population majority opinion.

As to location of the pre-impact smoke, Belle Harbor observers that saw smoke offered varying details: 2% reported the right engine, 13% the right wing, 7% the tail, 29% the fuselage, 9% the left engine, 7% the left wing, 42% from a miscellaneous area, 4% an undefined wing, and 2% an undefined engine. The NTSB report reached no conclusion about how much or from where the jetliner was emitting smoke prior to impact.

### Analysis 3: Noise

The distribution of the 239 witnesses that reported either in-flight noise (156) or no noise (83) was investigated using the same tools and methods. Graphical mapping shows no discernable geographic pattern (figure 5). Logistic regression analyses show no significant relationship to the noise/no noise reports along the abscissa ( $b = -0.02$   $p = .287$ ) or the ordinate ( $b = 0.01$   $p = .831$ ). There is an observed trend for a decreased probability to report noise with increasing distance from the crash site; with about 70% of witnesses immediately adjacent to the crash site reporting hearing noise, decreasing to about 50% reporting noise when two kilometers (1.2 miles) away. However this was not statistically significant ( $b = -0.04$   $p = .105$ ). A two-tailed two-dimensional paired Kolmogorov-Smirnov test does not reject the null hypothesis that the two data sets are drawn from the same continuous distribution ( $D = 0.210$   $p = 0.200$ ).



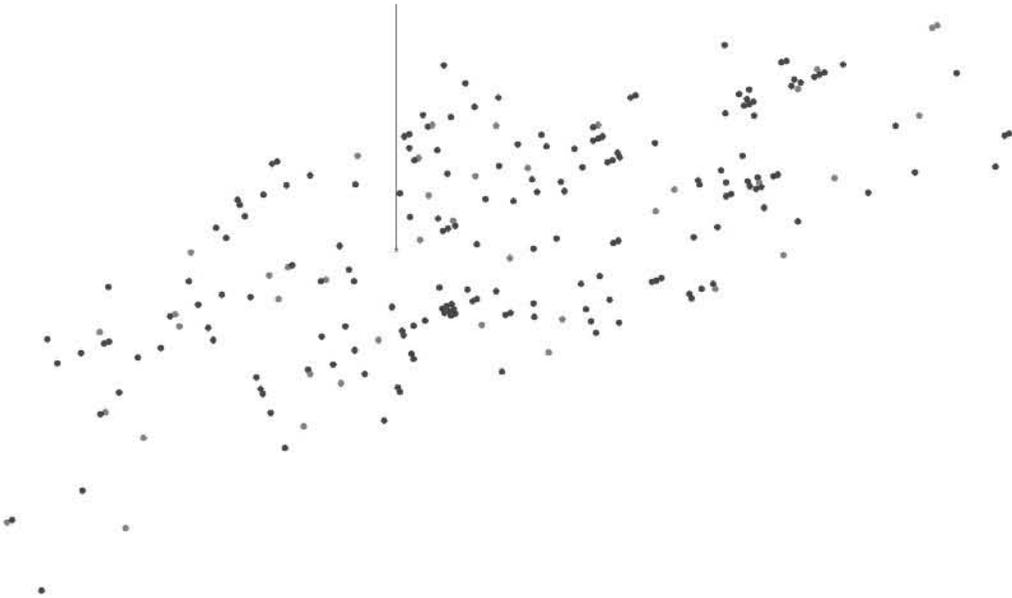
*Figure 5.* Was there pre-impact noise? Witnesses that reported hearing pre-impact noise in red, those that reported no noise in blue. The gray line is the flight path.

The majority opinion of in-flight noise is statistically significant using a chi-square test with a no preference null hypothesis, ( $\chi^2 (1, N = 239) = 22.30, p < .001$ ). Hypergeometric distribution analysis reveals that if five witnesses were randomly polled, there is a 23% probability that a majority of them would have reported no in-flight noise, the opposite of the in-flight noise majority with this population. With 10 witnesses there is still a 9% probability that a majority would report no noise, and a 92% probability that 2 of the 10 would report against the population majority opinion.

#### **Analysis 4: Explosion**

Forty-one (17%) of the Belle Harbor witness pool reported that in addition to noise, they heard a pre-impact explosion (or boom or loud pop). Geographical mapping shows no discernible pattern (figure 6), confirmed by logistic regression analyses that show no statistically significant relationship to the explosion/no-noise reports along the abscissa ( $b = -.03 p = .282$ ), the ordinate ( $b = -0.68 p = .228$ ) or distance from the crash site ( $b = 0.30 p = .486$ ). A two-tailed two-dimensional paired Kolmogorov-Smirnov test does not reject the null hypothesis that the two data sets are drawn from the same continuous distribution ( $D = 0.182 p = 0.200$ ).

The majority opinion of no explosion is statistically significant using a chi-square test with a no preference null hypothesis ( $\chi^2 [1, N = 239] = 175.84, p < .001$ ). Hypergeometric distribution analysis reveals that if five witnesses were polled from the group, there is a 4% probability that a majority of them would have reported a pre-impact explosion, the opposite of majority opinion with this population. This is a much lower probability than the other categories studied, but even in this case the probability of all five witnesses agreeing there was no explosion is only 61%. With 10 witnesses there is a 1.5% probability that a majority would report an explosion, and a 54% probability that 2 of the 10 would report against the population majority opinion.



*Figure 6.* Was there a pre-impact explosion? Witnesses that reported a pre-impact explosion in red, those that reported no explosion in blue. The gray line is the flight path.

### **Limitations**

This study is subject to all the limitations inherent in archival eyewitness research. This includes, but is not limited to, a limited sample size, a nonrandom sample, participant self-selection, no control for retention interval, eyewitnesses with varied vantage points, conflation of geographic position with other factors, multicollinearity, lack of control of eyewitness interviews, no control for emotional state, no control for post-observation social or media influence, possible limited generalizability of one specific type of accident to other aviation accidents, and an inability to manipulate variables. Interviews were conducted by three different organizations (local police/FBI/NTSB) at varying times using varying formats (written submissions/telephone/face-to-face) with no records of witness media or social exposure. The NTSB found disagreements between statements given to different investigators at different times (Schiada, 2002). And they noted that, “disagreement and direct conflicts also existed between statements from the same source (e.g. two or more police statements pertaining to the same witness)” (p.7).

Despite the methodological limitations, many authors have supported archival research as a naturalistic contribution to the use of multiple investigational techniques to uncover reality (Christianson, 1992; Christianson, Goodman & Loftus, 1992).

## **Discussion**

Eyewitness reports to this airplane crash show considerable disparities. Even with over two hundred witnesses in a compact geographic area stating an observation, the variance was large enough to preclude forming a statistically significant conclusion about a basic large-scale event (was the aircraft trailing smoke). And while in three other cases a statistically significant conclusion could be reached from the large 'clean' dataset, the observed variances were still considerable. These quantitative results are in agreement with the apparent variability of eyewitness statements qualitatively reported for other widely observed aviation accidents.

Furthermore, analysis of the geographic distribution of the witness group observations shows no significant pattern. Logistic regression showed no statistically significant structure for four types of observation along three possible dimensions of regularity. Two-tailed two-dimensional paired Kolmogorov-Smirnov tests showed that eyewitnesses reporting opposite observations were drawn from the same continuous distribution. We might expect some directions relative to the flight path of the aircraft to give a clearer view of an airborne event, or people closer to an event to be better (or worse) witnesses, but our findings show that in this case location of a witness does not appear to significantly affect the validity of major observations reported. The variance was evenly spread by geographic location within the witness pool.

If the accident were to have been observed by only a small group of witnesses (as is common), there is considerable probability that the witnesses would not agree; and there is the possibility that a majority of the witnesses would report against the population majority. That small groups have a remarkably high chance of not following the population characteristics has been proven since Pascal's Triangle in the 1600's (Mlodinow, 2008); and the mistaken intuition that a small sample will accurately reflect underlying probabilities was called the law of small numbers by Kahneman and Tversky (1971). Thus, the findings for commonly sized small samples are not surprising. However, the inability to make a statistically significant conclusion about a basic large-scale event from the large ( $N > 200$ ) sample is unexpected.

Combining the high variances, the lack of any preferred observational perspective and the law of small numbers, a conclusion of eyewitness unreliability for aviation crashes is unavoidable. Although they sound compelling — “*I saw the crash with my own eyes*” — a small group of witnesses to an aviation accident giving reports several days after the event may well not produce reliable information. This is demonstrated to be true for a crash as seemingly perceptible as a wide-body transport jet at low altitude in clear daylight conditions. Dr. Percy Walker’s claim that eyewitnesses to aviation accidents are almost always wrong is certainly not proven. But the current reported practice by accident investigators of placing low value to eyewitness accounts of aircraft crashes is supported by the empirical evidence.

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*Learning Memory and Cognition*, 20, 934-945.  
<http://dx.doi.org/10.1037/0278-7393.20.4.934>

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Hautaluoma, Grey \(HQ-NA020\)](#); [Gran, Rani C. \(GSFC-1300\)](#)  
**Cc:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: Washington Post article draft  
**Date:** Friday, May 28, 2021 10:57:15 AM

---

Thank you, I truly appreciate your willingness to help. And I will notify all of you before I accept any interviews.

Ravi

---

**From:** "Hautaluoma, Grey (HQ-NA020)" <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>  
**Date:** Friday, May 28, 2021 at 10:47 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Cc:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>  
**Subject:** RE: Washington Post article draft

Thanks, Ravi. We're doing a quick temperature check with HQ about interviews over the weekend. If you could copy us on requests before accepting, that would be great. As I was discussing with Rani,

(b) (5)

(b) (5)

Hopefully we'll have a better sense by the end of the day, but thanks for your time in responding to these!

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Sent:** Friday, May 28, 2021 10:44 AM  
**To:** Gran, Rani C. (GSFC-1300) <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Cc:** Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC] <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>; Hautaluoma, Grey (HQ-NA020) <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>  
**Subject:** Re: Washington Post article draft

Hi Rani,

Yes! My phone is (b) (6) And here are the talking points that I sent to Nancy:

• (b) (5)

•

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•

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**From:** "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Date:** Friday, May 28, 2021 at 10:37 AM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>, "Hautaluoma, Grey (HQ-NA020)" <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>  
**Subject:** Re: Washington Post article draft

Hi Ravi,

Can I give you a call? Also, could you email me us talking points you put together for HQ? I know they are not finalized, but I like to have them for reference.

Rani

--

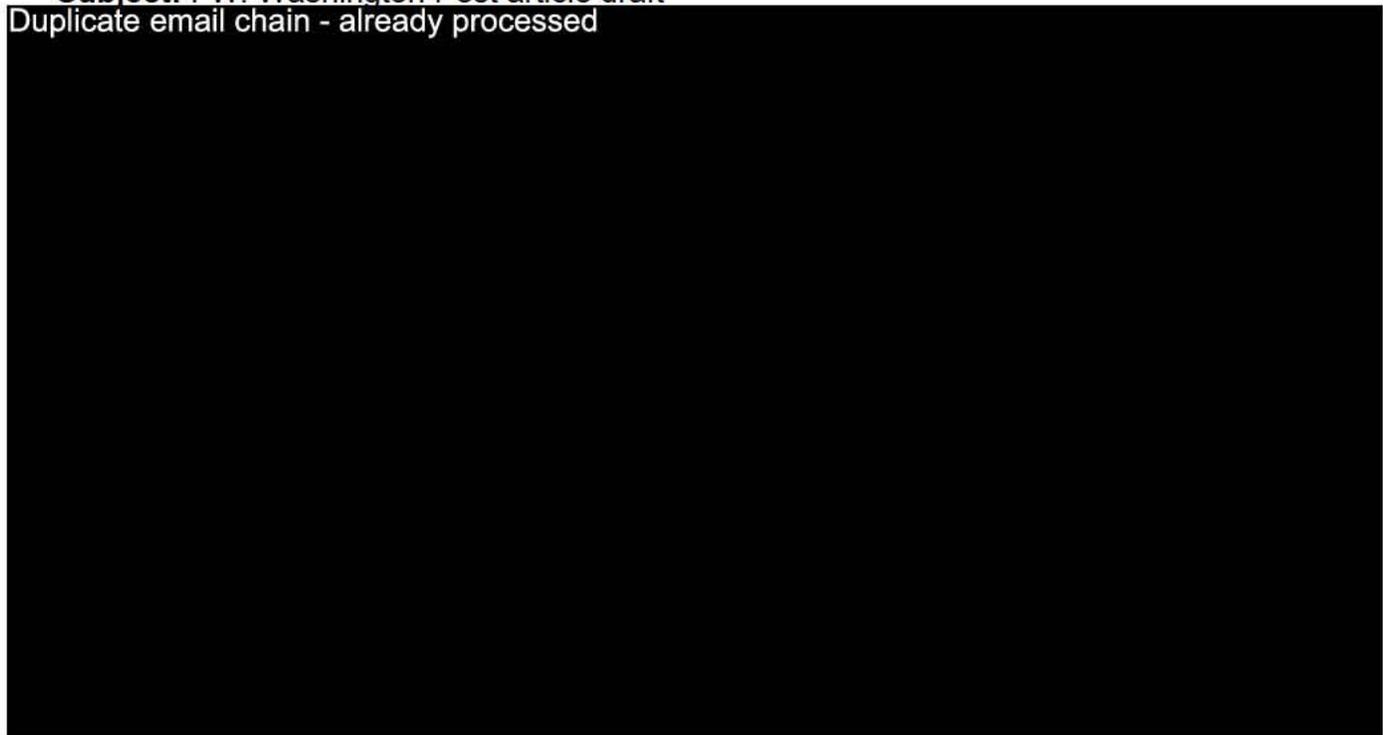
Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
Work Cell (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Date:** Thursday, May 27, 2021 at 8:04 PM  
**To:** "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>, "Hautaluoma, Grey (HQ-NA020)" <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>  
**Cc:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>, Rani Gran <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Subject:** FW: Washington Post article draft

Duplicate email chain - already processed



**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Hautaluoma, Grey \(HQ-NA020\)](#); [Jones, Nancy N. \(GSFC-1300\)](#)  
**Cc:** [Gran, Rani C. \(GSFC-1300\)](#); [Shekhtman, Lonnie \(GSFC-690.0\)](#)[ADNET SYSTEMS INC]  
**Subject:** Re: [EXTERNAL] National Geographic Documentary Inquiry  
**Date:** Friday, May 28, 2021 12:14:09 PM

---

Thanks!

---

**From:** "Hautaluoma, Grey (HQ-NA020)" <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>  
**Date:** Friday, May 28, 2021 at 12:13 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>  
**Cc:** "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>, "Shekhtman, Lonnie (GSFC-690.0) [ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>  
**Subject:** RE: [EXTERNAL] National Geographic Documentary Inquiry

That sounds ok.

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Sent:** Friday, May 28, 2021 11:44 AM  
**To:** Jones, Nancy N. (GSFC-1300) <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>  
**Cc:** Hautaluoma, Grey (HQ-NA020) <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>; Gran, Rani C. (GSFC-1300) <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>; Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC] <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>  
**Subject:** FW: [EXTERNAL] National Geographic Documentary Inquiry

This is from National Geographic. They are not asking to interview me, but want to know if I know anyone who does scientific studies of UAP (I do).  
Should I take the call?

---

**From:** "Rezvi, Misha X. -ND" <(b) (6)>  
**Date:** Friday, May 28, 2021 at 11:28 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL] National Geographic Documentary Inquiry

Dear Dr. Kopparapu,

I read your op-ed in the Post. I am a producer with National Geographic. We are working on an hour-long documentary looking at the UFO report coming out next month. We are more interested in the scientists who study these phenomena. We're interested in finding someone who has dedicated their life to studying this scientifically and thought of you as the best person to point us in the right direction. Would you be available for a quick call on this?

I am based in DC and at (b) (6)

Thank you so much!

Misha Rezvi

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Rezvi, Misha X. -ND](#)  
**Subject:** Re: [EXTERNAL] National Geographic Documentary Inquiry  
**Date:** Friday, May 28, 2021 12:14:47 PM

---

Hello,

Yes! My phone number is (b) (6) I am available today, except from 2-3pm.

Thanks

Ravi

---

**From:** "Rezvi, Misha X. -ND" <(b) (6)>  
**Date:** Friday, May 28, 2021 at 11:28 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** [EXTERNAL] National Geographic Documentary Inquiry

Dear Dr. Kopparapu,

I read your op-ed in the Post. I am a producer with National Geographic. We are working on an hour-long documentary looking at the UFO report coming out next month. We are more interested in the scientists who study these phenomena. We're interested in finding someone who has dedicated their life to studying this scientifically and thought of you as the best person to point us in the right direction. Would you be available for a quick call on this?

I am based in DC and at (b) (6)

Thank you so much!

Misha Rezvi

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: [EXTERNAL] National Geographic Documentary Inquiry  
**Date:** Friday, May 28, 2021 1:47:30 PM

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I don't think they are going to do it with me. The focus is on struggles of one scientist, who against all odds, continues to pursue what they think is a good science problem. I wish James Mc Donald was alive today.

---

**From:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]"  
<lonnie.shekhtman@nasa.gov>  
**Date:** Friday, May 28, 2021 at 1:44 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: [EXTERNAL] National Geographic Documentary Inquiry

They're going to have to profile you as they help you get the data you want ...

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Friday, May 28, 2021 at 1:42 PM  
**To:** "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>, "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Cc:** "Hautaluoma, Grey (HQ-NA020)" <grey.hautaluoma-1@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: [EXTERNAL] National Geographic Documentary Inquiry

Hi all,

I just chatted with Misha from National Geographic. She is looking to talk to a scientist who dedicated their life to scientifically study UFOs, so that they can spend an hour long documentary on them. Unfortunately, the scientists who can fit their criteria are Prof. James Mc Donald and Allen Hynek, both are deceased now. No one currently is doing the caliber or the level of the work that they did. The closest is someone at University of New York-Albany that I suggested to contact. It is a sad state of affairs that they could not find any scientist who is doing work on this topic to educate the general public. There are a LOT of scientists who are ready to *comment* on UFOs, most likely to dismiss them, but that is nothing new.

Ravi

---

**From:** "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>  
**Date:** Friday, May 28, 2021 at 12:23 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Cc:** "Hautaluoma, Grey (HQ-NA020)" <grey.hautaluoma-1@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: [EXTERNAL] National Geographic Documentary Inquiry

Hi Grey,

I called the reporter. She is in the development stage for her documentary. She is interested in science and wants to find sources for her story. She wants to get more background on the story.

She got an excellent production background and contracted through Disney and ABC.

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD, 20771  
Work Cell (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Friday, May 28, 2021 at 11:43 AM  
**To:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Cc:** "Hautaluoma, Grey (HQ-NA020)" <grey.hautaluoma-1@nasa.gov>, Rani Gran <rani.c.gran@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** FW: [EXTERNAL] National Geographic Documentary Inquiry

Duplicate email chain - already processed

## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

1 page(s) containing duplicate information is/are held in the file.

**From:** [Kevin Knuth](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: FW: [EXTERNAL] Re: Historical incidents of UFOs  
**Date:** Friday, May 28, 2021 2:23:12 PM

---

Hello Ravi,

Thank you for sending me this.

I look forward to reading this over.

I see that there is an article on eyewitness reliability to an aviation accident. That will be important to read.

Thanks!

Kevin

-----  
Kevin H. Knuth, Ph.D.  
Editor-in-Chief of Entropy  
Associate Chair, Physics  
Associate Professor of Physics  
University at Albany (SUNY)  
Albany NY 12222  
<http://knuthlab.org>

On Fri, May 28, 2021 at 12:34 PM Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

---

**From:** "Eghigian, Greg" <(b) (6)>  
**Date:** Friday, May 28, 2021 at 10:53 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Subject:** Re: [EXTERNAL] Re: Historical incidents of UFOs

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

6 page(s) containing duplicate information is/are held in the file.

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Eghigian, Greg](#)  
**Subject:** Re: [EXTERNAL] Re: Historical incidents of UFOs  
**Date:** Monday, May 31, 2021 9:34:31 AM

---

Hi Greg,

Great! I might also ask Prof. Kevin Knuth, from U. New York-Albany, to join us. Kevin may address some questions related to the radar that you asked in the email below. He also worked on a UAP paper based on the limited data that is made available. We have some questions on it as well for Kevin. So it will be 4 of us (You, Jacob Haqq-Misra, Kevin Knuth and I).

Let me copy all of us in an email for a deciding a date and time.

Thanks! And enjoy your vacation.

Ravi

---

**From:** "Eghigian, Greg" <(b) (6)>  
**Date:** Sunday, May 30, 2021 at 5:00 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: [EXTERNAL] Re: Historical incidents of UFOs

Hi Ravi,

Yes, let's chat. I'm heading off for a vacation this week, so perhaps some time after June 11. Dates are pretty wide open after that, and any time after 1pm EST typically works for me. Just let me know if there is a day and time that works best for you.

Best,

Greg

Greg Eghigian  
Professor of History  
Penn State University

Department of History  
108 Weaver Building  
Penn State University  
University Park, PA 16802  
USA  
Email: (b) (6)

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Friday, May 28, 2021 at 12:13 PM  
**To:** Greg Eghigian <(b) (6)>  
**Cc:** (b) (6) <(b) (6)>  
**Subject:** Re: [EXTERNAL] Re: Historical incidents of UFOs

Hi Greg,

Thank you for your thoughts. Perhaps, it would be good to have a chat on zoom sometime. I have more thoughts on this, and it would be good to discuss one-to-one. If you could provide your availability, say for 1 hour discussion, I could send a meeting link. It is not urgent, of course.

Best

Ravi

---

**From:** "Eghigian, Greg" <(b) (6)>

**Date:** Friday, May 28, 2021 at 10:53 AM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>

**Subject:** Re: [EXTERNAL] Re: Historical incidents of UFOs

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

4 page(s) containing duplicate information is/are held in the file.

**From:** Eghigian, Greg  
**To:** Kopparapu, Ravi Kumar (GSFC-6990)  
**Cc:** (b) (6); Kevin Knuth; Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]  
**Subject:** [EXTERNAL] Re: Meeting to discuss UAP/UFO  
**Date:** Monday, May 31, 2021 12:13:06 PM

---

That works for me.

Greg

Greg Eghigian  
Professor of History  
Penn State University

Department of History  
108 Weaver Building  
Penn State University  
University Park, PA 16802  
USA  
Email: (b) (6)

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Monday, May 31, 2021 at 9:41 AM  
**To:** Greg Eghigian <(b) (6)>  
**Cc:** (b) (6) <(b) (6)> Kevin Knuth <(b) (6)>  
**Subject:** Meeting to discuss UAP/UFO

Hi Greg, Jacob and Kevin,

We have had individual conversations on the common topic of UFO/UAP. I am copying all of us in a common email to decide on a date and time to discuss our perspectives on UFO/UAP and see if we could learn new insights.

Are you all available Tuesday June 15 from 1pm-2pm ? Any later time works as well for me. I will send a calendar invite and a zoom link once we confirm.

Best

Ravi

--  
Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Clampin, Mark \(GSFC-6000\)](#)  
**Subject:** Re: Great WAPO piece  
**Date:** Tuesday, June 1, 2021 7:31:48 AM

---

Hi Mark,

Thank you! When WaPo asked, We thought that this would be a great opportunity to explain the scientific process to non-scientists, without outright dismissing the whole phenomena. We wrote a more expanded article in [Scientific American](#) last year, expanding on our arguments and proposing how to investigate UFOs scientifically. This is not new and has been an active topic 40 years ago among scientists without any taboo.

Best  
Ravi

---

**From:** "Clampin, Mark (GSFC-6000)" <mark.clampin-1@nasa.gov>  
**Date:** Monday, May 31, 2021 at 10:14 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Great WAPO piece

Ravi

I wanted to congratulate you on the WAPO piece you wrote on bring science to the understanding of UFOs. I found it a thoughtful and carefully balanced piece.

Great work!

Regards

Mark

---

**Dr. Mark Clampin**  
**Director, Sciences and Exploration Directorate**  
**NASA Goddard Space Flight Center**  
[mark.clampin@nasa.gov](mailto:mark.clampin@nasa.gov)  
<http://science.gsfc.nasa.gov>

---

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Heather Hunter](#)  
**Subject:** Re: [EXTERNAL] Radio Interview - Washington, D.C. / WMAL - Tuesday 2/1 - Ravi Kopparapu  
**Date:** Tuesday, June 1, 2021 7:32:37 AM

---

Thank you. My lastname can be pronounced as Koppa-rapu.  
Ravi

---

**From:** Heather Hunter <(b) (6)>  
**Date:** Monday, May 31, 2021 at 10:28 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: [EXTERNAL] Radio Interview - Washington, D.C. / WMAL - Tuesday 2/1 - Ravi Kopparapu

Terrific. We'll call you tomorrow (Tuesday) at 8:35 am ET. Backup # if you need it: Studio hotline: (b) (6)  
(b) (6)

By the way, what is the best way to pronounce your last name? Thank you!

Heather  
WMAL Radio

On Mon, May 31, 2021 at 7:29 PM Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov> wrote:

Hello,  
I can join at 8:35am. My phone number is (b) (6)  
Best  
Ravi

---

**From:** Heather Hunter <(b) (6)>  
**Date:** Monday, May 31, 2021 at 10:44 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** [EXTERNAL] Radio Interview - Washington, D.C. / WMAL - Tuesday 2/1 - Ravi Kopparapu

WMAL's morning-drive radio show in Washington, D.C. would love to have **Ravi Kopparapu** join us on **Tuesday 2/1 at 6:35, 7:35 or 8:35 AM ET for 10 mins via phone.**

**TOPIC: Preview upcoming UFO report:**

**- Task Force Report On UFO Intelligence Expected By June 1**

The Unidentified Aerial Phenomena Task Force is set to share what it knows about UFOs by June 1.

<https://www.thedenverchannel.com/report-on-ufo-intelligence-expected-by-june-1>

- Ravi Kopparapu: We're asking the wrong questions about UFOs

<https://www.washingtonpost.com/opinions/2021/05/26/we-need-put-science-center-ufo-question/?>

[utm\\_campaign=wp\\_opinions&utm\\_medium=social&utm\\_source=facebook&fbclid=IwAR0XM9YWoBezK012zv1dL\\_6lxFU5C8A9XAcKyFJ3bjv3fw3MBcJwdnZ0-o0](https://www.washingtonpost.com/opinions/2021/05/26/we-need-put-science-center-ufo-question/?utm_campaign=wp_opinions&utm_medium=social&utm_source=facebook&fbclid=IwAR0XM9YWoBezK012zv1dL_6lxFU5C8A9XAcKyFJ3bjv3fw3MBcJwdnZ0-o0)

**SHOW:** Washington, D.C.'s popular morning-drive news-talk radio show "O'Connor and Company" is on WMAL and **hosted by LARRY O'CONNOR and guest co-host JOE CONCHA.** The show airs in the Washington, D.C. area (DC, VA, MD and West VA) from 5-9 AM ET on 105.9 FM and online at WMAL.com. Twitter @WMALDC.

Please let me know if he can join us and the best number to call.

Thank you!

Heather Hunter  
Executive Producer, O'Connor & Company  
WMAL Radio 105.9 FM  
4400 Jenifer Street NW, 4th Floor  
Washington, D.C. 20015  
(b) (6) mobile  
Studio hotline (b) (6)  
[www.wmal.com](http://www.wmal.com)  
Twitter: @heatherhunterdc / @WMALDC

WMAL is the #1 radio station in the Washington, D.C. area.

**Want to join the rest of Washington, D.C. in listening to WMAL?**

- Tune in to 105.9 FM on your radio dial.
  - Listen to our [WMAL app](#) on your smartphone or iPad.
  - Listen online at [www.wmal.com](http://www.wmal.com).
  - Tell your Amazon Alexa: "Hey Alexa, play W-M-A-L"
- <https://www.wmal.com/listenlive/>

Heather Hunter  
Executive Producer, O'Connor & Company  
WMAL Radio 105.9 FM  
4400 Jenifer Street NW, 4th Floor  
Washington, D.C. 20015  
(b) (6)  
Studio hotline (b) (6)  
[www.wmal.com](http://www.wmal.com)  
Twitter: @heatherhunterdc / @WMALDC

WMAL is the #1 radio station in the Washington, D.C. area.

**Want to join the rest of Washington, D.C. in listening to WMAL?**

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- Listen to our [WMAL app](#) on your smartphone or iPad.
- Listen online at [WMAL.com](#).
- Tell your Amazon Alexa: "Hey Alexa, play W-M-A-L"  
<https://www.wmal.com/listenlive/>

**From:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Date:** Tuesday, June 1, 2021 9:15:18 AM

---

[https://www.nytimes.com/2021/05/30/opinion/ufo-sightings-report.html?  
referringSource=articleShare](https://www.nytimes.com/2021/05/30/opinion/ufo-sightings-report.html?referringSource=articleShare)

**From:** [Jacob Haqq Misra](#)  
**To:** [Kevin Knuth](#)  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Eghigian, Greg](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)](#)[Science Collaborator]  
**Subject:** Re: [EXTERNAL] Re: Meeting to discuss UAP/UFO  
**Date:** Tuesday, June 1, 2021 11:30:56 AM

---

Works for me too. Talk to you all then!

On Mon, May 31, 2021 at 2:12 PM Kevin Knuth <(b) (6)> wrote:

Thank you, Ravi.  
That is a good idea.

Cheers  
Kevin

---

Kevin H. Knuth, Ph.D.  
Editor-in-Chief of Entropy  
Associate Chair, Physics  
Associate Professor of Physics  
University at Albany (SUNY)  
Albany NY 12222  
<http://knuthlab.org>

On Mon, May 31, 2021 at 2:03 PM Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Kevin,

I think we will start with the four of us first and see how it goes. I had some other people in mind as well, including Matthew, but maybe we can start the conversation first.

Best

Ravi

---

**From:** Kevin Knuth <(b) (6)>  
**Date:** Monday, May 31, 2021 at 1:52 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** "Eghigian, Greg" <(b) (6)> "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Subject:** [EXTERNAL] Re: Meeting to discuss UAP/UFO

Hello Ravi,

I think that this is an excellent idea.

I am available at that time and will put it on my calendar.

Ravi, did you want to include Matthew, or would it be better for it to be just the four of us?

I should note that this is after the upcoming SCU meeting that you might like to attend:

<https://scu.regfox.com/2021-scu-aapc>

[https://whova.com/embedded/speakers/svcft\\_202109/?utc\\_source=ems](https://whova.com/embedded/speakers/svcft_202109/?utc_source=ems)

I am putting together my presentation for that meeting, and when the slides are ready, I'll share them with you.

Cheers

Kevin

-----  
Kevin H. Knuth, Ph.D.  
Editor-in-Chief of Entropy  
Associate Chair, Physics  
Associate Professor of Physics  
University at Albany (SUNY)  
Albany NY 12222  
<http://knuthlab.org>

On Mon, May 31, 2021 at 9:41 AM Kopparapu, Ravi Kumar (GSFC-6990)

<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Greg, Jacob and Kevin,

We have had individual conversations on the common topic of UFO/UAP. I am copying all of us in a common email to decide on a date and time to discuss our perspectives on UFO/UAP and see if we could learn new insights.

Are you all available Tuesday June 15 from 1pm-2pm ? Any later time works as well for me. I will send a calendar invite and a zoom link once we confirm.

Best

Ravi

--

Ravi kumar Kopparapu

NASA Goddard Space Flight Center

Greenbelt, MD 20771

email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Beatriz Villarroel](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)](#)[Science Collaborator]  
**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.  
**Date:** Tuesday, June 1, 2021 12:37:18 PM  
**Attachments:** [IAA SETI PC Ad Hoc Subcommittee on UFOs.pdf](#)

---

Hi Beatriz,

Spectral technosignatures are those when we observe the atmosphere spectra of a planet and see if we could detect any signs of extra-terrestrial technology. Pollution caused by technological activity is one such signature. Here is a paper that we published as an illustrative example of how Nitrogen dioxide can be used as one such technosignature:

<https://ui.adsabs.harvard.edu/abs/2021ApJ...908..164K/abstract>

Jacob has a paper in review that discusses how Chloroflorocarbons (CFCs) can be used to detect ET technology. The wonderful thing about this pollutant is that JWST may be able to detect CFCs on Trappist-1e, faster than bio-signatures, if present. Jacob can send you the paper, if you want.

As for the IAA SETI UAP report, the majority report proposes to exclude UAP abstracts for consideration, and also suggests to propose criteria under which such abstracts would be acceptable to IAA SETI. I am attaching both the majority and minority reports with this email. I request that you to limit the distribution to only the three of us for now, until the committee makes it public.

Thanks

Ravi

---

**From:** Beatriz Villarroel <(b) (6)>  
**Date:** Tuesday, June 1, 2021 at 12:06 PM  
**To:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.

Spectral technosignatures sounds really exciting! Is it a new work or a published one already? I'm looking very much forward to hear more.

I really hope you will have an opportunity to say something about the minority report. I share the same sentiments as you do about UAPs. I haven't quite followed the status of the majority report -- what is the current conclusion from Jason Wright et al.?

I haven't heard anything more from Claudio. ^^

Den tis 1 juni 2021 kl 16:35 skrev Jacob Haqq Misra <(b) (6)>

Agreed that it is worth contacting Claudio to share about some of your efforts with VASCO in Africa.

For the UAP part of the agenda, Jason is planning on leading the conversation and will talk about the majority and minority reports. We may have an opportunity to say something briefly about the minority report.

The astrobiology and SETI item on the agenda I believe is for us to talk about spectral technosignatures, including some of the work we have done and also mentioning the NExSS TS working group.

On Tue, Jun 1, 2021 at 9:47 AM Beatriz Villarroel <(b) (6)> wrote:

I hope that too! :-)

Den tis 1 juni 2021 kl 14:46 skrev Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>:

Wonderful ! I hope they will get a chance to share their work.

---

**From:** Beatriz Villarroel <(b) (6)>  
**Date:** Tuesday, June 1, 2021 at 9:43 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.

Hi Ravi!

Thank you so much for your kind help. I wrote a small note to Claudio about it, and recommended him to contact either Onyeuwaoma or Khaoula regarding the citizen science efforts.

He hasn't replied yet -- let's see where it lands :)

//B.

Den tis 1 juni 2021 kl 14:33 skrev Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>:

Hi Beatriz,

I think you definitely should ask Claudio to include the African effort in the SETI. You are the PI of the project, so your initiative in highlighting the great work of your team members will go a long way in recognizing their efforts by the international SETI

community. If you cannot or do not want to, I could ask Claudio.

Ravi

---

**From:** Beatriz Villarroel <(b) (6)>  
**Date:** Tuesday, June 1, 2021 at 9:29 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.

Hi Ravi!

I think we will get our referee reports within one or two weeks. I saw that one referee already gave back the report within one hour of receiving the paper -- so if the second isn't too late it might come soon... Once I have the paper accepted, I'll send it to you.

Yes, they are doing absolutely amazing efforts with the citizen science project. Our leading figures coordinating the citizen science efforts are Khaoula Laggoune and Zeyneb Aissani in the Sirius Astronomy Association that involved several different amateur astronomy groups in North Africa, and Onyeuwaoma Nnaemeka Dom at the Center for Basic Space Science in Nigeria who involved many students and scientists in Nigeria and Cameroon. In Nigeria, they struggle a lot with accessibility to basic tools as computers -- many of the researchers and students there don't even have Internet. So I've been applying for grants to pay their wifi connection, at least. I can't even express how valuable work they are doing. Even if we don't find ET in the long run, I really wish the VASCO citizen science project can help to inspire the students into astronomy in less economically privileged countries and be a helpful tool in their astronomy education. The plan is to summarize our common efforts together into a paper after summer and submit to ApJ or AJ.

Best wishes,  
B.

Den tis 1 juni 2021 kl 13:53 skrev Kopparapu, Ravi Kumar (GSFC-6990)

<ravikumar.kopparapu@nasa.gov>:

Hi Beatriz,

I had not realized that many African countries are part of (or leading) the VASCO citizen science. This certainly should be brought up to Claudio's attention. Otherwise, people will not know or think that there is an active SETI search is going on over there.

I am not hopeful that the UAP report will give us anything new. But we will see.

Ok, let's see what the reviewers comments are about the paper. When are you expecting them?

I think Jason is scheduled to bring up UAP. Jacob and I are scheduled for an astrobiology session time, which I am not sure what it is about. Perhaps Jacob knows.

Best

Ravi

---

**From:** Beatriz Villarroel <(b) (6)>

**Date:** Tuesday, June 1, 2021 at 8:24 AM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>

**Subject:** [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.

Hi Ravi and Jacob!

I just saw on the IAA SETI program you will bring up

UAPs on the IAA SETI meeting. This is really great.

I'm looking forward. I'll join the meeting.

Claudio forgot the entire continent of Africa

for the "reports around the globe" section on the IAA SETI meeting and their leading role in the VASCO citizen science... we crossed 110 000 classifications yesterday!

I'm quite wondering what the famous Pentagon UFO report will show today.

I really hope whatever they bring up, won't be used as a political means to stir up a war...

I'm waiting for the second round of referee reports for the "simultaneous transients" paper. We included a fairly extensive discussion about the possibility of glints from small, metallic and flat objects on the orbits around the Earth in 1950s, so I'm not sure what the referees will say about it...

//B.

----- Forwarded message -----

Från: **Beatriz Villarroel** <(b) (6)>

Date: tis 1 juni 2021 kl 12:17

Subject: Re: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.

To: <(b) (6)>

Hi Claudio,  
You missed to include reports from Africa...

//B.

tisdag 1 juni 2021 skrev 'Claudio Maccone' via community <(b) (6)>

Dear SETI Supporters,

Please find attached herewith the Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.

Suggestions welcome: if possible, I'll be glad to take them into account.

Thanks for your attention and best wishes.

Claudio (Maccone)

Chair, IAA SETI Permanent Committee

—

Find the IAA SETI website at: <https://iaaseti.org>

Find the upcoming SETI meeting calendar at: <https://iaaseti.org/en/meetings/>

Code of Conduct (Interim):

<https://www.aiaa.org/about/Governance/Code-of-Ethics>

<https://www.aiaa.org/about/Governance/Anti-Harassment-Policy>

--- To unsubscribe from this group and stop receiving emails from it, send an email to [community+unsubscribe@iaaseti.org](mailto:community+unsubscribe@iaaseti.org).

## Report of the Ad Hoc Subcommittee on UFO Studies with Respect to IAA SETI Permanent Committee Business

In response to an online discussion on the community list regarding the rejection of UFO-related abstracts at a Permanent Committee meeting, this ad hoc subcommittee met to draft a document explaining the position of the Permanent Committee on the topic, and to recommend further actions.

There was considerable discussion and difference of opinion in the ad hoc subcommittee on both the nature of UFO research and its propriety for the Permanent Committee. Many members' positions were nuanced, but broadly speaking many felt that UFO studies were inherently inconsistent with the work of the committee and out of scope; others felt that UFO studies should be included if they could satisfy certain criteria for scientific rigor and relevance to the Permanent Committee's goals.

Several factors complicated the conversation. One was that the existing terms of reference explicitly exclude UFO studies, but the draft revision to the Terms of Reference circulated to the Committee by the executive on 28 November 2020 do not. Another is that a few UFO-related abstracts have been accepted in the past, and there was a strong desire from some members to lay out explicit criteria under which they would be accepted in the future.

A large majority of the subcommittee supported the Permanent Committee examining these potentially contentious issues in more detail, for instance through polling of the membership, defining the scope of the committee more precisely, and having more guidance regarding the acceptance criteria for abstracts.

A plurality of the subcommittee supported the following positions:

- UFO studies can, in principle, be conducted well and have significant scientific value
- UFO studies are generally out of scope for the Permanent Committee
  - One reason is that the PC has historically focused on astronomical and social aspects of SETI, which use different methods (astronomy and social science) than employed in UFO studies
  - Another reason is that UFO studies in general have not met the necessary evidentiary criteria for demonstrating that UFOs might have anything to do with alien technology
- There is no bar or prejudice against any PC member who, in addition to their work relevant to the PC, also engages in UFO-related research

Therefore, a majority of the subcommittee recommends that the Permanent Committee:

1. Change the wording of the scope of the committee in its terms of reference [Draft, 28 November 2020] to read that it “examines topics related to the possible existence of extant or extinct intelligent and/or technological life having arisen beyond Earth.” [i.e. strike “all” from “all topics”]. If that draft is not adopted and the old terms of reference are retained, similarly strike “all” from the second sentence of the old terms.
2. If the draft terms of reference are adopted, add a UFO exclusion reading “the committee’s work does not include studies of UFOs or Unidentified Aerial Phenomena” (i.e., maintain the exclusion that was in the original ToR.)
3. Adopt a statement (given below) explaining this exclusion
4. Convene a subcommittee or subcommittees charged with **some or all** of the following, at the PC’s discretion:
  - Defining the scope of work of the Permanent Committee
  - Formalizing the process by which abstracts are accepted or rejected
  - Polling Permanent Committee members on their positions regarding UFO research
  - Exploring the boundaries between UFO research and SETI, in particular the extent to which they complement or diverge from one another
  - Considering and making recommendations regarding whether to uphold, modify, or remove the exclusion on UFO research. This could, in principle, include laying out specific criteria whereby UFO abstracts would be accepted.

A minority of the subcommittee objects to a categorical bar against UFO-related research for the time being, even paired with a recommendation that the Permanent Committee re-examine that bar in the near future, and recommends that the PC reject the first two recommendations. This minority recommends that the PC:

1. Remove this sentence from the terms of reference: “These terms of reference exclude any consideration of UFO phenomena.”
2. If the draft terms of reference from 2020 are adopted, then they should not include any statements that exclude the PC from consideration of UFO phenomena.
3. Draft a longer document that explains the criteria by which abstracts will be evaluated for relevance to the IAA SETI PC.
4. Consider performing further work to explore and constrain any boundaries between ongoing UFO studies and astronomical SETI. Such efforts could include building collaborations with existing organizations that engage in the scientific study of UFOs.

Attached below are the two reports from the subcommittee for the PC to consider when deciding which recommendations to follow.

# Majority Report of the Ad Hoc Subcommittee on UFO Studies with Respect to IAA SETI Permanent Committee Business

Anamaria Berea, Julia DeMarines, Kathryn Denning, Steven Dick, Greg Eghigian, Chelsea Haramia, Franck Marchis, Julia De Marines, Hector Socas-Navarro, Clément Vidal, Jason T. Wright

## Summary:

In response to an online discussion on the community list regarding the propriety of UFO-related abstracts at Committee meetings, this ad hoc subcommittee met to draft a document explaining the exclusion of such work and to recommend further actions. There was considerable discussion and difference of opinion regarding where the boundary between UFO studies and the activities of the committee should lie. The majority opinion was to let the exclusion stand. We recommend slightly altering the terms of reference to reflect this, issuing a statement explaining the exclusion. We also recommend the committee consider an additional, longer document explaining the full scope of the committee. We acknowledge the interest of committee members and members of the community in more fully exploring the boundaries between UFO studies and astronomical SETI, including whether it should be moved.

## Recommendations to the PC:

1. Change the wording of the scope of the committee in its terms of reference [Draft, 28 November 2020] to read that it “examines topics related to the possible existence of extant or extinct intelligent and/or technological life having arisen beyond Earth.” [i.e. strike “all” from “all topics”]. If that draft is not adopted and the old terms of reference are retained, similarly strike “all” from the second sentence of the old terms.
2. If the draft terms of reference are adopted, add a UFO exclusion reading “the committee’s work does not include studies of UFOs or Unidentified Aerial Phenomena” (i.e., maintain the exclusion that was in the original ToR.)
3. Adopt the below statement explaining this exclusion
4. Convene a subcommittee or subcommittees charged with **some or all** of the following, at the PC’s discretion:
  - Defining the scope of work of the Permanent Committee
  - Formalizing the process by which abstracts are accepted or rejected
  - Polling Permanent Committee members on their positions regarding UFO research
  - Exploring the boundaries between UFO research and SETI, in particular the extent to which they complement or diverge from one another
  - Considering and making recommendations regarding whether to uphold, modify, or remove the exclusion on UFO research. This could, in principle, include laying out specific criteria whereby UFO abstracts would be accepted.

**Statement:**

The Permanent Committee on SETI for the International Academy of Astronautics “examines topics related to the possible existence of extant or extinct intelligent and/or technological life having arisen beyond Earth.” The question has arisen as to why the committee does not consider the study of Unidentified Flying Objects (i.e. UFOs, or the related concept of Unidentified Aerial Phenomena or UAPs) to be within its purview. Indeed, given that there is a popular association of them with alien technology, it is understandable that it seems strange to many that the committee does not include the investigation of UFOs as having extraterrestrial origin in its scope.

There are two reasons for this exclusion.

The first reason is based on the nature of the evidence for UFOs. The cultural association of UFOs with alien spacecraft is primarily driven by social trends, not by strong, durable physical evidence that has withstood objective scientific scrutiny. As such, their study has no strong connection to the goals of the committee.

A second reason is related to the scope of work the committee does. Since its inception, the committee has focused on the astronomical search for technological life, for instance using telescopes to search for radio waves, and the policies and practice concerning potential detection of alien life. As such, committee membership comprises primarily astronomers who specialize in these detection methods (in addition to experts in other domains).

The committee appreciates that studies of UFOs are done around the world with varying methods and varying degrees of rigor, but given that those studies are not our focus or our expertise, we have not reviewed them as a committee. Such work is the purview of experts in atmospheric science, aviation, military equipment, aircraft sensors and cameras, aerodynamicists, psychologists, and the like. The vast majority of their work will involve identifying UFOs using methods that committee members are unfamiliar with, and so are beyond the committee’s scope.

Although this committee does not generally include research into UFOs/UAP in its activities, we do not assert that such research is necessarily inappropriate or unscientific, or that Committee members should not individually engage in such work. Although as a committee, we do not collectively evaluate the scientific merit of claims about UFOs being extraterrestrial in origin, we do appreciate the value of such scientific reviews and assessments. Collectively, our activities focus on the astronomy-based search for evidence of extraterrestrial intelligence and closely related topics.

Finally, we note that the committee does occasionally accept abstracts for topics outside its scope at its meetings; however, we expect such exceptions to be rare and well justified.

# Minority Report of the Ad Hoc Subcommittee on UFO Studies with Respect to IAA SETI Permanent Committee Business

Jacob Haqq-Misra, Ravi Kopparapu

## Summary:

A document drafted by an ad hoc subcommittee advocates for the exclusion of UFO studies from the activities of the IAA SETI Permanent Committee (PC), which nominally represents the majority opinion of the ad hoc subcommittee. As an alternative to this majority opinion, the present document is a minority report that instead argues for the inclusion of UFO studies among the activities of the PC in some cases. We recommend altering the terms of reference to reflect this broadened scope. We acknowledge that not all committee members may be personally interested in scientific investigation of UFOs, but we argue that any UFO investigations that demonstrate genuine scientific merit and relevance to the IAA SETI PC should not be automatically excluded.

## Recommendations to the PC:

- Remove this sentence from the terms of reference: "These terms of reference exclude any consideration of UFO phenomena."
- If the draft terms of reference from 2020 are adopted, then they should not include any statements that exclude the PC from consideration of UFO phenomena.
- Draft a longer document that explains the criteria by which abstracts will be evaluated for relevance to the IAA SETI PC.
- Consider performing further work to explore and constrain any boundaries between ongoing UFO studies and astronomical SETI. Such efforts could include building collaborations with existing organizations that engage in the scientific study of UFOs.

## Statement:

The primary goal of the IAA SETI PC is "to examine all aspects of possible future contact with extraterrestrial civilizations, with special reference to international issues and activities." The terms of reference state that this goal should be supported by activities that include "planetary science missions designed to search for evidence of extraterrestrial life, the astronomical search for extrasolar planets, and the recovery of possible Martian microfossils on the Earth." Similarly, the draft terms of reference from 2020 state that the IAA SETI PC "examines all topics related to the possible existence of extant or extinct intelligent and/or technologically capable life having arisen beyond Earth" and emphasize that "special attention is paid to international and interdisciplinary issues and activities."

The question recently arose as to why the current IAA SETI PC terms of reference explicitly exclude UFO (Unidentified Flying Objects) or UAP (Unidentified Aerial Phenomena) studies from consideration. We acknowledge that this exclusion may have been driven by a desire to delineate the scientific activities of SETI from cultural trends that associate UFOs with extraterrestrial life. However, we suggest that the broad exclusion of UFOs/UAP from the IAA SETI PC could undermine the ability of the committee to genuinely "examine all aspects of possible future contact with extraterrestrial civilizations" because such an exclusion neglects an important scenario that is otherwise considered within the scope of traditional SETI.

Earth provides the only known example of technosignatures. Any other concepts for technosignatures arise from projections of future Earth based on concepts that are physically plausible, even if they may not be realistic for the near future of our own civilization. The idea of searching for radio/optical beacons, megastructures, or terraforming all invoke future scenarios of civilization on Earth that could lead to such detectable technosignatures. One such scenario is the idea that extraterrestrials might send exploratory spacecraft to the Solar System. Searching for evidence of such nearby extraterrestrial technology has been described as Solar System SETI or the Search for Extraterrestrial Artifacts (SETA).

The SETA scenario was first proposed by Ron Bracewell in 1960 and has been explored by many other SETI researchers since. A handful of SETA searches have been conducted, which include observations of Earth-moon Lagrange points and analysis of high-resolution lunar images. Such searches are motivated by the scenario that extraterrestrial technology could be resident in the Solar System, and perhaps even on a planetary surface. If extraterrestrial technology actually does exist within the Solar System, then its detection would be directly relevant to the primary goal of the IAA SETI PC.

Free-floating extraterrestrial artifacts might be detectable with current or future observatories. Any artifacts on the surface of a planet or moon might be detectable through analysis of high-resolution images as well as robotic or crewed exploration. But what if an extraterrestrial artifact were to enter Earth's atmosphere? The observation of such an artifact would technically be considered a UFO/UAP until further data could be collected to assess its identity. Would the observation of such a phenomenon be relevant to the SETI research community?

The blanket prohibition on "any consideration of UFO phenomena" by the IAA SETI PC thereby remains at odds with full exploration of the SETA hypothesis. We acknowledge that the vast majority of UFO/UAP sightings have nothing to do with extraterrestrials, and it is even possible that there are no examples of known UFO/UAP events that would qualify as relevant to SETI. But the SETA hypothesis includes the possibility that an extraterrestrial artifact could enter Earth's atmosphere. Such a phenomenon would be classified as a UFO/UAP, and thus would be out of scope for the PC. In such a scenario, the exclusion of "UFO phenomena" would prevent the PC from achieving its ultimate goal of "contact with extraterrestrial civilizations." Likewise, this exclusion would contradict the goal of the PC to examine "all topics related to the possible existence of... technologically capable life."

We do not suggest that the PC invite any and all UFO/UAP abstracts for consideration, as we fully acknowledge that many such abstracts have nothing to do with scientific SETI or do not follow agnostic scientific methodology. Instead, we urge the PC to clarify the process or rubric by which abstracts will be assessed for relevance. We urge the PC to recognize that the success of SETI will require increasing interdisciplinary collaboration, and so the activities of the IAA SETI PC should be inclusive of all areas of scientific inquiry that could lead to the discovery of extraterrestrial technology.

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Beatriz Villarroel](#)  
**Cc:** [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.  
**Date:** Tuesday, June 1, 2021 12:54:39 PM

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Thank you!

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**From:** Beatriz Villarroel <(b) (6)>  
**Date:** Tuesday, June 1, 2021 at 12:51 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.

Thanks a lot! I'd be happy to read the paper you have in review -- and I shall also read the Nitron dioxide paper the coming days.

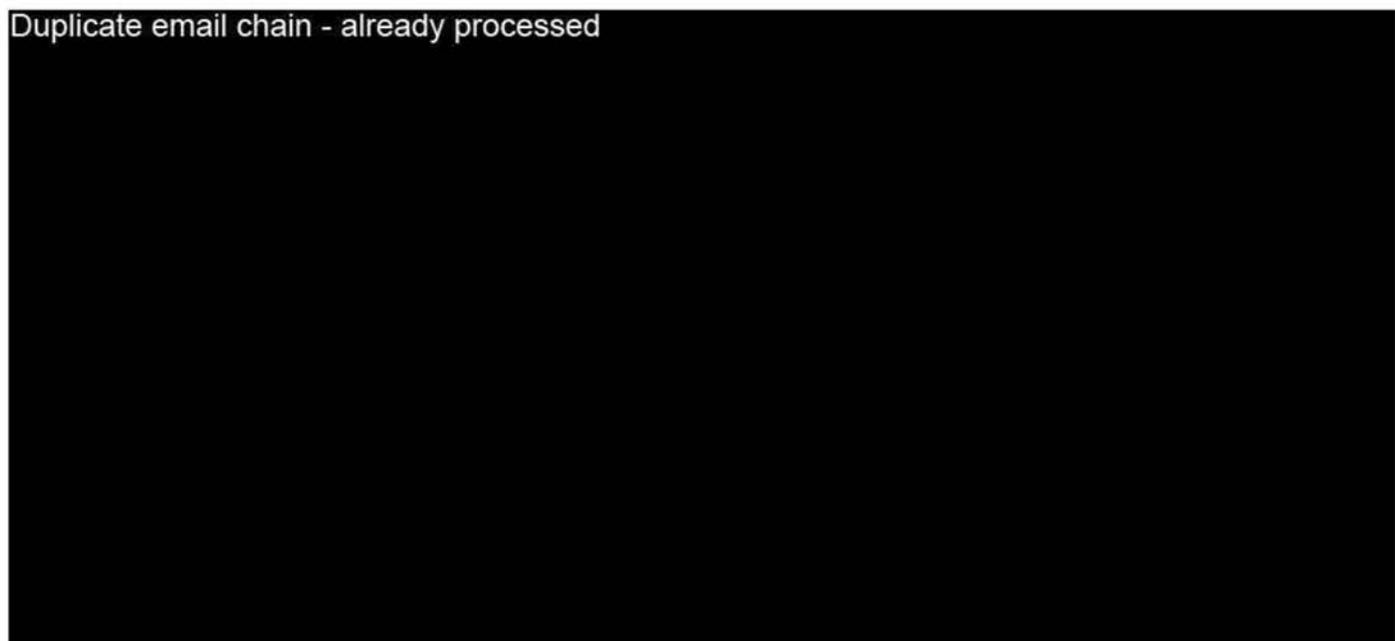
Thanks for sending the minority and majority report -- this will be read today.

Of course, I will not share the papers with anyone. In return, I attach links to the paper about the simultaneous transients (the files are big, and need to be downloaded):



Den tis 1 juni 2021 kl 17:37 skrev Kopparapu, Ravi Kumar (GSFC-6990)  
<ravikumar.kopparapu@nasa.gov>:

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

5 page(s) containing duplicate information is/are held in the file.

**From:** L K Tucker  
**To:** ravikumar.kopparapu@nasa.gov; Kopparapu, Ravi Kumar (GSFC-6990)  
**Subject:** [EXTERNAL] Your UFO article in Scientific American different explanation  
**Date:** Tuesday, June 1, 2021 1:40:35 PM

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Il read your article \_ 'Unidentified Aerial Phenomena,' Better Known as UFOs, Deserve Scientific Investigation \_ in Scientific American.

No one is publishing information to argue UFOs are a plasma phenomenon. Think of Ball Lightning. There is video from aTV news repory showing ball lightning mooving like the unidentified objects.

Thoughts?

Are some of the single person sightings a problem everyone has discovered by design engineers in 1964 when it caused mental breaks for office knowledge workers? Seen as temporary panicked episodes of confusion, they are sometimes so severe as to cause hallucinations.

Unknown in mental health services the episodes are mistaken for mental illnes. A problem of the physiology of human sight, happening in places other than offices, no one including NASA takes precautions to avoid Visual Subliminal Distraction exposure in situations where the "special conditions" for it exist for long hours daily, and for significantly long time periods.

The problem can explain psychological problems aboard space flights.

*L K Tucker*

***VisionAndPsychosis (dot) Net ..*** is a collection of investigative materials for my own use. Most site visitors are convinced when they perform my demonstration of subliminal sight and habituation of conscious sight in peripheral vision linked at the top of site pages. You will witness detected movement vanish, disappear from sight, while you observe it in peripheral vision. That's how exposure begins, then continues, happens subliminally, thus is UNDETECTABLE. The "**Site Outline**" page has the unrealized history of the phenomenon, my investigation methodology, and two places to verify the problem exists, believed harmless.

*This demo tests the ability to suppress the vision startle reflex necessary for my **successful experiment** to cause depression. Some cannot do that. They are immune from Subliminal Distraction caused psychiatric symptoms. If the movement does not vanish, have someone else perform the demo and report what happened*

***My site is organized around stories of unexplained mental events where the activity has the "special circumstances" for Subliminal Distraction such as ICU Psychosis, QiGong & Kundalini Yoga mental breaks, LGATS mental breaks, and some Culture Bound Syndromes. Those pages redirect the site visitor back to the Home page.***

***No one would search for "visual subliminal distraction."***

***Email any questions.***







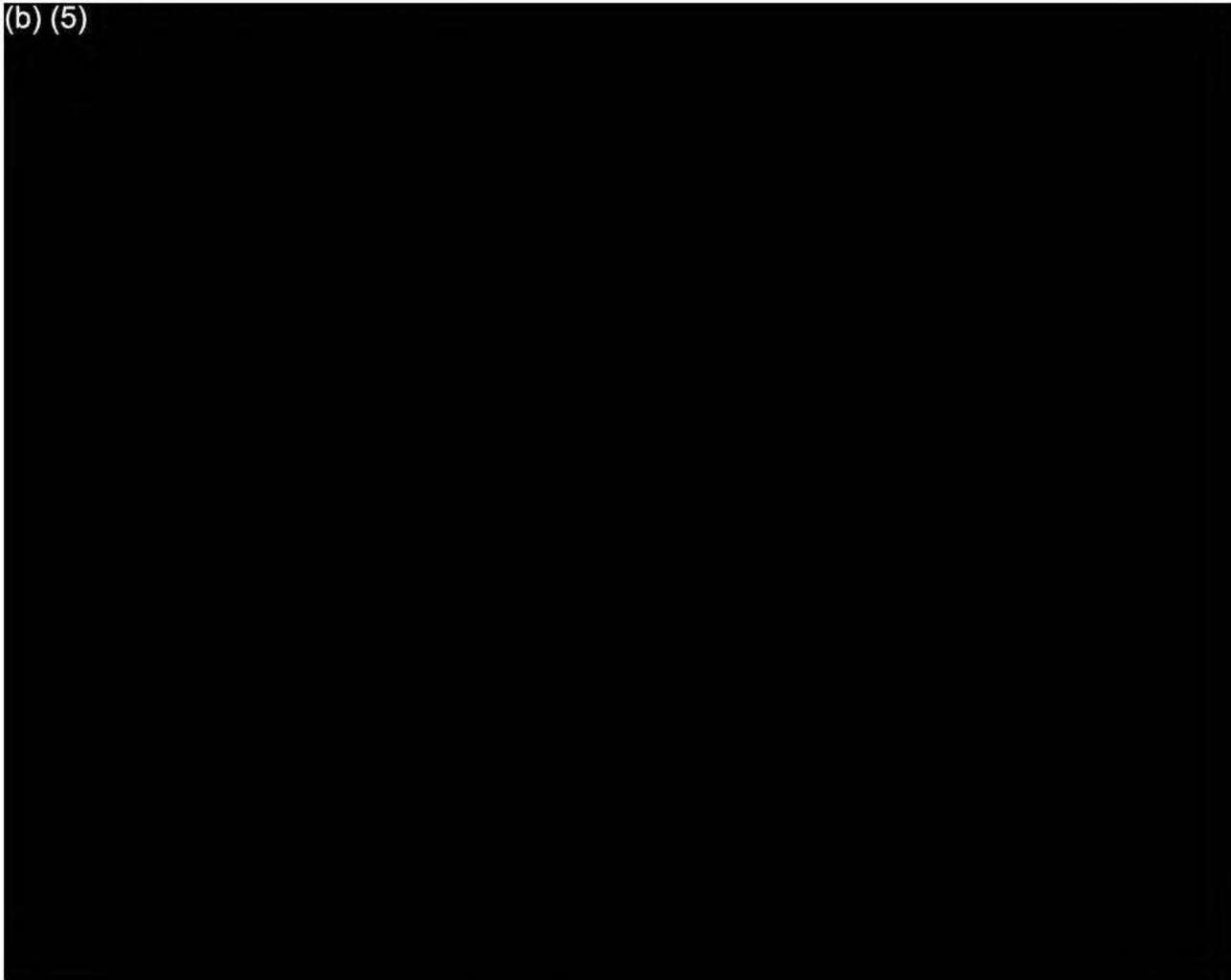
**Subject:** RE: I need your help

Rani

Good point...

My take on "aliens" has always been:

(b) (5)



JIM



Dr. James B. Garvin [Senior Fellow & Chief Scientist]

**DAVINCI+** Principal Investigator : *A giant leap forward in Venus exploration*



NASA Goddard Space Flight Center  
8800 Greenbelt Road  
Greenbelt, MD 20771 USA





--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** "Garvin, James B. (GSFC-6000)" <[james.b.garvin@nasa.gov](mailto:james.b.garvin@nasa.gov)>

**Date:** Tuesday, June 1, 2021 at 10:40 AM

**To:** Rani Gran <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>

**Subject:** Re: I need your help

Did I help?

Jim

Dr. Jim Garvin  
NASA Goddard Chief Scientist

---

On: 01 June 2021 10:18, "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)> wrote:

One of our scientists had an interview this morning on UFOs. And one answer may get taken out of context.

Could you help me find a better way for him to answer the following question? How would you have answered and pivoted to a message point in a live interview.

The question, in the process of studying exoplanets and life, Do you worry that you are poking a bear? What if you find something that you would prefer that would not come out?

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center

Greenbelt, MD. 20771

Work Cell : (b) (6)

Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

**From:** Kopparapu, Ravi Kumar (GSFC-6990)  
**To:** Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]  
**Date:** Tuesday, June 1, 2021 2:57:29 PM

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right, I would probably phrase the (b) (5)

(b) (5)

Perhaps, something like, (b) (5)

(b) (5)

For instance, I

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Beatriz Villarroel](#)  
**Subject:** Re: [EXTERNAL] Re: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.  
**Date:** Tuesday, June 1, 2021 5:46:30 PM

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Yes! 2pm London/9am D.C time works great! Here is the zoom link:

<https://us02web.zoom.us/j/6411016198>

See you!

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**From:** Beatriz Villarroel <(b) (6)>  
**Date:** Tuesday, June 1, 2021 at 5:33 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** [EXTERNAL] Re: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.

How about at 2pm London time? (9 am for you?)

tisdag 1 juni 2021 skrev Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>:

Absolutely, please choose your time! I am totally free tomorrow.

---

**From:** Beatriz Villarroel <(b) (6)>  
**Date:** Tuesday, June 1, 2021 at 5:19 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** [EXTERNAL] Re: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.

Sure! How about tomorrow?

//B.

tisdag 1 juni 2021 skrev Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>:

Beatriz,  
Do you have few minutes to talk with me this week? I will send a zoom link.  
Thanks  
Ravi

---

**From:** Beatriz Villarroel <(b) (6)>  
**Date:** Tuesday, June 1, 2021 at 12:51 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent

Duplicate email chain - already processed

## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

6 page(s) containing duplicate information is/are held in the file.

From: (b) (6)  
To: ravikumar.kopparapu@nasa.gov; (b) (6)  
Subject: (b) (6) [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
Date: [EXTERNAL] Fwd: ARTIFACTs from Supernatural Beings could help you excel (1 of 4)  
Wednesday, June 2, 2021 5:46:14 PM

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From: (b) (6)

If you need a time reference, I live in TEXAS in the Central Time Zone.

Primary email (b) (6)  
Secondary email (b) (6)

WILL YOU QUESTION THE REASON THE PENTAGON HAS NOT INVESTIGATED MY ENCOUNTERS?

I have not heard a response. I have inform the Pentagon about my encounters with Supernatural Beings. I am not sure is President Biden Administration is as willing as the Trump Administration to reveal any type of information that is not **Human**.

I am not a Democrat nor a Republican. I am for the party that shows leadership.

(b) (6)

-----O  
From: (b) (6)  
To: (b) (6)  
(b) (6)  
Sent: Tue, May 18, 2021 7:41 pm  
Subject: ARTIFACTs from Supernatural Beings could help you excel (1 of 4)

Forward to (b) (6)

From: (b) (6)

If you need a time reference, I live in TEXAS in the Central Time Zone.

Primary email: (b) (6)

Secondary email: (b) (6)

[The Pentagon Has 6 Months to Disclose What It Knows About UFOs | Military.com](#)

Supernatural Beings showed me the **MAP** to the Garden of Eden **EXACT** location.

If you dig deep enough you might find **advance technology** that Cherubims may have left behind or artifacts that **God touch**.

The U.S. Government presenting plans to investigate my encounters could open the doorway to some answers you search for.



SEND TO THE **GOVERNMENT** IN THE FOLLOWING COUNTRIES IF THEY PEACEFULLY SEARCH FOR ADVANCE TECHNOLOGY.

- BELGIUM
- CANADA
- FRANCE
- ITALY
- RUSSIA
- UNITED KINGDOM
- UNITED STATES



**How many artifacts have anybody found from other Beings or Spaceships?**

You will gain knowledge and answers to some of your questions if you find **artifacts** from other Beings or Spaceships that you search for. Something you can touch.

Looking for answers by analyzing videos is not your only option, it can raise more questions. Excavating the **Garden of Eden** could answer some questions.

- \* Maybe the **Cherubims** left us information about the Spaceships.
- \* Maybe the **Cherubims** left a box of technology.
- \* Maybe the **Cherubims** left us artifacts.

Investigating **my encounters** involves digging. The U.S. Government should not avoid putting extra effort to investigate **other abnormal findings**.

The different committees in the U.S. Government might not have the same beliefs because the Jewish scholars agree that there are two types of spiritual places called "Garden in Eden". The misconception is taught because they can not find the physical location of the Garden of Eden on Earth. This could cause unbalance agreements and closed minds to investigate my encounters.



In April 2021, I was watching a talk show and partially heard a person mention a UFO shape like a pyramid. I google UFO pyramid and found a video of Jeremy Corbell.

Jeremy seems very worry about the Spaceships. If the Unidentified Aerial Phenomena Task Force (UAPTF) would at least try to investigate all possibilities or abnormalities they might gain other knowledge that could be helpful. The Supernatural Beings showed me the map to the Garden of Eden exact location.

Buried underneath the Garden of Eden could have advance technology and artifacts that the **Cherubims** may have left behind. There could be something **unknown** to Humans underneath the surface.

Searching for advance technology and artifact that the **Cherubims** may have left behind can be **easier** than excavating 200 million years old Dinosaurs' bones because Dinosaurs' bones are buried deeper.

The DOWNFALLS of the PEOPLE that are looking for answers are; their minds are program to believe the people that taught them in College, Church and at Work and **not to believe abnormal information** available or not taught.

These people think the subject matters that was not taught are **nonsense** or **not possible**.

## **SUPERNATURAL BEINGS SLOWED DOWN MY AGE**

#1. I am using the term Supernatural Beings in order to communicate with the **Atheists**

and the different **Religion groups**. Afterwards you can give your own interpretations

if it is God's Angels or the reported Alien spaceships flying.

\* October 1989 when I was 30 years old living in the Netherlands, a Supernatural Being dressed as a Leopard gave me the formula to fight the aging process in my body. I now look **ageless** at 62 years old.

The person dressed as a Leopard came to me and said "**Jeremiah 13:23, this will make you faster and stronger.**"

\* January 2019 after I turned **60 years old** the Supernatural Beings forbid me to drink the RAELHU. They wanted me to save the compound formula and to keep emailing the Biotech companies.

\* January 2021 the Supernatural Beings came for the compound formula because the Biotech companies were not interested.

\* January 2021 the Supernatural Beings gave me a Nutritional Plan that is out of this world compared to other Human-made Nutritional Plans.

The Nutritional Plan is catered to the people that are sitting most of the day, or for Heart health, High Blood Pressure and Type 2 Diabetes.

\* January 2021 the Supernatural Beings left Earth.

\* 2009 I was given knowledge that the Being dressed as a Leopard was a Supernatural Being.

\* 2009 the Supernatural Beings had me to buried one compound in a bottle. I do not know the reason, but now the compound is 10 years old. The used bottle still has the expiration 23 Sep 2011 stamped. (see photo in part 3 of 4 email)

- \* 2009 the Supernatural Beings gave me the summary of the correct interpretation of Daniel 9:24-27.
- \* 2009 the Supernatural Beings show me the **MAP** to the Garden of Eden **EXACT** location.
- \* Supernatural Beings gave me over 100 predictions of dates for Sun Eruptions, Solar Flares and other Sun activities that came true for 2011 to 2013. I also emailed the dates to **NASA** before the Sun activities occurred from 2011 to 2013 as proof.

### **My encounters with the Supernatural Beings has more truth and evidence than the people that you agree to believe.**

The **SUPERNATURAL BEINGS** said your Minister, Preacher, Pastor, Rabbi, Bishop, Scholar, Public Figure, Religion leader and teacher that say God spoke to them are **LIARS** and think they can repent later to avoid **Revelation 21:8**.

God left Earth during the ancient days. In **Malachi 3:1** God is saying He will return to Earth after the messenger and Jesus the Messenger of the Covenant.

### **I am a HEBREW like the others:**

**Genesis 14:13\_** the messenger Abraham (Abram) Was a **Hebrew**.

**Genesis 39:17\_** the messenger Joseph the son of Jacob was a **Hebrew**.

**Exodus 2:7\_** the messenger Moses was a **Hebrew**.

**1st Samuel 29:3\_** the king David was a **Hebrew**.

**Jonah 1:9\_** the prophet Jonah was a **Hebrew**.

### **THIS IS PROOF THAT THEY EXIST...**

Supernatural Beings showed me the **MAP** to the Garden of Eden **EXACT** location.

Supernatural Beings came to me **PHYSICALLY**. Their bodies you can touch. This is not a mental thought in my brain.

#2. If you dig deep enough you might find **advance technology** that Cherubims may have left behind or artifacts that **God touch**. If so, your findings should not be deeper than the 200 million years old Dinosaurs' bones excavated in America.

#3 The Garden of Eden is smaller than some of the subdivisions in America. **It should not take several months to find the Tree of Life**. Why wait several years for Scientists to find a cure for aging and other death threatening diseases.

#4. The location of the Garden of Eden is safer than sections of Chicago, Detroit, and New York City.

#5. I will show a picture as proof that the Supernatural Beings showed me the **MAP** to the Garden of Eden **EXACT** location in **2009**. Now is the time to be reveal.



**"TREE OF LIFE WAS FOR THE CHERUBIMS THAT WERE STATION IN THE GARDEN OF EDEN."**

If you want a long youthful life like the Cherubims; the Tree of Life could still be yielding fruit or a partial of the tree could be underground.

- #1. I have learned that it would be more **BENEFICIAL** to reach out to Governments in countries that will know how to manage the **UNKNOWN** findings in the Garden of Eden.
- #2. The Government should think positive that the Cherubims might have left some technology behind. The Government can gain faster results in searching for new technology in the Garden of Eden than the billions of dollars spent on other **Space projects**.
- #3. Concerning the Tree of Life; the Government would produce a powdered form or juice for Longevity, Chronic Diseases, and Infectious Diseases.
- #4. For a short period of time the Government can give portions of the Tree of Life to the people with Chronic Diseases until they are heal. For now it is not good to try to supply over 7 billion people to the Tree of Life to consume regularly.

**"The Government can secure and protect the Tree of Life like it was Uranium."**

Once you find the Tree of Life you can manufacture it in **POWDERED FORM** or a **JUICE** and grow more trees in several gigantic greenhouses. (L ke App Harvest greenhouse in Kentucky the largest in North America) Secure the factory and greenhouses like area 51 and military bases.

The fruit from the Tree of Life must be consume **regularly**, that was the reason the Tree of Life **stayed** in the Garden of Eden for the Cherubims.

The Government Official must come to **Texas** to meet me in person so I can explain the **MAP** for the Garden of Eden. The meeting location will be inside the airport terminal.

I will show the Government Official the **EXACT** location of the Garden of Eden. I have the **special map** for the Garden of Eden that the Government Official will need.



**#1. There is a great chance of finding advance technology in the Garden of Eden because the CHERUBIMS lived in the Garden of Eden from the creation**

**of ADAM**

**through the ministry of EZEKIEL. The Cherubims were not living on a CLOUD.**

**#2. Also, after Elijah had crossed the Jordan River he was taken up to meet God.**

**#3. Do not put all of your trust in the people with several degrees in Theology; they were not taught the UNKNOWN.**

**Genesis 3:24\_** So God drove out Adam; and God placed at the east of the Garden of Eden Cherubims, and a flaming sword which turned every way, to keep the way of the Tree of Life.

**Ezekiel 10:1-22\_** Then I looked, and, behold, in the firmament that was above the head of the Cherubims there appeared over them as it were a sapphire stone, as the appearance of the likeness of a throne.

2. And he spake unto the man clothed with linen, and said, Go in between the wheels, even under the Cherub, and fill thine hand with coals of fire from between the Cherubims, and scatter them over the city. And he went in in my sight.

3. Now the Cherubims stood on the right side of the house, when the man went in; and the cloud filled the inner court.

4. Then the Glory of God went up from the Cherub, and stood over the threshold of the house; and the house was filled with the cloud, and the court was full of the brightness of God's Glory.

5. And the sound of the Cherubims' wings was heard even to the outer court, as the voice of the Almighty God when he speaketh.

6. And it came to pass, that when he had commanded the man clothed with linen, saying, Take fire from between the wheels, from between the Cherubims; then he went in, and stood beside the wheels.

7. And one Cherub stretched forth his hand from between the Cherubims unto the fire that was between the Cherubims, and took thereof, and put it into the hands of him that was clothed with linen: who took it, and went out.

8. And there appeared in the Cherubims the form of a man's hand under their wings.

9. And when I looked, behold the four wheels by the Cherubims, one wheel by one Cherub, and another wheel by another Cherub: and the appearance of the wheels was as the color of a beryl stone.

10. And as for their appearances, they four had one likeness, as if a wheel had been in the midst of a wheel.

11. When they went, they went upon their four sides; they turned not as they went, but to the place whither the head looked they followed it; they turned not as they went.

12. And their whole body, and their backs, and their hands, and their wings, and the wheels, were full of eyes round about, even the wheels that they four had.

13. As for the wheels, it was cried unto them in my hearing, O wheel.

14. And every one had four faces: the first face was the face of a Cherub, and the second face was the face of a man, and the third the face of a lion, and the fourth the face of an eagle.

15. And the Cherubims were lifted up. This is the living creature that I saw by the river of Chebar.

16. And when the Cherubims went, the wheels went by them: and when the Cherubims lifted up their wings to mount up from the Earth, the same wheels also turned not from beside them.

17. When they stood, these stood; and when they were lifted up, these lifted up themselves also: for the spirit of the living creature was in them.

18. Then the Glory of God departed from off the threshold of the house, and stood over the Cherubims.

19. And the Cherubims lifted up their wings, and mounted up from the Earth in my sight: when they went out, the wheels also were beside them, and every one stood at the door of the east gate of God's House; and the Glory of the God of Israel was over them above.

20. This is the living creature that I saw under the God of Israel by the river of Chebar; and I knew that they were the Cherubims.

21. Every one had four faces apiece, and every one four wings; and the likeness of the hands of a man was under their wings.

22. And the likeness of their faces was the same faces which I saw by the river of Chebar, their appearances and themselves: they went every one straight forward.

**2 King 2:7-8\_** And fifty men of the sons of the prophets went, and stood to view afar off: and they two stood by Jordan River.

8. And Elijah took his mantle, and wrapped it together, and smote the waters, and they were divided hither and thither, so that they two went over on dry ground.

**2 King 2:11\_** And it came to pass, as they still went on, and talked, that, behold, there appeared a chariot of fire, and horses of fire, and parted them both asunder; and Elijah went up by a whirlwind into Heaven.

Sincerely,

(b) (6)

**From:** [Gran, Rani C. \(GSFC-1300\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Jones, Nancy N. \(GSFC-1300\)](#)  
**Cc:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#); [Andreoli, Claire \(GSFC-1300\)](#)  
**Subject:** Re: [EXTERNAL] Science Channel - The UAP Report - Invitation  
**Date:** Friday, June 4, 2021 9:50:06 AM

---

Thanks, I will send it to Hq and let you know ASAP.

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Friday, June 4, 2021 at 9:43 AM  
**To:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Cc:** Rani Gran <rani.c.gran@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>, "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>  
**Subject:** FW: [EXTERNAL] Science Channel - The UAP Report - Invitation

Hi all,

I received this email from the Science Channel. Could you let me know how to proceed?

Thanks

Ravi

---

**From:** Stephanie Bianca (b) (6)  
**Date:** Thursday, June 3, 2021 at 9:02 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** [EXTERNAL] Science Channel - The UAP Report - Invitation

Hi Ravi,

I'm a producer on an upcoming national television event about Unidentified Aerial Phenomena (UAP) for **DISCOVERY NETWORKS** and **THE SCIENCE CHANNEL**,

airing on June 30th, 2021. This 3-hour live special is primarily in response to the overwhelming amount of incredible footage taken by military personnel that is -- for the first time -- due to be reported by the Pentagon. This program will be a credible, news and information format, which aims to educate the public by discerning, analyzing, discussing, debating and anticipating what could be revelatory for us all.

**I am writing to you to check your interest and availability to potentially join us as a key guest on the program.** We are only reaching out to preeminent scholars, experts, scientists, credible witnesses and distinguished national figures; hence, you are on our "wish list" of vital voices. Per your availability, there are three ways by which you could participate.

In studio appearance on our set in Las Vegas (filming 6/30)

On-Location pre-taped interview, near you (filming as early as 6/15 or a date TBD)

On-Location pre-taped interview at our offices in Los Angeles (filming as early as 6/11)

Ideally, we would like you to consider joining us in our studio in Las Vegas on June 30th. All travel expenses will be covered.

**Attached**, please find our one sheet on the program: **THE UAP REPORT**

I look forward to speaking with you as soon as possible so we can discuss your availability, as well as your potential input for this unprecedented discussion about this incredible moment in history.

Warmest regards,

Stephanie

STEPHANIE BIANCA

Segment Producer

**PILGRIM MEDIA GROUP**

A LIONSGATE Company

12020 Chandler Blvd., Ste. 200

North Hollywood, CA 91607

(b) (6) office

mobile

(b) (6)



## **THE UAP REPORT**

**3 Hours Live**

**Air Date: Wednesday, June 30, 2021**

**Studio Location: Las Vegas, NV**

### **SHOW DESCRIPTION:**

Recent, bizarre sightings by U.S. military personnel of Unidentified Aerial Phenomena, or UAPs (commonly known as UFOs), have spurred a first-ever report to Congress. In turn, the Pentagon is expected to release the official findings within weeks. This public revelation by the U.S. government will be the first of its kind, and without a proper forum to sharply discuss the myriad of truly unbelievable inter-stellar possibilities this conjures up, the breaking news could quickly be misinterpreted and provoke fear in the hearts and minds of global citizens everywhere.

The question simply becomes: Are we being visited by intelligent life from other planets...or is there a gross deficiency within our government that is unintentionally allowing unidentified spacecraft to enter our airspace? Either way: The outcome is shocking.

Now, Discovery Networks and the Science Channel will launch an unprecedented live television event: a summit with the world's leading minds, who will converge in one forum, to discuss, explain, debate and demonstrate this as-of-yet unexplained phenomena with never-before-seen footage and first person, eye-witness accounts. Military commanders, national politicians, leading scientists, professors, authors, theologians and technical experts will all weigh-in on this elevated conversation – with the goal of determining just what exactly military pilots could be witnessing.

Of course, all of this pulls at the heart of one of the greatest questions of all time:

*Are we alone in the universe...or is the existence of life beyond our stratosphere not only possible – is it probable? And if there is, indeed, intelligent advanced life, with technical capabilities beyond our comprehension, have they visited Earth before? Are we – for the first time in recorded history – documenting their visitations right now?*

*The urgency is palpable:* The findings in the Pentagon Papers could change the course of human history forever. The mission of this live summit is nothing short of relating crucial information to the public in responsible, educated, informed ways, while leaving the door open to the unknown.

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Gran, Rani C. \(GSFC-1300\)](#)  
**Subject:** Re: [EXTERNAL] Science Channel - The UAP Report - Invitation  
**Date:** Friday, June 4, 2021 9:56:15 AM

---

Yes. To at least dispel any mis-information.

---

**From:** "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>  
**Date:** Friday, June 4, 2021 at 9:55 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: [EXTERNAL] Science Channel - The UAP Report - Invitation

Do you want to participate in this program?

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Friday, June 4, 2021 at 9:43 AM  
**To:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Cc:** Rani Gran <rani.c.gran@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>, "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>  
**Subject:** FW: [EXTERNAL] Science Channel - The UAP Report - Invitation

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

1 page(s) containing duplicate information is/are held in the file.

**From:** [Gran, Rani C. \(GSFC-1300\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Science Channel - The UAP Report - Invitation  
**Date:** Friday, June 4, 2021 12:38:55 PM

---

What scientific publication did you publish to kick off the UFO questions. I know it was on techno signatures?

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

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**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Friday, June 4, 2021 at 9:43 AM  
**To:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Cc:** Rani Gran <rani.c.gran@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>, "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>  
**Subject:** FW: [EXTERNAL] Science Channel - The UAP Report - Invitation

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

1 page(s) containing duplicate information is/are held in the file.

**From:** [Gran, Rani C. \(GSFC-1300\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Date:** Friday, June 4, 2021 12:42:55 PM

---

Do you have a second? Also why do UFO interview requests come in on Fridays?

**From:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\] in Teams](#)  
**To:** [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** [EXTERNAL] Lonnie sent a message  
**Date:** Monday, June 7, 2021 12:47:36 PM  
**Attachments:** [ATT00002.png](#)  
[ATT00003.png](#)  
[ATT00004.png](#)  
[ATT00005.png](#)  
[ATT00006.png](#)  
[ATT00007.png](#)  
[ATT00008.png](#)

Hi,

Your teammates are trying to reach you in **Microsoft Teams**.

Lonnie sent a message in chat

but got bumped for the UFO story

Reply in Teams

Install Microsoft Teams now



iOS



Android

This email was sent from an unmonitored mailbox. Update your email preferences in Teams. Profile picture > Settings > Notifications.

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 Microsoft

**From:** [newsspace](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Leonard David FYI: story posted - thanks for your assist  
**Date:** Tuesday, June 8, 2021 12:22:27 PM

---

Let's stay in touch. This is becoming a teachable moment.

LD

Sent from my iPhone

On Jun 8, 2021, at 9:56 AM, Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Leonard,  
Thank you for the article. It reads well and balanced. I am uncomfortable to see in the media for the past weeks that a lot of talk is on extra-terrestrial topic rather than an actual agnostic approach. I am hoping some reason can be established with our voices.  
Best  
Ravi

---

**From:** "(b) (6)" <(b) (6)>  
**Reply-To:** "(b) (6)" <(b) (6)>  
**Date:** Tuesday, June 8, 2021 at 10:53 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, "(b) (6)" <(b) (6)>  
**Subject:** [EXTERNAL] Leonard David FYI: story posted - thanks for your assist

Kumar:

I can't get beyond a paywall at Scientific American to read my own story - but they sent me this PDF of the article, up this morning:

***Experts Weigh In on Pentagon UFO Report***  
***The vast majority of examined incidents were not caused by U.S. advanced technology programs, the forthcoming report concludes. So what's going on?***

<https://www.scientificamerican.com/article/experts-weigh-in-on-pentagon-ufo-report/>

LD

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**S P A C E**

## **Experts Weigh In on Pentagon UFO Report**

The vast majority of examined incidents were not caused by U.S. advanced technology programs, the forthcoming report concludes. So what's going on?

.....  
By Leonard David on June 8, 2021



Still from a video released by the U.S. Department of Defense showing an encounter between a Navy F/A-18 Super Hornet and an unknown object. Credit: U.S. Department of Defense

For more than a decade, the U.S. Department of Defense has been quietly cataloging and investigating scores of bizarre encounters—most from the U.S. Navy—of ships and fighter jets tangling with, or being tailgated by, unidentified flying objects (UFOs). Beginning in 2017, videos and eyewitness accounts of these weird sightings found their way into public view, ultimately spurring Congress to demand that the Pentagon produce a report summarizing all that the U.S. government knows about so-called unidentified aerial phenomena, or UAPs (an alternate term with considerably less stigma than the much maligned “UFOs”).

Produced under the auspices of a Pentagon group called the UAP Task Force, an unclassified version of the report is expected to be released later this month. Upon establishing the task force, the DOD released an accompanying statement explaining the justifications for its existence: “The safety of our personnel and the security of our operations are of paramount concern. The Department of Defense and the military departments take any incursions by unauthorized aircraft into our training ranges or designated airspace very seriously and examine each report. This includes examinations of incursions that are initially reported as UAP when the observer cannot immediately identify what he or she is observing.”

## ASSESSING THE “ALIEN” HYPOTHESIS

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Meanwhile all this strangeness has garnered considerable media attention, from front-page stories in the *New York Times* to 13,000-word articles in the *New Yorker*, as well as prominent coverage on *60 Minutes* and other prime-time television programs. Through it all, a sizable contingent of true believers have steadily proclaimed, “We told you so,” insistent in their conviction that, whether called UFOs or UAPs, the entities seemingly slipping through our skies are actually alien spacecraft—and have been visiting Earth for a very long time.

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Those deeply entrenched public beliefs, paired with the apparent reinvigoration of investigative interest in these incidents at the highest levels of government, can lead to dazzling speculations. Might we be on the verge of a formal disclosure—backed by

irrefutable evidence—that humankind is not alone and is indeed being monitored by extraterrestrial civilizations? Or could it be that UAPs are entirely homegrown products of revolutionary and clandestine technological advances, whether by other countries now challenging American airspace or by the U.S. itself as part of some supersecret domestic program meant to detect flaws in the nation’s defenses? The mind boggles.

Although the task force’s unclassified assessment is not expected until June 25, the *New York Times* provided a cursory preview of its contents in an article on June 3. Citing anonymous senior officials familiar with the report’s contents, the story said that the assessment has come up short of explaining what UAPs are and that it provides no evidence to link them with any putative alien visitation—despite reviewing more than 120 incidents from the past 20 years. The report’s firmest conclusion, it seems, is that the vast majority of UAP happenings and their surprising maneuvers are not caused by any U.S. advanced technology programs.

Lastly, according to the *New York Times* article, the final report includes a “classified annex” of information deemed unsuitable for public release—leaving more than enough room for die-hard UFO advocates to remain convinced that the U.S. government is hiding the truth.

## **NO “BIG REVEAL”**

.....

Andrew Fraknoi, an astronomer at the Fromm Institute for Lifelong Learning at the University of San Francisco, echoes the widely held sentiment among scientists that, for decades, the media has lavished too much attention on sensational claims that vague lights in the sky are actually extraterrestrial spacecraft. “Recently, there has been a flurry of misleading publicity about UFOs [based on military reports]. A sober examination of these claims reveals that there is a lot *less* to them than first meets the eye,” Fraknoi says. Given sufficient evidence (which, arguably, many of the recent reports fail to provide), UFO sightings can essentially always be tied to terrestrial or celestial phenomena, such as lights from human-made vehicles and reentering space junk, he adds.

There is not going to be any “big reveal,” says Robert Sheaffer, a leading skeptical investigator of UFOs. “There are no aliens here on Earth, and so the government cannot ‘disclose’ what it does not have. Some people think that the government knows more about UFOs, or UAPs, than the public, but it’s clear that they know less on the subject than our best civilian UFO investigators, not more.”

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The DOD employs some very competent photographic analysts and other technical experts, “none of whom obviously were consulted in this comedy of errors,” Sheaffer says. “The Pentagon has already suffered enough embarrassment from the [apparent] incompetence of its UAP Task Force.” He says it is time to rein in such “rampant foolishness” and ensure that proper experts will shape the task force’s conclusions rather than “clueless, self-important people who don’t even recognize out-of-focus images when they see them.”

### REAL ISSUES

.....

Skeptical science writer Mick West has taken on the chore of analyzing the spate of UAP videos released by the U.S. military, steadfastly investigating how some of the incidents could merely be mirages from flaws in newly deployed radar systems, as well as various sorts of well-understood visual artifacts regularly seen in cameras. Despite his work to debunk the recent claims, West maintains that reports of mysterious aircraft stalking military assets should be taken quite seriously.

“Firstly, there’s a set of very real issues that could be grouped together as ‘UAPs’ or ‘UFOs,’” West says. “Any time something unidentified shows up in restricted airspace, then that’s a real problem that needs solving.” There have been many reports of drones above or near restricted areas, he notes. “We know that drones have been used for terrorist attacks, and drones will very much be a significant factor in future conflicts,” West says. “So we need to figure out how to identify and mitigate such things.”



Another reason that pilots sometimes see things that they cannot readily identify, West says, and they may misidentify such objects. Regardless of what such pilots actually observe, this is a problem. “If something there is hard to identify—like a novel drone—then we need to figure out how to identify it,” he says. “If the pilots are making mistakes, then we need to figure out why.”

## THE “DISCLOSURE” FEEDBACK LOOP

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“The advocates of alien disclosure are encroaching on these real issues of UAPs,” West says. These believers take mundane videos of incidents that are simply unidentified, he says, then reframe them as evidence of extraordinary technology—which, of course, is intended to mean “aliens,” even if enthusiasts for that hypothesis will not explicitly say so. This cultivates credulous media attention, which in turn creates a feedback loop of public interest, more media and then pressure on politicians to “do something.”

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“All the while, the military makes no comments, because that’s their modus operandi. Military things are assumed classified by default, and there is nothing compelling them to clear things up,” West says. In the end, he hopes that the forthcoming report represents the views of serious people finally stepping in to clear up what is—and is *not*—going on.

“I expect much discussion and information about the real issues of unidentified flying objects. But I do not anticipate it will have much that will please the UFO enthusiasts,” West says.

## WAIT AND SEE

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One person who is taking a “wait and see” attitude about the upcoming report is Ravi Kumar Kopparapu, a research scientist in planetary studies at NASA’s Goddard Space Flight Center. The history of scientific studies of UAPs in the U.S. is not limited to the recently released video snippets, which is a good reminder to avoid painting the whole phenomenon with one broad brush, he says. Additionally, this is not a U.S.-specific issue, nor is it limited to observations by U.S. armed forces.

“There may not be a single explanation to all such observations. What I would suggest is that we not leap to any conclusions when the findings of the report are made public,” Kopparapu says. “The report would be immensely helpful if the data that informed it are made publicly available so that more experts and scientists can look at it and hopefully reach a scientific consensus on the nature of some of the unexplained events. Otherwise, there will always be conspiracy theories shrouding, and inhibiting, a proper scientific investigation of UAPs.”

A similar view is held by Mark Rodeghier, scientific director of the Center for UFO Studies, who says openness should be prioritized as much as possible in future investigations. “We don’t know whether the UFO problem is an intelligence one, due to foreign adversaries, but we do know, from its long history, that it is absolutely a scientific problem that deserves serious attention,” he says. “In a subject that has been too long ignored, downplayed and ridiculed, the government and scientific community should study UFOs openly and, importantly, with an open mind.”

## WANTED: SCIENTIFIC INQUIRY

---

Harvard University astrophysicist Avi Loeb says the significance of the UAP Task Force report will depend on the evidence it discloses, which at the moment remains mostly unknown. “But this focus on past reports is misguided,” he says. “It would be prudent to progress forward with our finest instruments rather than examine past reports. Instead of focusing on documents that reflect decades-old technologies used by witnesses with no scientific expertise, it would be far better to deploy state-of-the-art recording devices, such as cameras or audio sensors, at the sites where the reports came from and search for unusual signals.”

Loeb goes a step further, saying he is willing to sign up to help unravel the UAP/UFO saga. “Personally, I will be glad to lead scientific inquiry into the nature of these reports and advise Congress accordingly,” he says. “This could take the form of a federally designated committee or a privately funded expedition. Its most important purpose would be to inject scientific rigor and credibility into the discussion.”

## HISTORY REPEATS ITSELF

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For some seasoned investigators, such as William Hartmann, a senior scientist emeritus at the Planetary Science Institute, headquartered in Tucson, Ariz., the current dustup over an influential government report on UFOs is a reminder that, eventually, everything old becomes new again.

Hartmann was a photography consultant and a co-author of the University of Colorado UFO Project’s report *Scientific Study of Unidentified Flying Objects*. Funded by the U.S. Air Force from 1966 to 1968, that investigative effort was led by physicist Edward Condon, and it had dismal effects on subsequent scientific investigations. The extensive study of UFOs, Condon and his co-authors concluded, is simply not a fruitful field in which to seek major discoveries and “probably cannot be justified in the expectation that science will be advanced thereby.”

Reflecting on his work for the project, also called the Condon committee, Hartmann says that none of the photographic evidence he examined could establish anything

extraordinary about the observed phenomena. “We proved that some of [the cases], including classic photos still being trotted out, were fake,” he says. “That fact alone makes it extremely difficult to apply straight scientific techniques because we know some, not necessarily all, of the data we were given were carefully prepared to delude us. [That is] not quite like astronomy, where we can assume that the photons coming through our telescope atop Mauna Kea in Hawaii are not put in there by a hoaxer.”

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“To put it another way, if you think there could be a real alien spaceship among a pile of photos you are given, but you know that some of the photos are fakes, then it is very hard to prove that any single one of them is proof of an alien visitation,” Hartmann says. “I’d want to see multiple, clear photos or detections by witnesses who don’t know each other, from multiple cities, viewing from multiple directions, before getting very excited.”

Still, he adds that ever since his experience working on the Condon committee, he cannot escape “the feeling that there may be electromagnetic phenomena in the atmosphere that we still don’t understand.”

### **THE TRUTH IS OUT THERE**

.....

Sarah Scoles is author of the recently published book *They Are Already Here: UFO Culture and Why We See Saucers*. Although the report’s full details remain to be seen, she senses it will not be as revelatory as some hope.

“At various times during the 20th century, the military has undertaken studies of UFOs to determine, largely, whether what people are seeing represents a national security threat,” Scoles says. “This report doesn’t, then, seem seminal, because it’s doing a 21st-century version of that same thing.”

That said, Scoles feels an unbiased analysis of available data could shed light on the true frequency of UAP observations—and perhaps on the characteristics and possibly identities of these sightings. “One problem with UFO/UAP research is that it often doesn’t resemble traditional scientific research in terms of rigor,” she says.

The task force report could quantify and analyze a wide swath of data, Scoles hopes, with the requisite background knowledge of sensor capabilities, current domestic and foreign military capabilities, and so on. If so, that would be a welcome change from previous high-profile studies, she concludes.

Where does this leave us? The truth, of course, is somewhere out there, whether or not it appears in the pages of the UAP Task Force report. But for now, the odds seem to be against the U.S. government knowing what it is, let alone revealing it anytime soon.

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## ABOUT THE AUTHOR(S)



**Leonard David** is author of *Moon Rush: The New Space Race* (National Geographic, 2019) and *Mars: Our Future on the Red Planet* (National Geographic, 2016). He has been reporting on the space industry for more than five decades.

*Credit: Nick Higgins*

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**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Date:** Tuesday, June 8, 2021 4:42:16 PM

---

Also, this (had no idea when i gave the interview):

<https://www.scientificamerican.com/article/experts-weigh-in-on-pentagon-ufo-report/>

**From:** [Jones, Nancy N. \(GSFC-1300\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Gran, Rani C. \(GSFC-1300\)](#)  
**Cc:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: [EXTERNAL] Media query for National Geographic on upcoming UFO/UAP report  
**Date:** Wednesday, June 9, 2021 10:29:36 AM

---

Please continue to let me know about media inquiries.

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*  
*NASA's Goddard Space Flight Center*  
*Office of Communications*  
*Nancy.N.Jones@nasa.gov*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, June 9, 2021 at 10:25 AM  
**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>, "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>  
**Cc:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: [EXTERNAL] Media query for National Geographic on upcoming UFO/UAP report

Thanks Nancy! Yes, that would be great!

Also, do you want me to continue to copy you in any future emails? Or would you rather not me spam you?

Ravi

---

**From:** "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Date:** Wednesday, June 9, 2021 at 10:23 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>  
**Cc:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: [EXTERNAL] Media query for National Geographic on upcoming UFO/UAP report

Hi Ravi,

Rani is going to work this you and HQ. I'm working on a few other items.

Thanks,

Nancy

--

*Nancy Neal Jones*  
*Senior Communications Manager*  
*Solar System Exploration Division*

NASA's Goddard Space Flight Center  
Office of Communications  
Nancy.N.Jones@nasa.gov

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, June 9, 2021 at 8:36 AM  
**To:** "Nancy N. Jones" <nancy.n.jones@nasa.gov>, "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>  
**Cc:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: [EXTERNAL] Media query for National Geographic on upcoming UFO/UAP report

Hi Nancy,  
This is from National Geographic Travel website. This looks like a reasonable request and balanced.  
Ravi

---

**From:** Jill Robinson <(b) (6)>  
**Date:** Tuesday, June 8, 2021 at 7:01 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** [EXTERNAL] Media query for National Geographic on upcoming UFO/UAP report

Dear Dr. Kopparapu,

I'm a freelance journalist writing a story for National Geographic Travel about the upcoming report on UFO/UAP data and intelligence that was spurred by the Intelligence Authorization Act for Fiscal Year 2021. I realize that the unclassified version of the report has not yet been released, however I would like to talk with you once it is released to get your perspective on what you think these things might actually be, the necessity for scientific analysis of this data, and whether you think it may give us a more cohesive understanding of ourselves as a species and our planet as an ecosystem among others (perhaps leading us to take more care with what we already have).

My editor also wants me to address why there's a cultural phenomenon of "extraterrestrial hot spots," and certainly, if you think any of the sightings and their locations raise important scientific questions (whether or not it has anything to do with "aliens") or if you find any of them interesting as a theory, I'd like to talk about that. But I'm not trying to make you acknowledge something you don't believe.

Please let me know if you're open to talking with me for this article, and if you have any preferences for timing once the report is released. Thank you in advance for your consideration.

Best,

-Jill Robinson

Jill K. Robinson

Traveling Writer

Clips: [dangerjillrobinson.com/writing](https://www.dangerjillrobinson.com/writing)

IG and Twitter: @dangerjr

Pronouns: she/her

**From:** [Gran, Rani C. \(GSFC-1300\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** FW: Media query for National Geographic on upcoming UFO/UAP report  
**Date:** Wednesday, June 9, 2021 12:23:36 PM

---

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** "Hautaluoma, Grey (HQ-NA020)" <grey.hautaluoma-1@nasa.gov>  
**Date:** Wednesday, June 9, 2021 at 12:17 PM  
**To:** "Fox, Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov>, "Gutro, Rob (GSFC-1300)" <robert.j.gutro@nasa.gov>, "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>  
**Cc:** Rani Gran <rani.c.gran@nasa.gov>  
**Subject:** RE: Media query for National Geographic on upcoming UFO/UAP report

Thanks, Karen. I know we discussed (b) (5)  
yesterday, but perhaps we should (b) (5)  
(b) (5)

---

**From:** Fox, Karen C. (GSFC-1300) <karen.c.fox@nasa.gov>  
**Sent:** Wednesday, June 9, 2021 10:41 AM  
**To:** Gutro, Rob (GSFC-1300) <robert.j.gutro@nasa.gov>; Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS] <alana.r.johnson@nasa.gov>; Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS] <joshua.a.handal@nasa.gov>  
**Cc:** Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>; Hautaluoma, Grey (HQ-NA020) <grey.hautaluoma-1@nasa.gov>  
**Subject:** Re: Media query for National Geographic on upcoming UFO/UAP report

Thanks, Rob!

As the reporter notes, the upcoming report is top secret and has not been released in

any kind of public version yet – I don't know (b) (5)

(b) (5)

(b) (5)

In other news -- (b) (5)

(b) (5)

Thanks for all the coordination you all have been doing on this complex issue!

--Karen

--

Karen C. Fox  
Senior Science Communications Officer  
Office of Communications

---

**From:** "Gutro, Rob (GSFC-1300)" <[robert.j.gutro@nasa.gov](mailto:robert.j.gutro@nasa.gov)>

**Date:** Wednesday, June 9, 2021 at 10:27 AM

**To:** "Fox, Karen C. (GSFC-1300)" <[karen.c.fox@nasa.gov](mailto:karen.c.fox@nasa.gov)>, "Johnson, Alana R. (HQ-DG000) [ASRC FEDERAL SYSTEM SOLUTIONS]" <[alana.r.johnson@nasa.gov](mailto:alana.r.johnson@nasa.gov)>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <[joshua.a.handal@nasa.gov](mailto:joshua.a.handal@nasa.gov)>

**Cc:** "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>, "Hautaluoma, Grey (HQ-NA020)" <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>

**Subject:** Media query for National Geographic on upcoming UFO/UAP report

Hi Karen, Alana and Josh - Rani received a request from National Geo about an upcoming UFO/UAP report, and wanted to know if Dr. Ravi Kumar Kopparapu, Research AST, Planetary Studies could talk with them.

I pasted Ravi's bio below.

Please advise and provide guidance.

Thanks, Rob

## Brief Bio

---

My research interests are in extrasolar planet habitability, atmosphere modeling and

characterization. Specifically, I use 1-dimensional and 3-dimensional climate and photochemical models to determine the conditions needed for a terrestrial planet to sustain liquid water on its surface. Life, as we know it, requires liquid water; therefore, finding worlds around other stars and identifying the signatures of surface water can potentially allow us to discover extraterrestrial life. I am also interested super-Earth and mini-Neptune atmospheres, and their characterization. There are no such planets in our solar system, so they provide an excellent opportunity to study planets that are totally new to us.

I am also interested in identifying technosignatures. Just as biosignatures are signs of biology, technosignatures are a signs of technology. This field is in its nascent stage (just like biosignatures was several decades ago), so its a good time to get involved.

---

**From:** Gran, Rani C. (GSFC-1300) <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Sent:** Wednesday, June 9, 2021 10:23 AM  
**To:** Hautaluoma, Grey (HQ-NA020) <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>  
**Cc:** Gutro, Rob (GSFC-1300) <[robert.j.gutro@nasa.gov](mailto:robert.j.gutro@nasa.gov)>  
**Subject:** FW: [EXTERNAL] Media query for National Geographic on upcoming UFO/UAP report

Hello another UFO/UAP request.

Could Ravi move ahead with this one?

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Date:** Wednesday, June 9, 2021 at 8:36 AM  
**To:** "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>, Rani Gran

<[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>

**Cc:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>

**Subject:** Re: [EXTERNAL] Media query for National Geographic on upcoming UFO/UAP report

Hi Nancy,

This is from National Geographic Travel website. This looks like a reasonable request and balanced.

Ravi

---

**From:** Jill Robinson <(b) (6)>

**Date:** Tuesday, June 8, 2021 at 7:01 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

**Subject:** [EXTERNAL] Media query for National Geographic on upcoming UFO/UAP report

Dear Dr. Kopparapu,

I'm a freelance journalist writing a story for National Geographic Travel about the upcoming report on UFO/UAP data and intelligence that was spurred by the Intelligence Authorization Act for Fiscal Year 2021. I realize that the unclassified version of the report has not yet been released, however I would like to talk with you once it is released to get your perspective on what you think these things might actually be, the necessity for scientific analysis of this data, and whether you think it may give us a more cohesive understanding of ourselves as a species and our planet as an ecosystem among others (perhaps leading us to take more care with what we already have).

My editor also wants me to address why there's a cultural phenomenon of "extraterrestrial hot spots," and certainly, if you think any of the sightings and their locations raise important scientific questions (whether or not it has anything to do with "aliens") or if you find any of them interesting as a theory, I'd like to talk about that. But I'm not trying to make you acknowledge something you don't believe.

Please let me know if you're open to talking with me for this article, and if you have any preferences for timing once the report is released. Thank you in advance for your consideration.

Best,

-Jill Robinson

Jill K. Robinson

Traveling Writer

Clips: [dangerjillrobinson.com/writing](http://dangerjillrobinson.com/writing)

IG and Twitter: @dangerjr

Pronouns: she/her

**From:** [Gran, Rani C. \(GSFC-1300\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Hautaluoma, Grey \(HQ-NA020\)](#)  
**Subject:** Re: Draft: Response to National Geographic  
**Date:** Wednesday, June 9, 2021 1:50:09 PM

---

Thanks Ravi,

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Date:** Wednesday, June 9, 2021 at 1:11 PM  
**To:** "Hautaluoma, Grey (HQ-NA020)" <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>, Rani Gran <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Subject:** Re: Draft: Response to National Geographic

Thank you Grey. I will respond to them, copying you and Rani, with the suggested changes.  
Ravi

---

**From:** "Hautaluoma, Grey (HQ-NA020)" <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>  
**Date:** Wednesday, June 9, 2021 at 1:04 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Subject:** RE: Draft: Response to National Geographic

I would just make it (b) (5)  
(b) (5)

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Sent:** Wednesday, June 9, 2021 12:23 PM  
**To:** Gran, Rani C. (GSFC-1300) <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Cc:** Hautaluoma, Grey (HQ-NA020) <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>  
**Subject:** Draft: Response to National Geographic

Hi Rani and Grey,

Here is the draft response to the National Geographic media enquiry. The enquiry is copied below:

\*\*\*\*\*

Thank you for your query. I will be happy to talk after the report is released and have an opportunity to look at it carefully. I am copying our Public Office representatives Rani Gran and Grey Hautaluoma in this email as well to co-ordinate.

Best

Ravi

**From:** Jill Robinson <(b) (6)>

**Date:** Tuesday, June 8, 2021 at 7:01 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

**Subject:** [EXTERNAL] Media query for National Geographic on upcoming UFO/UAP report

Dear Dr. Kopparapu,

I'm a freelance journalist writing a story for National Geographic Travel about the upcoming report on UFO/UAP data and intelligence that was spurred by the Intelligence Authorization Act for Fiscal Year 2021. I realize that the unclassified version of the report has not yet been released, however I would like to talk with you once it is released to get your perspective on what you think these things might actually be, the necessity for scientific analysis of this data, and whether you think it may give us a more cohesive understanding of ourselves as a species and our planet as an ecosystem among others (perhaps leading us to take more care with what we already have).

My editor also wants me to address why there's a cultural phenomenon of "extraterrestrial hot spots," and certainly, if you think any of the sightings and their locations raise important scientific questions (whether or not it has anything to do with "aliens") or if you find any of them interesting as a theory, I'd like to talk about that. But I'm not trying to make you acknowledge something you don't believe.

Please let me know if you're open to talking with me for this article, and if you have any preferences for timing once the report is released. Thank you in advance for your consideration.

Best,

-Jill Robinson

--

Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Hautaluoma, Grey \(HQ-NA020\)](#); [Gran, Rani C. \(GSFC-1300\)](#)  
**Subject:** Re: Draft: Response to National Geographic  
**Date:** Wednesday, June 9, 2021 4:11:27 PM

---

Hi Grey and Rani,  
Is there an update on the Science Channel request?  
Thanks  
Ravi

---

**From:** "Hautaluoma, Grey (HQ-NA020)" <grey.hautaluoma-1@nasa.gov>  
**Date:** Wednesday, June 9, 2021 at 1:04 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>  
**Subject:** RE: Draft: Response to National Geographic

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

1 page(s) containing duplicate information is/are held in the file.

**From:** [Gran, Rani C. \(GSFC-1300\)](#)  
**To:** [Stephanie Bianca](#)  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Hautaluoma, Grey \(HQ-NA020\)](#)  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation  
**Date:** Thursday, June 10, 2021 10:31:05 AM

---

Hi Stephanie,

We can participate mid-June taping. Ravi will not be able to travel to Las Vegas.

Ravi will focus on the science of all this.. He can also talk about the ways NASA is searching for life beyond Earth's stratosphere.

I'm looking into setting up a taping at our visitor center.

Who else is on your commentary panel?

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** Stephanie Bianca <(b) (6)>  
**Date:** Friday, June 4, 2021 at 12:10 PM  
**To:** Rani Gran <rani.c.gran@nasa.gov>  
**Subject:** [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

2 page(s) containing duplicate information is/are held in the file.

**From:** [Gran, Rani C. \(GSFC-1300\)](#)  
**To:** [Johnston, Matthew F. \(GSFC-1400\)](#)  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Personal Release- The UAP Report - Invitation  
**Date:** Thursday, June 10, 2021 3:10:52 PM  
**Attachments:** [UFOs Declassified Live - Appearance Release 20210528.pdf](#)

---

Hi Matt,

Could you please help us convert this personal release into a NASA release form for Ravi Kumar Kopparapu. I would like to get this back before June 30.

The science channel will interview Ravi about NASA's search for life outside Earth's stratosphere.

Rani

--  
Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** Stephanie Bianca <(b) (6)>  
**Date:** Thursday, June 10, 2021 at 2:57 PM  
**To:** Rani Gran <rani.c.gran@nasa.gov>  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Hi Rani,

Attached, please find a standard appearance release for Ravi. I'll be sending you a few other forms once Ravi signs and we lock down the date.

Please don't hesitate to reach out if you have further questions.

Best,

Stephanie

---

**From:** Stephanie Bianca <(b) (6)>  
**Sent:** Thursday, June 10, 2021 10:54 AM  
**To:** Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Duplicate email chain - already processed

## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

5 page(s) containing duplicate information is/are held in the file.

**From:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Date:** Friday, June 11, 2021 9:21:02 AM

---

**The truth may be out there:** These days it almost seems obligatory to ask about UFOs, given all the debate about a forthcoming report to Congress from the director of national intelligence about recent sightings of “unmanned aerial phenomena.”

“A couple of years ago, as a member of the Senate Armed Services Committee, I was briefed on what those Navy pilots saw and I have talked to the Navy pilots,” Nelson recalled. “They are quite convinced. And these are realistic folks. This isn't some UFO tin-foil hat kind. These are pilots who locked their radar on it. They tracked and then they saw it move so fast that they couldn't believe it. And then they went and tracked it again, locked their radar on it in a new position. So there's some phenomenon that we need to explain.”

He said he's put Thomas Zurbuchen, who runs NASA's science directorate, in charge of looking into the reports. “I have had several conversations with him, most recently 10 minutes ago, about this very topic and about what he has been doing on SETI and now what he is further doing in an inquiry to see if we have any scientific explanation for some of this,” Nelson said.

**But why NASA?** “NASA is a natural place,” said Nelson, who served in the House and Senate from Florida. “Part of NASA's science missions is the search for extraterrestrial life.”

**From:** [Gran, Rani C. \(GSFC-1300\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Date:** Friday, June 11, 2021 2:08:17 PM

---

Hey do you have a minute. I had a talk with SMD this morning and got more clarification about how we want to deal with the UFO report.

**From:** [Stephanie Bianca](#)  
**To:** [Gran, Rani C. \(GSFC-1300\)](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Cc:** [Caldwell, John H. \(GSFC-130.0\)\[ADVOCATES IN MANPOWER MANAGEMENT, INC\]](#)  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation  
**Date:** Sunday, June 13, 2021 10:05:13 PM

---

Yes, not a problem regarding releases.

Thank you... I just learned something new!

Best,  
Stephanie

---

**From:** Gran, Rani C. (GSFC-1300) <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Sent:** Saturday, June 12, 2021 11:30 AM  
**To:** Stephanie Bianca <(b) (6)> [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** [Caldwell, John H. \(GSFC-130.0\)\[ADVOCATES IN MANPOWER MANAGEMENT, INC\]](#)  
<[john.h.caldwell@nasa.gov](mailto:john.h.caldwell@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Confirmed. For Monday June 21.

We do not sign release forms. However, I can say you are free to use the interview and video we shoot for your show. Since the video is from the federal government, its consider part of the public domain and is not copyrighted.

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** Stephanie Bianca <(b) (6)>  
**Date:** Saturday, June 12, 2021 at 12:39 PM  
**To:** Rani Gran <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>, "[Kopparapu, Ravi Kumar \(GSFC-6990\)](#)"  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** "[Caldwell, John H. \(GSFC-130.0\)\[ADVOCATES IN MANPOWER MANAGEMENT, INC\]](#)"

<john.h.caldwell@nasa.gov>

**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Hi Rani,

I'm confirming the time for Ravi's interview on Monday, 6/21:

**2pm- Check in / Test (EDT)**

**2:15 pm - 3:15 pm - Interview**

I've also attached a standard appearance, location and logo release (in case you use a NASA logo during the shoot). Please have Ravi sign and return as soon as you can.

I would love to have a few minutes with Ravi next week to do a quick pre-interview, either over the phone or through Zoom. I know he's very busy, so please let me know if this would be possible.

Thanks!

Stephanie

---

**From:** Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>

**Sent:** Friday, June 11, 2021 9:26 AM

**To:** Stephanie Bianca <(b) (6)> Kopparapu, Ravi Kumar (GSFC-6990)  
<ravikumar.kopparapu@nasa.gov>

**Cc:** Caldwell, John H. (GSFC-130.0)[ADVOCATES IN MANPOWER MANAGEMENT, INC]  
<john.h.caldwell@nasa.gov>

**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Hello Stephanie,

We would like to do the interview on June 21, 2:00 pm EDT. I've included Ravi and John on this email. John will set up the shoot for us in the studio..

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** Stephanie Bianca <(b) (6)>  
**Date:** Thursday, June 10, 2021 at 6:36 PM  
**To:** Rani Gran <rani.c.gran@nasa.gov>  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Thanks so much! I know he'll be amazing on camera. I sent the appearance agreement earlier.

Best,  
Stephanie

---

**From:** Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>  
**Sent:** Thursday, June 10, 2021 3:10 PM  
**To:** Stephanie Bianca <(b) (6)>  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

FYI, Hakeem is a wonderful communicator. He gave a talk in our science communication class. He will be great on the show/

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** Stephanie Bianca <(b) (6)>  
**Date:** Thursday, June 10, 2021 at 2:57 PM  
**To:** Rani Gran <rani.c.gran@nasa.gov>

**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Hi Rani,

Attached, please find a standard appearance release for Ravi. I'll be sending you a few other forms once Ravi signs and we lock down the date.

Please don't hesitate to reach out if you have further questions.

Best,

Stephanie

---

**From:** Stephanie Bianca <(b) (6)>  
**Sent:** Thursday, June 10, 2021 10:54 AM  
**To:** Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Hi Rani,

We're very pleased that Ravi can participate. We will most likely set up a remote shoot from your visitor center on the 21st if he's available.

If you have time today, I'm available to speak: (b) (6)

Best,  
Stephanie

---

**From:** Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>  
**Sent:** Thursday, June 10, 2021 7:41 AM  
**To:** Stephanie Bianca <(b) (6)>  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Hi Stephanie,

Could we please talk before the taping?

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)

Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** Stephanie Bianca <(b) (6)>  
**Date:** Friday, June 4, 2021 at 12:10 PM  
**To:** Rani Gran <rani.c.gran@nasa.gov>  
**Subject:** [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Hi Gran,

It looks like my message to Ravi was already forwarded to Bert Ulrich. Just to be clear, we understand that Ravi isn't an expert on UAPS. We would be primarily interested having him do a segment to speak about his research and theories on extrasolar planet habitability.

I'm happy to answer any further questions you may have.

Best,

Stephanie

---

**From:** Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>  
**Sent:** Friday, June 4, 2021 6:58 AM  
**To:** Stephanie Bianca <(b) (6)>  
**Cc:** Ulrich, Bert (HQ-NA030) <bert.ulrich@nasa.gov>  
**Subject:** RE: Science Channel - The UAP Report - Invitation

Hello Stephanie,

I received your request from Ravi. Have you sent this request to Bert Ulrich at NASA Hq...cc on this email?. He is the first stop for documentaries. Once I get his sign off I can move forward.

Rani

---

**From:** Stephanie Bianca <(b) (6)>  
**Date:** Thursday, June 3, 2021 at 9:02 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** [EXTERNAL] Science Channel - The UAP Report - Invitation

Duplicate email chain - already processed

## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

1 page(s) containing duplicate information is/are held in the file.

**From:** [Stephanie Bianca](#)  
**To:** [Gran, Rani C. \(GSFC-1300\)](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Cc:** [Caldwell, John H. \(GSFC-130.0\)\[ADVOCATES IN MANPOWER MANAGEMENT, INC\]](#)  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation  
**Date:** Monday, June 14, 2021 11:56:36 AM

---

Of course! Not a problem.

---

**From:** Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>  
**Sent:** Monday, June 14, 2021 7:13 AM  
**To:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>; Stephanie Bianca <(b) (6)>  
**Cc:** Caldwell, John H. (GSFC-130.0)[ADVOCATES IN MANPOWER MANAGEMENT, INC] <john.h.caldwell@nasa.gov>  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Hi Stephanie, I'd like to listen into the interview as well.

Rani

--  
Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Monday, June 14, 2021 at 8:25 AM  
**To:** Stephanie Bianca <(b) (6)> Rani Gran <rani.c.gran@nasa.gov>  
**Cc:** "Caldwell, John H. (GSFC-130.0)[ADVOCATES IN MANPOWER MANAGEMENT, INC]" <john.h.caldwell@nasa.gov>  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Thank you. No worries, I am mostly free Wednesday afternoon. 3pm is good. See you then.

Best

Ravi

---

**From:** Stephanie Bianca <(b) (6)>  
**Date:** Sunday, June 13, 2021 at 9:52 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>

**Cc:** "Caldwell, John H. (GSFC-130.0)[ADVOCATES IN MANPOWER MANAGEMENT, INC]" <john.h.caldwell@nasa.gov>

**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Hi Ravi,

Let's plan for Wednesday at 3pm EDT. I will send you a zoom link and promise to not take up too much of your time.

I look forward to virtually meeting you!

Best,  
Stephanie

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>

**Sent:** Sunday, June 13, 2021 9:31 AM

**To:** Stephanie Bianca <(b) (6)> Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>

**Cc:** Caldwell, John H. (GSFC-130.0)[ADVOCATES IN MANPOWER MANAGEMENT, INC] <john.h.caldwell@nasa.gov>

**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Hi Stephanie and Rani,

I am free on the following Eastern times:

Monday June 14 from 2pm – 3pm ET, and 4pm-6pm ET

Wednesday June 16 from 1pm – 6pm ET.

Thursday June 17, flexible times from 1pm – 6pm.

Friday June 18 same as Thursday schedule.

Best  
Ravi

---

**From:** Stephanie Bianca <(b) (6)>

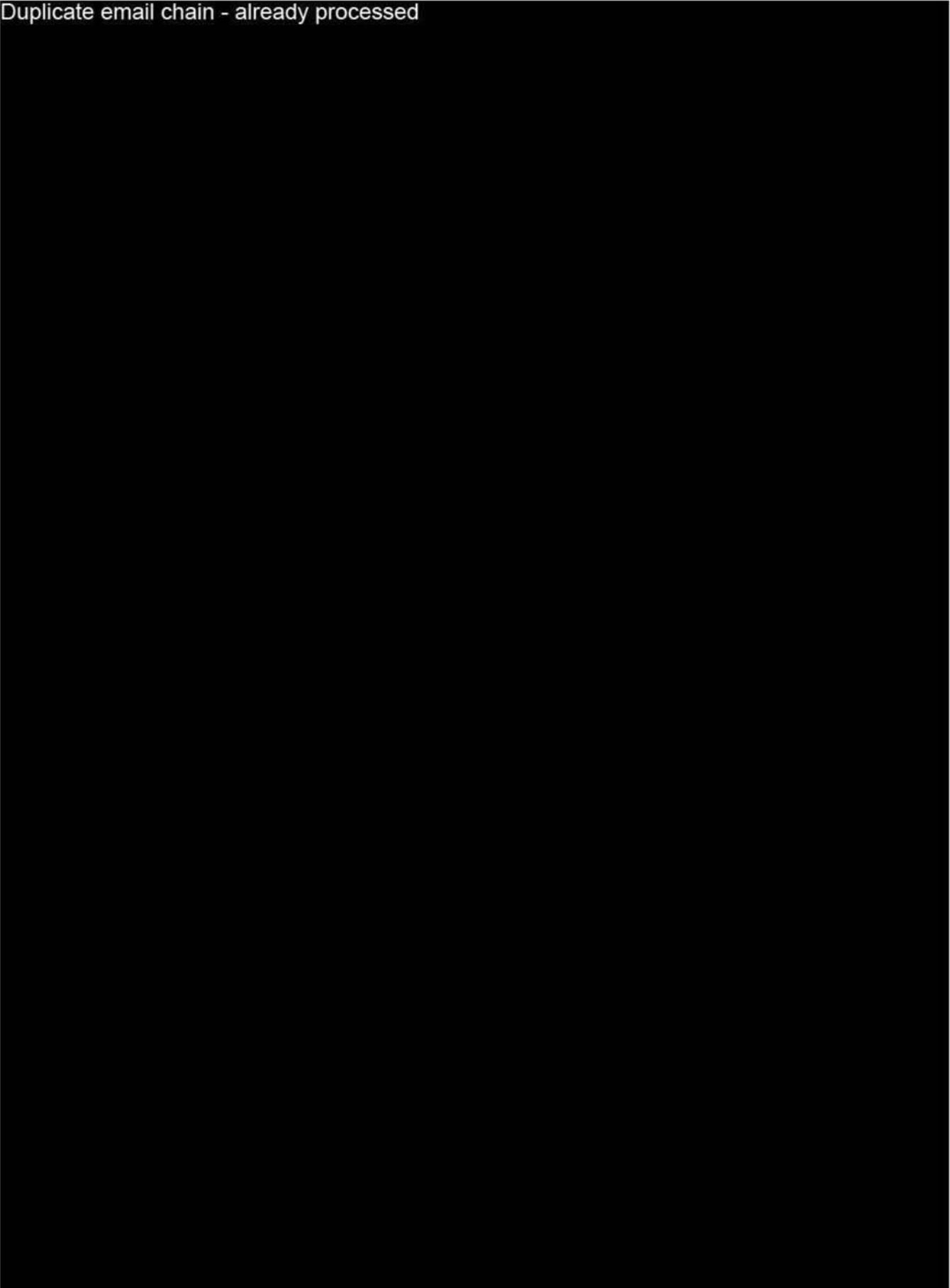
**Date:** Saturday, June 12, 2021 at 12:39 PM

**To:** "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>, "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Cc:** "Caldwell, John H. (GSFC-130.0)[ADVOCATES IN MANPOWER MANAGEMENT, INC]" <john.h.caldwell@nasa.gov>

**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

4 page(s) containing duplicate information is/are held in the file.

**From:** [Stephanie Bianca](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Gran, Rani C. \(GSFC-1300\)](#)  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation  
**Date:** Monday, June 14, 2021 2:46:21 PM

---

Stephanie Bianca is inviting you to a scheduled Zoom meeting.

Topic: Ravi Kopparapu Pre-Interview  
Time: Jun 16, 2021 03:00 PM Eastern Time (US and Canada)

Join Zoom Meeting

<https://us04web.zoom.us/j/6020004978?pwd=ZXRtL3pwalcyTEtDSGJ5Um1hMWpmQT09>

Meeting ID: (b) (6)

Passcode: (b) (6)

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Sent:** Monday, June 14, 2021 5:25 AM  
**To:** Stephanie Bianca <(b) (6)> Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>  
**Cc:** Caldwell, John H. (GSFC-130.0)[ADVOCATES IN MANPOWER MANAGEMENT, INC] <john.h.caldwell@nasa.gov>  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

6 page(s) containing duplicate information is/are held in the file.

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Earl Sisson](#)  
**Subject:** Re: [EXTERNAL] NASA's involvement in the UFO / UAP controversy  
**Date:** Monday, June 14, 2021 6:39:05 PM

---

Dear Earl,

Thank you for your email. I do know about Paul's book and other people also informed me about the book over the years. I do appreciate the book suggestion and my plan is to take a look at it.

Best

Ravi

---

**From:** Earl Sisson (b) (6)  
**Date:** Monday, June 14, 2021 at 2:49 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** [EXTERNAL] NASA's involvement in the UFO / UAP controversy

My name is Earl Sisson, I am a UFO researcher with 25 years experience. (b) (6)  
(b) (6)

I am sure you may dismiss anything I would write, but please take a few moments to research one of your own, a NASA aerodynamicist by the name of Paul R. Hill. After his death, his wife published his manuscript, "Unconventional Flying Objects - A Scientific Analysis.

Please take some time to become familiar with his efforts.

Earl Sisson

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Adam Frank](#)  
**Subject:** FW: Re: Historical incidents of UFOs  
**Date:** Tuesday, June 15, 2021 7:51:46 AM

---

Hi Adam,

If you are able to make it to today's discussion at 1pm ET, here is the context (emails) that led to our meeting today. Down the thread, there are some article links written by Greg.

Best

Ravi

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Date:** Friday, May 28, 2021 at 12:13 PM

**To:** Greg Eghigian <(b) (6)>

**Cc:** (b) (6) <(b) (6)>

**Subject:** Re: [EXTERNAL] Re: Historical incidents of UFOs

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

4 page(s) containing duplicate information is/are held in the file.

**From:** [Adam Frank](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Cc:** [Jacob Haqq-Misra](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)](#)[Science Collaborator]  
**Subject:** [EXTERNAL] Re: [EXT] UAP discussion  
**Date:** Tuesday, June 15, 2021 8:30:41 AM

---

Hi Ravi and Jacob

I hope to join the conversation for a time if possible. I am, unfortunately preparing a big talk for a conference this weekend and that may eat my brain for the day.

Thank you for inviting me and hopefully the day lets me attend for a bit.

My best  
Adam

=====

Adam Frank  
Helen F. and Fred H. Gowen Professor  
Department of Physics and Astronomy  
University of Rochester  
Rochester New York 14627-0171

<http://www.adamfrankscience.com>

=====

On Jun 15, 2021, at 7:45 AM, Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hello all,  
Just a reminder about our meeting today at 1pm ET. Here is the connection information.

<https://zoom> (b) (6)

password: (b) (6)

See you all soon.

Best  
Ravi

--

Ravi kumar Kopparapu

NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Kevin Knuth](#)  
**Subject:** Re: [EXTERNAL] Re: UAP discussion  
**Date:** Tuesday, June 15, 2021 8:44:11 AM

---

Hi Kevin,

Oh, wow! An all-nighter. Ok, let me ask others.

And yes, I wanted to have us first start the discussion and then bring in more interested people at a later time. Even I did not include some of my colleagues who expressed interest. My goal for this meeting is to bring forth all our perspectives and identify which areas are physical observations and which are sociological (so that the whole phenomena is not broadly brushed away as a cultural phenomenon).

Ravi

---

**From:** Kevin Knuth <(b) (6)>  
**Date:** Tuesday, June 15, 2021 at 8:40 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** [EXTERNAL] Re: UAP discussion

Hello Ravi,

Two questions.

First, I just pulled an all-nighter writing a proposal, and I will not be finished until about 9:30am.

Then I need to get some sleep.

Is there any way that we can reschedule?

I am sorry to ask this as I was looking forward to this conversation.

Second, did you intend to exclude Matthew Szydagis?

Thanks

Kevin

---

Kevin H. Knuth, Ph.D.  
Editor-in-Chief of Entropy  
Associate Chair, Physics  
Associate Professor of Physics  
University at Albany (SUNY)  
Albany NY 12222  
<http://knuthlab.org>

On Tue, Jun 15, 2021 at 7:45 AM Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hello all,

Just a reminder about our meeting today at 1pm ET. Here is the connection information.

<https://zoom> (b) (6)

password: (b) (6)

See you all soon.

Best

Ravi

--

Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Eghigian, Greg](#)  
**Cc:** [Kevin Knuth](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#); [Adam Frank](#)  
**Subject:** Re: [EXTERNAL] Re: UAP discussion  
**Date:** Tuesday, June 15, 2021 8:55:06 AM

---

Great! Wonderful! Moving to Friday also works for me, as I am changing my internet provider at the exact same time as our meeting. I was worried if I will lose connection in the midst of our discussion.

Ok, does Friday June 18, 1pm work for everyone? Or most? I will send a calendar invite.  
Ravi

---

**From:** "Eghigian, Greg" <(b) (6)>  
**Date:** Tuesday, June 15, 2021 at 8:52 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Cc:** Kevin Knuth <(b) (6)> "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)> Adam Frank <(b) (6)>  
**Subject:** [EXTERNAL] Re: UAP discussion

Yes, moving it actually would work better for me. Friday at 1 pm is fine on my end.

Greg

Greg Eghigian  
Professor of History  
Penn State University

Department of History  
108 Weaver Building  
Penn State University  
University Park, PA 16802  
USA  
Email: (b) (6)

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Tuesday, June 15, 2021 at 8:46 AM  
**To:** Greg Eghigian <(b) (6)>  
**Cc:** Kevin Knuth <(b) (6)> <(b) (6)> <(b) (6)> Adam Frank <(b) (6)>  
**Subject:** Re: UAP discussion

Hi all again,  
So, it looks like some may not be able to make it to today's meeting. Is there any possibility we could move our meeting to this Friday (June 18) at 1pm?  
Thanks

Ravi

Duplicate email chain - already processed



**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Kevin Knuth](#)  
**Subject:** Re: [EXTERNAL] Re: [EXT] UAP discussion  
**Date:** Tuesday, June 15, 2021 9:10:15 AM

---

Hi Kevin,  
Please fill the poll below. Maybe you may not need to move your other meeting.

---

**From:** Kevin Knuth <(b) (6)>  
**Date:** Tuesday, June 15, 2021 at 9:08 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: [EXTERNAL] Re: [EXT] UAP discussion

Hey Ravi,

I just set the ball in motion to move an appointment on Friday to make this meeting.  
Please give me a little time to see what people say.

Sorry to cause problems.

Thanks!

Kevin

---

Kevin H. Knuth, Ph.D.  
Editor-in-Chief of Entropy  
Associate Chair, Physics  
Associate Professor of Physics  
University at Albany (SUNY)  
Albany NY 12222  
<http://knuthlab.org>

On Tue, Jun 15, 2021 at 9:00 AM Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Here is a poll for three day times (June 17, 18 & 22). Please fill your times. I would **\*really\*** love to have a time that all of you can make it.

<https://www.when2meet.com/?12124110-ScqeJ>

---

**From:** Adam Frank <(b) (6)>

**Date:** Tuesday, June 15, 2021 at 8:55 AM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

**Cc:** "Eghigian, Greg" <(b) (6)> Kevin Knuth <(b) (6)> "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>

**Subject:** [EXTERNAL] Re: [EXT] UAP discussion

Hi Everyone

Friday is my conference so I will not be able to attend at all then.

My best

Adam

=====

Adam Frank

Helen F. and Fred H. Gowen Professor

Department of Physics and Astronomy

University of Rochester

Rochester New York 14627-0171

<http://www.adamfrankscience.com>

=====

On Jun 15, 2021, at 8:46 AM, Kopparapu, Ravi Kumar (GSFC-6990)

<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Duplicate email chain - already processed



**Subject:** UAP discussion

Hello all,

Just a reminder about our meeting today at 1pm ET. Here is the connection information.

<https://zoom> (b) (6)

password (b) (6)

See you all soon.

Best

Ravi

—

Ravi kumar Kopparapu

NASA Goddard Space Flight Center

Greenbelt, MD 20771

email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

**From:** Adam Frank  
**To:** Kopparapu, Ravi Kumar (GSFC-6990)  
**Subject:** Re: [EXTERNAL] [EXT] UAP discussion  
**Date:** Tuesday, June 15, 2021 9:51:44 AM

---

Hi Ravi

If you are cool waiting.... Tuesday 6/22 at 1 pm. It's on the calendar.

My best  
Adam

=====

Adam Frank  
Helen F. and Fred H. Gowen Professor  
Department of Physics and Astronomy  
University of Rochester  
Rochester New York 14627-0171

<http://www.adamfrankscience.com>

=====

On Jun 15, 2021, at 9:46 AM, Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Adam,

It looks like there are some times available next Tuesday June 22.

<https://www.when2meet.com/?12124110-ScqeI>

Would you be able to make it? If not, we will do Friday and I can update you about our discussion. I personally would love to have you in the meeting, but no worries if you are busy.

Best

Ravi

---

**From:** Adam Frank <(b) (6)>  
**Date:** Tuesday, June 15, 2021 at 8:55 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** "Eghigian, Greg" <(b) (6)> Kevin Knuth <(b) (6)>  
"Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Subject:** [EXTERNAL] Re: [EXT] UAP discussion

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

2 page(s) containing duplicate information is/are held in the file.

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Eghigian, Greg](#)  
**Subject:** Re: [EXTERNAL] Accepted: Discussion about UAP/UFO  
**Date:** Tuesday, June 15, 2021 10:53:52 AM

---

Yes, no passcode.

---

**From:** "Eghigian, Greg" <(b) (6)>  
**Date:** Tuesday, June 15, 2021 at 10:51 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** [EXTERNAL] Accepted: Discussion about UAP/UFO

Assuming there is no passcode?

Greg

Greg Eghigian  
Professor of History  
Penn State University

Department of History  
108 Weaver Building  
Penn State University  
University Park, PA 16802  
USA  
Email: (b) (6)



**From:** [Gran, Rani C. \(GSFC-1300\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [David Sloan](#)  
**Subject:** Re: Antwort: Re: Antwort: Re: Antwort: Re: Antwort: Re: Antwort: Re: [EXTERNAL] Media Request - German Broadcasting  
**Date:** Tuesday, June 15, 2021 2:22:56 PM

---

nope

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Date:** Tuesday, June 15, 2021 at 2:20 PM  
**To:** Rani Gran <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>, David Sloan <(b) (6)>  
**Subject:** Re: Antwort: Re: Antwort: Re: Antwort: Re: Antwort: Re: Antwort: Re: [EXTERNAL] Media Request - German Broadcasting

Sure, works for me. Do I need to fill in a center access form?

---

**From:** "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Date:** Tuesday, June 15, 2021 at 2:18 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, David Sloan <(b) (6)>  
**Subject:** Re: Antwort: Re: Antwort: Re: Antwort: Re: Antwort: Re: Antwort: Re: [EXTERNAL] Media Request - German Broadcasting

We could do the interview from outside the visitor center.

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center

Greenbelt, MD. 20771

Work Cell : (b) (6)

Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Date:** Tuesday, June 15, 2021 at 2:17 PM

**To:** Rani Gran <rani.c.gran@nasa.gov>, David Sloan <(b) (6)>

**Subject:** Re: Antwort: Re: Antwort: Re: Antwort: Re: Antwort: Re: [EXTERNAL] Media Request - German Broadcasting

Hi Rani and David,

Yes, I am available on June 22<sup>nd</sup>, except from 1-2:30pm. Any time other than 1-2:30pm should be good.

Best

Ravi

---

**From:** "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>

**Date:** Tuesday, June 15, 2021 at 1:44 PM

**To:** David Sloan <(b) (6)> "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>

**Subject:** Re: Antwort: Re: Antwort: Re: Antwort: Re: Antwort: Re: Antwort: Re: [EXTERNAL] Media Request - German Broadcasting

I'm adding Ravi to the discussion. Ravi, are you available to do the interview on the 22<sup>nd</sup>?

Rani

--

Rani C. Gran

Office of Communications

Mail Code 420, B36, S470

NASA Goddard Space Flight Center

Greenbelt, MD. 20771

Work Cell : (b) (6)

Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** David Sloan <(b) (6)>

**Date:** Tuesday, June 15, 2021 at 10:41 AM

**To:** Rani Gran <rani.c.gran@nasa.gov>

**Subject:** Antwort: Re: Antwort: Re: Antwort: Re: Antwort: Re: [EXTERNAL] Media Request - German Broadcasting

Hi Rani:

It was great speaking with you. I just spoke with my team and we were thinking of doing it on the 22nd, but we're pretty flexible that week. Let me know! Thanks again.

Best,

David

-----"Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov> schrieb: -----

An: "David Sloan" <(b) (6)>

Von: "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>

Datum: 14.06.2021 12:06

Betreff: Re: Antwort: Re: Antwort: Re: Antwort: Re: [EXTERNAL] Media Request - German Broadcasting

How about 10:00am.?

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** David Sloan <(b) (6)>

**Date:** Monday, June 14, 2021 at 11:26 AM

**To:** Rani Gran <rani.c.gran@nasa.gov>

**Subject:** Antwort: Re: Antwort: Re: Antwort: Re: [EXTERNAL] Media Request - German Broadcasting

Hi Rani:

Certainly, do you have anytime tomorrow to chat? Let me know. Thanks.

- David

-----"Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)> schrieb: -----

An: "David Sloan" <(b) (6)>

Von: "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>

Datum: 11.06.2021 16:48

Betreff: Re: Antwort: Re: Antwort: Re: [EXTERNAL] Media Request - German Broadcasting

Hi David,

Could we please talk by phone soon, so that I can get some more information about your story.? I want to make sure we are on the same page. It will help me work the approvals with my bosses too.

Do you have any questions you want to send us ahead of time...so I understand the thrust of the interview/story.

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** David Sloan <(b) (6)>

**Date:** Friday, June 11, 2021 at 4:44 PM

**To:** Rani Gran <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>

**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)"

<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>

**Subject:** Antwort: Re: Antwort: Re: [EXTERNAL] Media Request - German Broadcasting

That's works for us. That's closer to what we're looking for. Does the 21st work? Let me

know and we can work around it. Thanks again.

Best,

David

-----"Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)> schrieb: -----

An: "David Sloan" <(b) (6)> "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

Von: "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>

Datum: 11.06.2021 16:35

Kopie: "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>

Betreff: Re: Antwort: Re: [EXTERNAL] Media Request - German Broadcasting

Hello David,

Because NASA has no involvement in the UFO/UAP report, we don't know what it's going to look like and cannot comment on how people should analyze it.

However, Ravi can talk more generally about the type of information that would be useful to scientists and the science case for studying UAPs.

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** David Sloan <(b) (6)>

**Date:** Friday, June 11, 2021 at 2:31 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

**Cc:** Rani Gran <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>, "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>

**Subject:** Antwort: Re: [EXTERNAL] Media Request - German Broadcasting

Hi Ravi:

Thanks for getting back to. It's good to meet you Nancy and Rani. As I mentioned we were hoping to do an person interview about the UFO/UAP report and help explain what

we should take from it. We were actually hoping to do it on Monday the 21st. Please let me know if this is possible and if you have any questions. Thanks again.

Best,

David

-----"Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> schrieb:

-----  
An: "David Sloan" <(b) (6)>  
Von: "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
Datum: 11.06.2021 14:06  
Kopie: "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>, "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>  
Betreff: Re: [EXTERNAL] Media Request - German Broadcasting

Hi David,

Thank you for your request. I am copying our NASA Public office representatives Rani Gran and Nancy Jones in this email so that you can co-ordinate with them.

Best

Ravi

---

**From:** David Sloan <(b) (6)>  
**Date:** Friday, June 11, 2021 at 12:22 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL] Media Request - German Broadcasting

Hi Ravi:

My name is David Sloan and I am the Washington, DC based producer for Germany's international broadcaster Deutsche Welle. We are producing a story on the UFO/UAP report that will be delivered to Congress this month and we were hoping you would be able to help elaborate on what it means and how people should analyze it. Would you be available for a few minutes later next week for an in person interview? Please let me know if you have any questions and I hope to hear from you soon. Thanks again.

Best,

David Sloan  
Reporter/Producer

Deutsche Welle (DW)  
2000 M St. NW Suite 335  
Washington, DC 20036

M: (b) (6)  
@DaveASloan

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[dw.com](http://dw.com)

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Gran, Rani C. \(GSFC-1300\)](#)  
**Date:** Tuesday, June 15, 2021 2:25:12 PM

---

oh...this is for UAP right? hmmm

**From:** [Gran, Rani C. \(GSFC-1300\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Stephanie Bianca](#)  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation  
**Date:** Wednesday, June 16, 2021 12:00:33 PM

---

Same...

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Date:** Wednesday, June 16, 2021 at 11:07 AM  
**To:** [Stephanie Bianca](#) <(b) (6)> [Rani Gran](#) <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Thanks Stephanie. I personally have no problem recording our session.

---

**From:** [Stephanie Bianca](#) <(b) (6)>  
**Date:** Wednesday, June 16, 2021 at 11:02 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Hi Ravi,

Here are the questions I'll be asking you today during the pre-interview. It's very informal and a way for me to get your take on different topics so we can tailor the actual taping questions more specifically to you. If you're not opposed, I'd like to record the session so I can have your answers transcribed.

See you today at 3pm!

Stephanie

---

**From:** [Stephanie Bianca](#) <(b) (6)>

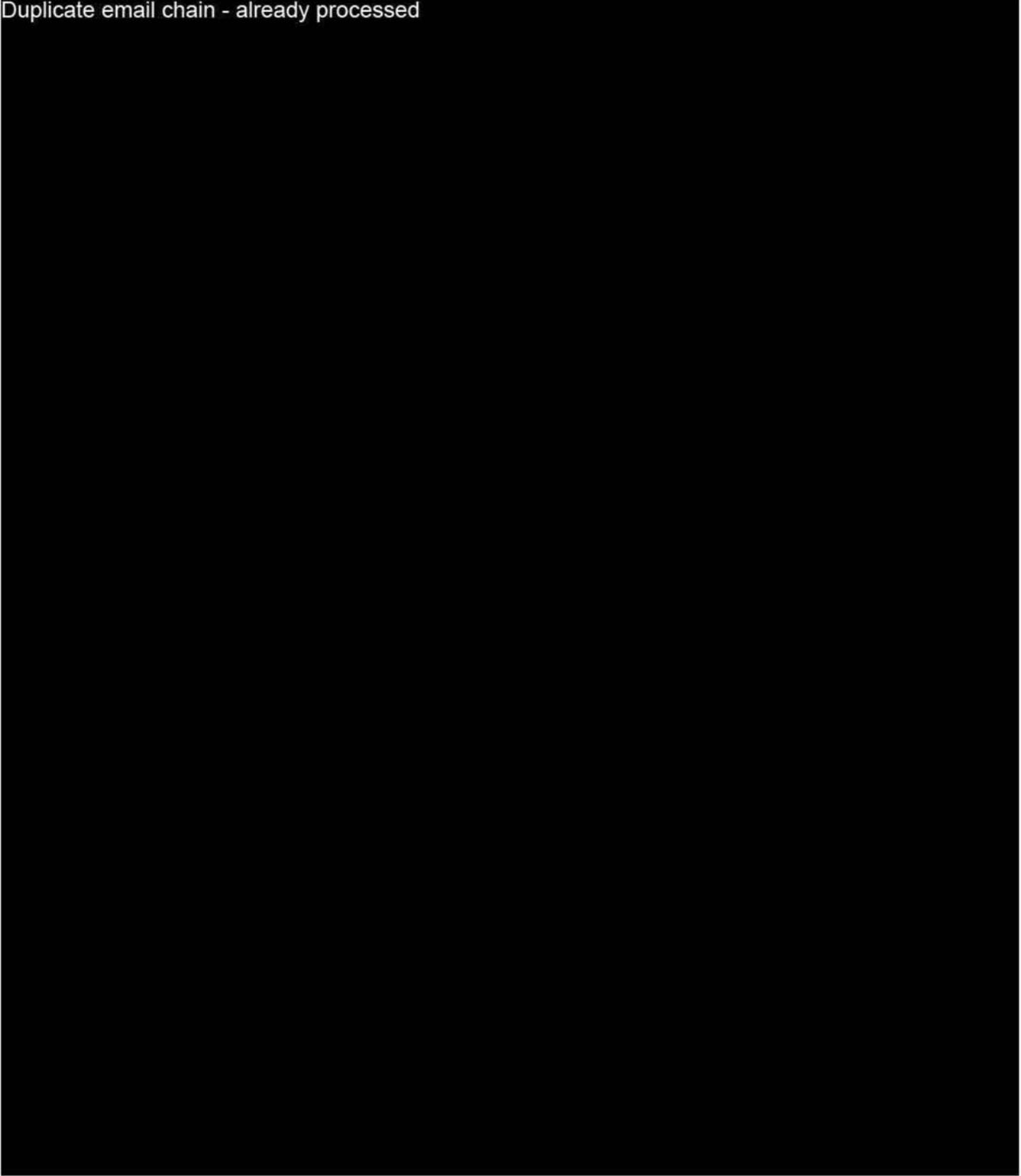
**Sent:** Sunday, June 13, 2021 6:52 PM

**To:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>; Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>

**Cc:** Caldwell, John H. (GSFC-130.0)[ADVOCATES IN MANPOWER MANAGEMENT, INC] <john.h.caldwell@nasa.gov>

**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

5 page(s) containing duplicate information is/are held in the file.

## **RAVI KOPPARAPU – PRE-INTERVIEW QUESTIONS**

OVERVIEW OF CAREER WITH NASA

CURRENT MAIN FOCUS OF RESEARCH

DO YOU THINK IT'S POSSIBLE THAT THERE'S LIFE ON OTHER PLANETS?

WHAT DO YOU THINK IS THE MOST PROMINENT LIFE FORM – MICROBIAL? PLANT? ANIMAL?

OUMUAMUA:

WHAT WAS YOUR INITIAL REACTION UPON SEEING IT?

WHAT DO YOU THINK IT'S COMPOSED OF?

WHERE DO YOU THINK IT CAME FROM?

DO YOU HAVE ANY THEORIES ON WHY IT MOVED THE WAY IT DID?

WHAT ARE YOUR THOUGHTS ABOUT UAPS?

HAVE YOU SEEN THE NAVY VIDEOS OF UAPS?

COMING FROM YOUR SCIENTIFIC RESEARCH BACKGROUND, DO YOU HAVE ANY THEORIES ABOUT WHAT THEY MIGHT BE?

WHAT DO YOU THINK HAS BEEN THE MOST MYSTERIOUS DISCOVERY TO DATE?

ARE THERE ANY THEORIES FLOATING AROUND ABOUT UAPS THAT YOU DISAGREE WITH?

WHAT'S THE ONE THING YOU WOULD LIKE TO SHARE WITH THE PUBLIC REGARDING YOUR RESEARCH?

**From:** [Domagal-goldman, Shawn D. \(GSFC-6930\)](#)  
**To:** [Arney, Giada N. \(GSFC-6930\)](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Fwd: Is the Pentagon minds being controlled? (part 1 of 2)  
**Date:** Wednesday, June 16, 2021 6:16:32 PM

---

Did you congratulate him on his (b) (6)

-----  
Shawn Domagal-Goldman  
he/him/his  
Branch Chief, Planetary Systems Lab (Code 693)  
NASA Goddard Space Flight Center

Note - If you receive an email from me on nights and/or weekends, that doesn't mean I expect you to read it or reply at that time. If its urgent and I need an immediate reply, I'll be sure to let you know. Otherwise, please read/reply when you can during whatever your working hours happen to be.

---

**From:** Arney, Giada N. (GSFC-6930) <giada.n.arney@nasa.gov>  
**Sent:** Wednesday, June 16, 2021 1:42 PM  
**To:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Cc:** Domagal-goldman, Shawn D. (GSFC-6930) <shawn.goldman@nasa.gov>  
**Subject:** Re: [EXTERNAL] Fwd: Is the Pentagon minds being controlled? (part 1 of 2)

Oh my...

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Date:** Wednesday, June 16, 2021 at 12:21 PM  
**To:** "Arney, Giada N. (GSFC-6930)" <giada.n.arney@nasa.gov>  
**Cc:** "Domagal-goldman, Shawn D. (GSFC-6930)" <shawn.goldman@nasa.gov>  
**Subject:** FW: [EXTERNAL] Fwd: Is the Pentagon minds being controlled? (part 1 of 2)

This person has been spamming me since the WaPo article.  
Just wanted to share the pain.

---

**From:** (b) (6)  
**Date:** Wednesday, June 16, 2021 at 12:20 PM  
**To:** (b) (6)  
(b) (6)  
"Kopparapu, Ravi  
Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, (b) (6)  
(b) (6)

Duplicate email chain - already processed

## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

4 page(s) containing duplicate information is/are held in the file.

**From:** [Suvrath Mahadevan](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] HPF Validation of KOI-4777 (an USP Mars-sized planet)  
**Date:** Thursday, June 17, 2021 12:57:03 AM

---

Ravi,

Zoom Link below. Talk to you at 10am!

<https://psu.zoom.us/j/911111111111> (b) (6)

S

On Wed, Jun 16, 2021 at 5:56 PM Suvrath Mahadevan <(b) (6)> wrote:

10am is good

I can send out a zoom link later tonight when I get home.

S

On Wed, Jun 16, 2021, 17:49 Kopparapu, Ravi Kumar (GSFC-6990)

<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Tomorrow morning is good. 10am?

---

**From:** Suvrath Mahadevan <(b) (6)>

**Date:** Wednesday, June 16, 2021 at 5:12 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

**Subject:** Re: [EXTERNAL] HPF Validation of KOI-4777 (an USP Mars-sized planet)

>An interesting thing happened regarding fellowships for technosignatures while I was on a panel. Will chat about it when we talk on zoom.

Yeah! We should definitely catch up! Lots to catch up and talk about. How is your morning looking tomorrow? I can do anytime 9:15-11:30

S

On Wed, Jun 16, 2021 at 5:07 PM Kopparapu, Ravi Kumar (GSFC-6990)

<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Ultimately I think its important to normalize serious scientific pursuit of this so fellowships go to junior researchers, and ensure grants flow to technosignatures etc.

-----

Yes, NASA has significantly changed its perspective and is now actively funding Technosignature work. If LUVOIR/HabEX gets selected, I think Technosignatures will play a big role. At least that's how I am building things on the NASA side. We have to actually do science and show these are possible to detect with missions, and are not some sci-fi stuff. This is actually possible. My paper on atmospheric pollution did just that. I spoke their language and the LUVOIR team liked it.

An interesting thing happened regarding fellowships for technosignatures while I was on a panel. Will chat about it when we talk on zoom.

Ravi

---

**From:** Suvrath Mahadevan <(b) (6)>  
**Date:** Wednesday, June 16, 2021 at 5:00 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] HPF Validation of KOI-4777 (an USP Mars-sized planet)

Got it! Jason's been doing the same at this end on SETI stuff. though not on UFO stuff.

Ultimately I think its important to normalize serious scientific pursuit of this so fellowships go to junior researchers, and ensure grants flow to technosignatures etc.

S

On Wed, Jun 16, 2021 at 4:49 PM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Okay! Now I am really curious and have to ask : ) What?

-----

I think I can better explain in person. Starting and building a new field of research (Technosignatures) takes time. .... And there are other things:

[https://www.google.com/search?q=ravi+kopparapu&client=firefox-b-1-e&source=lnms&tbn=nws&sa=X&ved=2ahUKewjR6d7fgp3xAhXaSTABHS7GAPoQ\\_AUoAXoECAEQAw&biw=1248&bih=591](https://www.google.com/search?q=ravi+kopparapu&client=firefox-b-1-e&source=lnms&tbn=nws&sa=X&ved=2ahUKewjR6d7fgp3xAhXaSTABHS7GAPoQ_AUoAXoECAEQAw&biw=1248&bih=591)

Ravi

---

**From:** Suvrath Mahadevan <(b) (6)>  
**Date:** Wednesday, June 16, 2021 at 4:42 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] HPF Validation of KOI-4777 (an USP Mars-sized planet)

> Other research and media stuff.

Okay! Now I am really curious and have to ask : ) What?

>The Venus phosphine thing certainly helped, though not the way I would have done it.

Indeed. The future is uncertain. But also this was not a paper you or I would ever have written the way they did.

Hard to argue with the outcome though.. its pretty positive for the Venus community!

S

On Wed, Jun 16, 2021 at 4:38 PM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Oh, its not the Astro2020...at least not yet. Other research and media stuff.

The three Venus missions are indeed exciting. And I am not worried about it. The Mars community had several rovers and missions for decades, and it has significantly advanced our understanding of Mars. Venus, on the hand, we are limited to models or decades old data. We will be fine for several decades to come, and I don't think this will be the end of it. The Venus phosphine thing certainly helped, though not the way I would have done it.

---

**From:** Suvrath Mahadevan <(b) (6)>  
**Date:** Wednesday, June 16, 2021 at 4:29 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] HPF Validation of KOI-4777 (an USP Mars-sized planet)

>I am a bit overwhelmed with other things not related to my core science. I am hoping July would be easy....

Everything okay? Hope you are not too caught up in Astro2020 Decadal stuff (which I hope to see at least sometime in 2021).

Are you excited about the three Venus missions? I think they are cool, but do think its a bit strange that there are now 3 when there were 0 for decades. Not the best way to build a balanced planetary science portfolio. Good for exoplanets though!

S

On Wed, Jun 16, 2021 at 4:08 PM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Ok great to hear about NEID! That is indeed fantastic. Tbh, I don't think there ever was a doubt it would clear. And yes, you definitely need some downtime. I hope you can have a relaxing time.

As for the paper, let me take a look at it. My knee-jerk thought is it may be a planet that may have lost its atmosphere and turned into a leftover rocky core. But let me take a look.

I was going to write that Sonny already submitted the paper a while back, and then I checked with him just now. As you said, he is working on the appendix. I told him to submit it without the appendix and we will see if we can add in the review. I actually thought he had already submitted the paper (he was asking about potential reviewers a month ago!).

We are all good (b) (6) Work wise, I am a bit overwhelmed with other things not related to my core science. I am hoping July would be easy....but that's just a hope.

Ravi

---

**From:** Suvrath Mahadevan <(b) (6)>  
**Date:** Wednesday, June 16, 2021 at 2:59 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Fwd: [EXTERNAL] HPF Validation of KOI-4777 (an USP Mars-sized planet)

Ravi,

Just to follow up on Caleb's comment- this system is pretty interesting! Its the smallest USP known and Mars-sized.

Freakishly faint and low amplitude, both in transits and RVs, so not much else to do from the ground beyond what we've done here with HPF.

I don't think there'd be much of an atmosphere, but there are probably a few interesting things to mull about on that, which could use your insight. What angles did we miss?

On other matters

NEID has cleared its NASA Operational Readiness Review and is in full operations! Whew! Didn't need a pandemic on top of everything on that project.

I'm hoping to get some downtime and step away this summer. Planning to go to (b) (6)

On Sonny's paper- That Appendix is getting to be a thesis in its own right! I think it will be fantastic resource to have the algorithms documented. But do worry that if we keep delaying a mass measurement of TOI1266 b,c will emerge rendering half the paper moot, and we'd have to rewrite a bunch. Not sure what to suggest here..to move this forward.

How are you Varada and kids doing?

Best,

Suvrath

best,

Suvrath

----- Forwarded message -----

From: Cañas, Caleb <(b) (6)>  
Date: Wed, Jun 16, 2021 at 1:58 PM  
Subject: Re: [EXTERNAL] HPF Validation of KOI-4777 (an USP Mars-sized planet)  
To: Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
Cc: Suvrath Mahadevan <(b) (6)>

Hi Ravi,

I attach a draft of the paper. You can find the overleaf here:

[https://www.overleaf.com/\(b\) \(6\)](https://www.overleaf.com/(b) (6)) I added some discussion as to what we could expect re ng LHS 3844 b as a larger analogue to KOI-4777. However, if you think there are some valuable insights to mention with regards to any potential atmosphere for a hot Mars-sized USP, please let me know and I would be happy to add it in the discussion.

Best,

Caleb

---

**From:** Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

**Sent:** Tuesday, April 20, 2021 6:49 PM

**To:** Cañas, Caleb <(b) (6)>

**Cc:** 'Suvrath Mahadevan' <(b) (6)>

**Subject:** Re: [EXTERNAL] HPF Validation of KOI-4777 (an USP Mars-sized planet)

Hi Caleb,

Thanks for your email. I can try and help with discussion, if you think it is relevant to your paper. You can decide about the authorship, I am totally fine either way. I like that you all are finding interesting systems filling parts of the puzzle.

Ravi

---

**From:** '(b) (6)' <(b) (6)>

**Date:** Tuesday, April 20, 2021 at 5:25 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

**Cc:** 'Suvrath Mahadevan' <(b) (6)>

**Subject:** [EXTERNAL] HPF Validation of KOI-4777 (an USP Mars-sized planet)

Hi Ravi,

I am a (b) (6) working with Suvrath and I am drafting a manuscript for an object which we have validated as a planet using HPF. We have precision radial velocities on KOI-4777, a mid-M dwarf ( $T_{\text{eff}} \sim 3500$  K) that hosts a hot ( $T_{\text{eq}} = 1185$  K), small planet candidate ( $R = \sim 0.47 R_{\text{Earth}}$ ) on a 0.412-day orbit. This KOI was not in Kepler DR25 originally as the period was too short to pass vetting from the pipeline. It was instead given the designation of a KOI after manual vetting by the Kepler team.

Using a combination of HPF radial velocities, Kepler photometry, AO imaging we are able to statistically validate KOI-4777b as a Mars-sized USP exoplanet. I note that confirmation of the planet (detecting it in RVs) is beyond the current ability of existing instruments given the faintness of the target and the low amplitude of the signal.

I wanted to know if you would be interested in joining as a co-author on this manuscript. The current draft is [here](#) and I note the discussion is incomplete. Suvrath suggested you may have some good thoughts and ideas about the importance of these hot USP planets and I would be happy to talk with you about science angles for KOI-4777. Any insights you might have regarding atmospheres of such planets would be welcome topics for the discussion section. Thanks in advance!

Best,

Caleb

**From:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Date:** Thursday, June 17, 2021 9:14:45 AM

---

the topic is very apropos of the UFO situation

**From:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Date:** Thursday, June 17, 2021 9:17:12 AM

---

maybe he's following your UFO stuff

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Gran, Rani C. \(GSFC-1300\)](#)  
**Date:** Thursday, June 17, 2021 4:13:01 PM

---

right...

"Ideally we want to understand what it means for the scientific study of UAP/UFO and explaining how the general public should view this subject now, with the taboo is starting to shrink. Also, what does it mean for the study of the habitability of other planets and potential life in other solar systems/planets/ect. When the report is made public and whatever parts are not redacted, what will be NASA's interest be in studying this subject."

**From:** [Beatriz Villarroel](#)  
**To:** [Jacob Haqq Misra](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.  
**Date:** Thursday, June 17, 2021 5:12:11 PM

---

Hi Jacob!

So far media hasn't discovered it, but I guess we will see within a few days :)

//B.

Den tors 17 juni 2021 kl 17:50 skrev Jacob Haqq Misra <(b) (6)>  
Congratulations! Yes, arxiv will probably gain some attention for this.

Has there been any media interest yet?

On Thu, Jun 17, 2021 at 7:22 AM Beatriz Villarroel  
<(b) (6)> wrote:

So far, nothing, but we haven't posted it on arXiv yet :)  
I thought of waiting a little bit.

Den tors 17 juni 2021 kl 13:19 skrev Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>:

Thanks Beatriz. Any feedback from anyone?

---

**From:** Beatriz Villarroel <(b) (6)>  
**Date:** Thursday, June 17, 2021 at 6:37 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.

Hi Jacob and Ravi,

Here is the published version of our paper, finally out:

<https://www.nature.com/articles/s41598-021-92162-7>

//B.

Den tis 1 juni 2021 kl 18:54 skrev Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>:

Thank you!

---

**From:** Beatriz Villarroel <(b) (6)>  
**Date:** Tuesday, June 1, 2021 at 12:51 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

8 page(s) containing duplicate information is/are held in the file.

From: [REDACTED]  
To: [REDACTED]  
Date: [REDACTED]

Re: [REDACTED]

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Eghigian, Greg](#)  
**Cc:** [Kevin Knuth](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)](#)[Science Collaborator]; [Adam Frank](#)  
**Subject:** Re: [EXTERNAL] Re: UAP discussion  
**Date:** Friday, June 18, 2021 8:25:49 PM  
**Attachments:** [mcdonald aaas 69.pdf](#)

---

Hello all,

Just a reminder about our meeting on **Tuesday, June 22<sup>nd</sup> at 1pm ET.**

Join Zoom Meeting: <https://us02web.zoom.us/j/6411016198>

Here are some articles from Greg. And I am re-attaching James Mc Donald's article "Science in Default" that I must have sent a 100 times to you all.

The idea is to try and make sense of diverging views on UFOs by social scientists who studied the cultural association of UFOs with aliens (where there is ample 'data'), and physical scientists like James Mc Donald and Allen Hynek who actually looked at available hard data about the nature of these objects.

<https://www.airspacemag.com/daily-planet/secret-government-program-track-ufos-its-not-first-180967597/>

<https://www.smithsonianmag.com/history/how-ufo-reports-change-with-technology-times-180968011/>

<https://www.historians.org/publications-and-directories/perspectives-on-history/march-2017/more-human-than-alien-researching-the-history-of-ufos>

Best

Ravi

---

**From:** "Eghigian, Greg" <(b) (6)>  
**Date:** Tuesday, June 15, 2021 at 8:52 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Cc:** Kevin Knuth <(b) (6)> "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)> Adam Frank <(b) (6)>  
**Subject:** [EXTERNAL] Re: UAP discussion

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

39 page(s) containing duplicate information is/are held in the file.

**From:** (b) (6)  
**To:** [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov); [Kopparapu, Ravi Kumar \(GSFC-6990\)](mailto:Kopparapu, Ravi Kumar (GSFC-6990))  
**Subject:** [EXTERNAL] Leonard David Media Inquiry: New UAP story - thanks  
**Date:** Sunday, June 20, 2021 3:17:48 PM

---

Got this...many thanks. Very useful comments!

Leonard

-----Original Message-----

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**To:** (b) (6) <(b) (6)>  
**Cc:** Gran, Rani C. (GSFC-1300) <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>; Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC] <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>  
**Sent:** Sun, Jun 20, 2021 11:33 am  
**Subject:** Re: [EXTERNAL] Leonard David Media Inquiry: New UAP story

Hi Leonard,

Thank you.

After the report is released, I hope the following things happen:

First, the scientific studies of UAP should not be a taboo anymore. This seems to be a real scientific problem and having a taboo keeps it from studying scientifically. This WAS scientifically studied several decades ago! We should remember our history. Scientists should be able to openly talk about the detailed needs for a scientific study.

Second, reliable data collection and availability are paramount. Without complete data, the scientific study of UAP will forever be a fringe topic. Snippets of edited videos are not reliable data and nothing meaningful can be deduced from them. Ideally, we would need simultaneous data from different regions of the electromagnetic spectrum (optical, infra-red, radio, for example). If there is such data available already, it would need to be analyzed by appropriate experts and scientists, making sure they have comprehensive data. There may be false positives, but that is the nature of science.

Third, there should be a coordinated effort from interested scientists of different disciplines (atmospheric scientists, aerospace experts, physicists, experienced engineers/technicians) to look at the data to figure out the nature of this phenomenon. Again, removing the taboo will significantly propel forward this particular collaborative effort among scientists.

Best

Ravi

---

**From:** (b) (6) <(b) (6)>  
**Reply-To:** (b) (6) <(b) (6)>  
**Date:** Sunday, June 20, 2021 at 11:46 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, (b) (6) <(b) (6)>

**Subject:** [EXTERNAL] Leonard David Media Inquiry: New UAP story

Ravi:

I am writing a follow-up UAP/UFO story - this one for Space.com.

Can you provide another comment - as I can't use your quotes from the Scientific American story.

As the report apparently is forthcoming (I guess) - any new takes from you on how the Pentagon task force report will shape future studies of the UFO phenomenon. What's the right course of action post-report?

Leonard

-----Original Message-----

**From:** (b) (6)  
**To:** ravikumar.kopparapu@nasa.gov <ravikumar.kopparapu@nasa.gov>  
**Sent:** Fri, May 28, 2021 9:46 am  
**Subject:** Leonard David Media Inquiry: New UAP story - thanks!

Ravi: Many thanks for this...much appreciated.

Leonard

-----Original Message-----

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**To:** (b) (6) <(b) (6)>  
**Sent:** Fri, May 28, 2021 9:33 am  
**Subject:** Re: [EXTERNAL] Leonard David Media Inquiry: New UAP story

Thank you for your inquiry. My approach to the upcoming Pentagon report is "wait and see." It may or may not reveal anything new to us. I would like to point out that the history of UAP scientific studies in the U.S. is not limited to the released video snippets, which is a good reminder to avoid painting the whole phenomena with one broad brush. Additionally, this is not a U.S.-specific issue, nor is it limited to observations by U.S. armed forces. There may not be a single explanation to *all* such observations. What I would like to suggest is that we not leap to any conclusions when the findings of the report are made public. The report would be immensely helpful if the data that informed it are made publicly available so that more experts and scientists can look at it and hopefully reach a scientific consensus on the nature of some of the unexplained events. Otherwise, there will always be conspiracy theories shrouding, and inhibiting, a proper scientific method of investigating UAPs.

Best  
Ravi

---

**From:** (b) (6) <(b) (6)>  
**Reply-To:** (b) (6) <(b) (6)>  
**Date:** Friday, May 28, 2021 at 9:19 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, (b) (6) <(b) (6)>  
**Subject:** [EXTERNAL] Leonard David Media Inquiry: New UAP story

Ravi:

I am writing a new story on the Unidentified Aerial Phenomenon (UAP) task force report - supposedly to be issued late next month.

I'd like to add your voice to this...I did see your new piece in the Washington Post - but perhaps you could amplify your views?

Here's the premise of my story:

UAP Report: A "Nothingburger"? Some UFO/UAP experts see the Pentagon's report late next month as seminal - others see it as dubious and worthless.

I am asking leading skeptics and UAP/UFO believers what they think such a report could/will not say and...what next?

Please do send any comments for consideration that you might have for this story.

Thanks,  
Leonard





## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

1 page(s) containing duplicate information is/are held in the file.

**From:** [Gran, Rani C. \(GSFC-1300\)](#)  
**To:** [David Sloan](#)  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#); [Hautaluoma, Grey \(HQ-NA020\)](#)  
**Subject:** Re: [EXTERNAL] Antwort: NASA Interview  
**Date:** Monday, June 21, 2021 4:42:41 PM

---

I'm on (b) (6) I've cc'd my colleague on this email. She should be able to help you out.

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** David Sloan <(b) (6)>  
**Date:** Monday, June 21, 2021 at 4:39 PM  
**To:** Rani Gran <rani.c.gran@nasa.gov>  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** [EXTERNAL] Antwort: NASA Interview

That's too bad. We travel next week, so can we set it up for the week after? July 5th or 6th?  
Let me know if that works. Thanks!

David

-----"Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov> schrieb: -----  
An: "David Sloan" <(b) (6)>  
Von: "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>  
Datum: 21.06.2021 16:29  
Kopie: "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
Betreff: NASA Interview

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## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

7 page(s) containing duplicate information is/are held in the file.

**From:** [Gran, Rani C. \(GSFC-1300\)](#)  
**To:** [Adam Frank](#)  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Evan Dawson](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#); [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: [EXTERNAL] Radio interview  
**Date:** Monday, June 21, 2021 5:47:50 PM

---

Thank you, Adam.

Evan, my apologies for misspelling your name. Will this be a live interview or taped?

Rani

--

Rani C. Gran

Office of Communications

Mail Code 420, B36, S470

NASA Goddard Space Flight Center

Greenbelt, MD, 20771

Work Cell : (b) (6)

Phone: 301-286-2483

"If we amplify everything, we hear nothing," Jon Stewart.

On 6/21/21, 5:29 PM, "Adam Frank" <(b) (6)> wrote:

Hi Rani

Evan Dawson is the host of Connections, an NPR talk show in Rochester.

I will let him answer the other questions:-)

Adam

> On Jun 21, 2021, at 11:28 AM, Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov> wrote:

>

> Thank you Ravi and Even.

>

> Hello Adam. Nice to meet you .

>

> I need some more information about your show and what the thrust of the interview will be also.

>

> Also, we are not going to comment on the UAP/UFO report. Only because NASA was not involved in creating the report and therefore, we don't know what is in it. However, we are open to talking about science and NASA efforts to Search for Life in and outside our solar system.



## Deletion Page

Requester: John Greenwald

Request #: 21-HQ-F-00603

3 page(s) originating with or of interest to the European Space Agency (ESA) are being referred to that agency for review and direct response to you.

**From:** [newsspace](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Leonard David FYI: UAP new story - thanks for the quotes!  
**Date:** Tuesday, June 22, 2021 12:37:13 PM

---

Sent from my iPhone

On Jun 22, 2021, at 10:22 AM, Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Thanks!

---

**From:** "(b) (6)" <(b) (6)>  
**Reply-To:** "(b) (6)" <(b) (6)>  
**Date:** Tuesday, June 22, 2021 at 8:03 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL] Leonard David FYI: UAP new story - thanks for the quotes!

Skies alive with UFOs? Government report on mysterious sightings due soon

<https://www.space.com/us-government-ufo-report-due-soon>

Leonard

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Adam Frank](#)  
**Cc:** [Eghigian, Greg](#); [Kevin Knuth](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Subject:** Re: [EXT] [EXTERNAL] Re: UAP discussion  
**Date:** Tuesday, June 22, 2021 1:00:53 PM

---

Hello all,

I am in the zoom room:

in Zoom Meeting: <https://us02web.zoom> (b) (6)

Ravi

---

**From:** Adam Frank <(b) (6)>  
**Date:** Tuesday, June 22, 2021 at 12:09 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Cc:** "Eghigian, Greg" <(b) (6)> [Kevin Knuth <\(b\) \(6\)>](#) "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Subject:** Re: [EXT] [EXTERNAL] Re: UAP discussion

Hi Everyone

I look forward to our discussion today. I will be joining by phone.

My best

Adam

=====

Adam Frank  
Helen F. and Fred H. Gowen Professor  
Department of Physics and Astronomy  
University of Rochester  
Rochester New York 14627-0171

<http://www.adamfrankscience.com>

=====

On Jun 18, 2021, at 8:25 PM, Kopparapu, Ravi Kumar (GSFC-6990)  
<ravikumar.kopparapu@nasa.gov> wrote:

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

2 page(s) containing duplicate information is/are held in the file.

**From:** [Kevin Knuth](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Cc:** [Szydagis, Matthew](#); [Peter Reali](#); [Philippe Ailleris](#)  
**Subject:** Re: [EXTERNAL] AIAA Conference Invitation  
**Date:** Tuesday, June 22, 2021 1:03:46 PM

---

Thank you Ravi!

We are interested in studying these things scientifically, which includes data analysis and excludes wild speculation.

I think that the six of us will be in agreement on this.

See you in a minute or two.

Cheers  
keV

-----  
Kevin H. Knuth, Ph.D.  
Editor-in-Chief of Entropy  
Associate Chair, Physics  
Associate Professor of Physics  
University at Albany (SUNY)  
Albany NY 12222  
<http://knuthlab.org>

On Tue, Jun 22, 2021 at 12:59 PM Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Kevin (all),

Thank you. Nijo contacted me last week about this program. I mentioned to him that I am interested in participating if the program strictly adheres to observed data (if any) and analyses, or the topics advocating for scientific study of UAP. I expressed to him that I will be dis-interested if the program deviates to speculation. From my side, if this goes through, I plan to talk about the few cases discussed in James Mc Donald's "Science In Default". I am hoping that we will have some in -depth conversation about any new observations and related science Q/A just like conference talks.

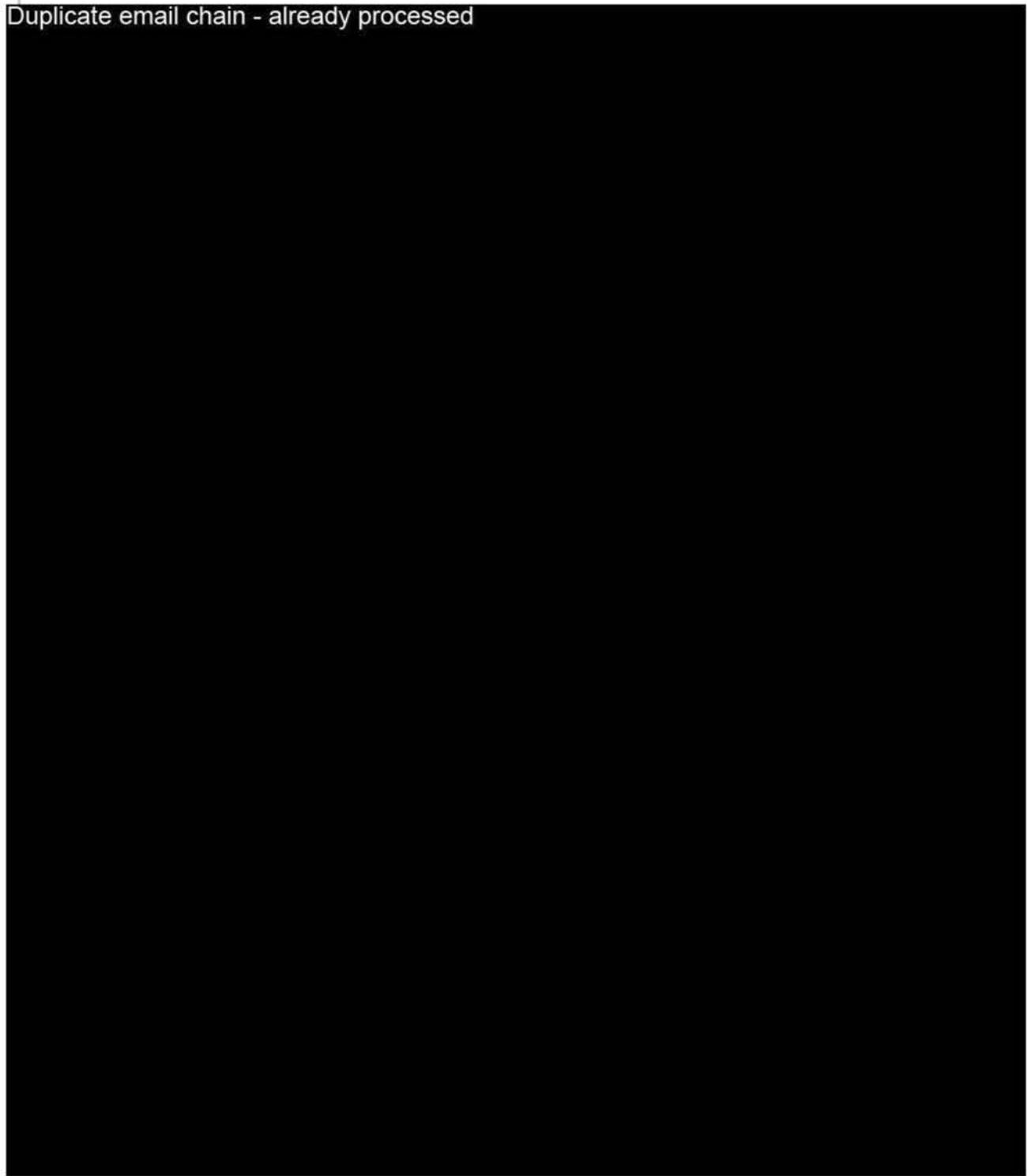
Best

Ravi

---

**From:** Kevin Knuth <(b) (6)>  
**Date:** Tuesday, June 22, 2021 at 2:06 AM  
**To:** "Szydagis, Matthew" <(b) (6)> Peter Reali <(b) (6)>  
Philippe Ailleris <(b) (6)> "Kopparapu, Ravi Kumar (GSFC-6990)"  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL] AIAA Conference Invitation

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

2 page(s) containing duplicate information is/are held in the file.

**From:** [Nijo Abraham](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper  
**Date:** Tuesday, June 22, 2021 2:08:49 PM  
**Attachments:** [AIAA\\_Session\\_UAP\\_ver1.docx](#)

---

Good afternoon Ravi,  
Attached is the DRAFT that I will send up the chain in AIAA.

Your thoughts/comments/edits to strengthen the case are welcome. Please let me know by afternoon tomorrow.

Nijo

On Fri, Jun 18, 2021 at 6:06 PM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Ok sounds good. We are on the same page then.

Thanks

Ravi

---

**From:** Nijo Abraham <(b) (6)>  
**Date:** Friday, June 18, 2021 at 5:57 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper

Ravi, you took the words out of my mouth.

There will be **NO** talk on little green men. No such presentation will be considered. Hence, why it is an "invitation only" presenter session

My goal is to have no media publicity, but a regular session for the aerospace community where we make the case for studying UAPs seriously.

As a conference chair, I have to give a synopsis of what each presentation will consist of to my technical committee. I can assure you that extraterrestrial is not a word they will entertain and the session will get dismissed.

I have to write a synopsis of what the session will contain for the conference managers next week. I will send it to your review after meeting with Kevin so that we all are on the same page. I then plan to meet with each presenter to ensure the objective nature of the session is conveyed.

Nijo

On Fri, Jun 18, 2021 at 5:40 PM Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Nijo,

The dates are probably fine. My main hesitation is what kind of speakers are you planning to invite? One of the main points that I insist while advocating for a scientific study of UAP is that we should not assume that they are alien spaceships. There is no robust scientific evidence for that. If the session's focus is only on understanding the nature of UAPs, and not speculating about where they could be (from any of the speakers), then I am willing to present. I have seen in too many scientific conferences that abstracts about UAP and a link to extra-terrestrials/spacecrafts/etc. are considered fringe and un-scientific topics and do not get selected. Furthermore, any link between UAPs and aliens may generate media attention (which is absolutely not my preference), but it will not be seriously considered by the scientific community which I assume is the goal of your session.

So I urge you to consider topics that strictly adhere to the observed data (if any) and analyses, or the topics advocating for scientific study of UAP. And I strongly recommend not prioritize topics that have anything to do with extra-terrestrial connection.

Best

Ravi

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**From:** Nijo Abraham <(b) (6)>  
**Date:** Friday, June 18, 2021 at 5:21 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper

The conference will take place virtually 2nd - 6th Aug this year.  
(<https://www.aiaa.org/aviation>)

The session date is TBD. I will know by next week.

I plan to hold this session for 3 hours, 15-20 min per presentation with 5-10 minutes of questions.

Do any of these dates work for you?

On Fri, Jun 18, 2021 at 5:08 PM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Can you tell me when is this conference? I may not have any new analysis to present (because I do not know of any reliable scientific data where to get one), but I have read Prof. James Mc Donald's "Science in Default" where he discusses four cases in detail. I can potentially give an overview of those, if I can find some time.

---

**From:** Naa135 <(b) (6)>  
**Date:** Friday, June 18, 2021 at 4:31 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper

If held, the session will be streamed live, and recordings will be available as well.

The attendees will be aerospace professionals (national and international).

Below is the link to the organization and conference. However, we I can hold this session only if I have enough (5) papers. Fingers crossed.

<https://www.aiaa.org/aviation>

I understand that we are primarily relying on observations. At the least the hope is spark interest and introduce the topic to the aerospace community and away from the fringes/stigma—to study it scientifically.

I am meeting with Kevin on Monday to see if there are other researchers I can contact.

His tentative paper will be on the physics of UAPs.

On Jun 18, 2021 at 4:07 PM, <[Ravi Kumar \(GSFC-6990\) Kopparapu](mailto:Ravi Kumar (GSFC-6990) Kopparapu)> wrote:

Will this session be streamed live? Or recording available? Can you tell me who else are planning to attend?

I have no technical paper because I am not sure where the data to analyze the UAP could be available.

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**From:** Naa135 <(b) (6)>  
**Date:** Friday, June 18, 2021 at 3:31 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper

Thank you Ravi,

I am in touch with Dr. Knuth, and have a technical presentation tentatively.

Nijo

On Jun 18, 2021 at 3:28 PM, <[Ravi Kumar \(GSFC-6990\) Kopparapu](mailto:Ravi Kumar (GSFC-6990) Kopparapu)> wrote:

Hello,

Thank you for your email. I currently have no technical paper I can present on this topic. I could recommend contacting Prof. Kevin Knuth from University of Albany.

Best

Ravi

---

**From:** Nijo Abraham <(b) (6)>  
**Date:** Friday, June 18, 2021 at 11:36 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

**Subject:** [EXTERNAL] Contacting for an AIAA Conference Paper

Dear Dr. Kopparapu,

I hope this email finds you well.

My name is Nijo Abraham, a conference chair and Senior Member of the American Institute of Aerospace and Astronautics (AIAA). (b) (6)

(b) (6)

(b) (6) I came across an excerpt where you were strongly advocating for a scientific study on UAP. And, from a scientific perspective, I am curious to know what we aerospace engineers can learn from these observations.

If I advocate for an 'invited papers only' conference session on UAP topic at one of the two AIAA conferences , would you be interested in presenting a technical paper?

Additionally, if you know of any other researchers I can invite for this session to present papers, please let me know.

--

**Nijo A. Abraham**

(b) (6)

**From:** Kopparapu, Ravi Kumar (GSFC-6990)  
**To:** Gran, Rani C. (GSFC-1300)  
**Date:** Tuesday, June 22, 2021 2:41:16 PM

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Rani, I have (b) (5)  
(b) (5)

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Kevin Knuth](#)  
**Cc:** [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Subject:** Re: [EXTERNAL] Meeting Today  
**Date:** Tuesday, June 22, 2021 4:45:08 PM

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Thanks Kevin, I think so too that it was productive. I am hoping this momentum can continue.

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**From:** Kevin Knuth <(b) (6)>  
**Date:** Tuesday, June 22, 2021 at 4:29 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Subject:** Re: [EXTERNAL] Meeting Today

Thank you so much Ravi!  
It was a very enjoyable and productive conversation.  
I look forward to our next one.

In the meantime, I will look at the document and add to it.

Cheers  
Kevin

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Kevin H. Knuth, Ph.D.  
Editor-in-Chief of Entropy  
Associate Chair, Physics  
Associate Professor of Physics  
University at Albany (SUNY)  
Albany NY 12222  
<http://knuthlab.org>

On Tue, Jun 22, 2021 at 8:53 AM Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Kevin,

I completely understand your hesitation. Adam is actually open to at least listen, and he himself asked us to add him to the meeting with Greg. As I mentioned in my earlier email, Greg is coming from a cultural study of UFOs, so for him, it is more about people's description than actual physical events. When I sent to Adam James Mc Donald's paper, he mentioned that it made him think a bit. For me that is a change! As you well know, in science, usually it is a slow process for

some change to begin. I am seeing the beginning of that change not only with some scientists, but also at NASA. Don't look at the social media, though. There, people are more interested in making snarky comments to get some likes and social acceptance than interested in doing real work. There is also a class of scientists who are more opposed to this that itself is a sociological phenomenon (they don't even recognize it), but we will do our work with science on our side.

I also understand your disinterest in working with scientists who are not interested. In my interactions, I found that lack of awareness of how much work has been done is the primary reason for people to have misconceptions. This is what you are referring to "I don't want to waste my time helping people do their homework." I think for UAPs to gain wider acceptance, or at least gain recognition that it is a legitimate field of work, some initial outreach is necessary. If no one is doing this outreach and we are all doing our own things, we will be divided and no bridges will be built, or people who are interested but fear the taboo may not come to us. That is the reason for the articles that Jacob and I are writing, To remove the taboo. We have been contacted by young scientists privately who are very much interested but fear that they may be ridiculed. But when they see that their seniors are making some comments in support of it, that hesitation will reduce. Heck, my Super boss, the SMD division head at Goddard, sent me a message that our article is well written and happy to see finally we are talking about science!! And lab chiefs with instrumentation expertise, who are very conservative thought that the approach with science only is very much needed. This is from traditional scientists! This will make your work more widely recognizable and easier to communicate with broad audience.

I am glad to hear about your UAPx work. Let's talk at a separate meeting about it. I have been reading Paul Hill's book about UAP scientific explanation and I have some thoughts about it that I want to share with you both.

See you soon.

Ravi

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**From:** Kevin Knuth <(b) (6)>

**Date:** Tuesday, June 22, 2021 at 3:47 AM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>

**Subject:** [EXTERNAL] Meeting Today

Hello Ravi and Jacob,

I am looking forward to our meeting at 1pm this afternoon.

Ravi, I hope that you saw the invitation to present at the upcoming AIAA aeronautics conference. And I hope that you'll be able to accept.

I will admit that I am a little wary about meeting with Greg and Adam because I don't really know either of them.

I know Adam from his days as a postdoc in Minnesota, when I was a graduate student. And his recent NYT op-ed which states that UFOs don't interest him.  
He probably doesn't remember me.

I am eager, and delighted, to discuss UAPs.  
But I am wary of having to have the same old discussions as to whether they are interesting, or real, or craft, etc.  
I am now actively studying them with multiple teams of scientists.  
My UAPx team collects its own data.  
We are developing our own instrumentation.  
And we have been learning things about them.  
I really don't have the patience to get other scientists up to speed when these things have been known and observed for 70 years.  
One has to really do their homework, and that requires researching the topic.  
I don't want to waste my time helping people do their homework.

I hope I am not coming off too strong or negative.  
But just like so many scientists have publicly stated that studying UFOs is not worth their time, it is not worth my time to educate disinterested and ignorant scientists.

I will have to leave the meeting before 3 pm.  
I have a meeting with my UAPx team to plan our upcoming round of observations and I will have some preparatory work to do.  
Can't talk about UFOs... busy studying them!!!

I'll see you guys later today!  
Cheers  
Kevin

PS Here is an interesting article on UFOs observed at sea.  
They are seen going into and coming out of water, as well as underwater.  
So they are clearly not atmospheric phenomena.

-----  
Kevin H. Knuth, Ph.D.  
Editor-in-Chief of Entropy  
Associate Chair, Physics  
Associate Professor of Physics  
University at Albany (SUNY)  
Albany NY 12222  
<http://knuthlab.org>

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Gran, Rani C. \(GSFC-1300\)](#)  
**Subject:** Re: UAP/UFO talking points  
**Date:** Tuesday, June 22, 2021 7:18:35 PM  
**Attachments:** [TP 21-016 Search for Life UAPs Ravi.docx](#)

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Hi Rani,

I have attached my suggestions to the talking points. (b) (5)

(b) (5)

Ravi

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**From:** "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Date:** Tuesday, June 22, 2021 at 2:02 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** FW: UAP/UFO talking points

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** "Fox, Karen C. (HQ-1300)" <[karen.c.fox@nasa.gov](mailto:karen.c.fox@nasa.gov)>  
**Date:** Tuesday, June 22, 2021 at 10:43 AM  
**To:** "Hautaluoma, Grey (HQ-NA020)" <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>, "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <[alana.r.johnson@nasa.gov](mailto:alana.r.johnson@nasa.gov)>, Rani Gran <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>, "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>  
**Subject:** Re: UAP/UFO talking points

Here's the current talking points – working on a new version now that will include info about the upcoming report. But for now these are good!

--

Karen C. Fox  
Senior Science Communications Officer

Office of Communications

---

**From:** "Hautaluoma, Grey (HQ-NA020)" <grey.hautaluoma-1@nasa.gov>  
**Date:** Tuesday, June 22, 2021 at 10:30 AM  
**To:** "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>, "Fox, Karen C. (HQ-1300)" <karen.c.fox@nasa.gov>, "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>, "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>  
**Subject:** RE: UAP/UFO talking points

I didn't see Tabatha's final edit. Did we get that?

---

**From:** Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS] <alana.r.johnson@nasa.gov>  
**Sent:** Monday, June 7, 2021 11:48 AM  
**To:** Hautaluoma, Grey (HQ-NA020) <grey.hautaluoma-1@nasa.gov>; Fox, Karen C. (GSFC-1300) <karen.c.fox@nasa.gov>; Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>; Jones, Nancy N. (GSFC-1300) <nancy.n.jones@nasa.gov>  
**Subject:** Re: UAP/UFO talking points

Grey –

Indeed, there is great interest in this topic and the agency's new "lean in" posture. Attached are the finalized newsroom version (though, Tabatha has a minor edit coming).

Karen is Marc's designated POC for developing a mini-comms plan for UFOs. She's working on that, as well as bringing in others within the agency who are key players – JD Harrington, Tylar Green, etc.

Have you received any further queries stemming from Ravi's OpEd?

Thanks  
Alana

*Are you a journalist covering the Ingenuity Mars Helicopter or the Perseverance Mars rover, please fill out our media request form at <https://bit.ly/mars-landing-media>.*

**Alana R. Johnson**

Senior Communications Specialist, PAAC V Contract

Planetary Science Division

[alana.r.johnson@nasa.gov](mailto:alana.r.johnson@nasa.gov)

o: (202) 358-1501 | c: (b) (6)

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**From:** "Hautaluoma, Grey (HQ-NA020)" <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>

**Date:** Monday, June 7, 2021 at 11:34 AM

**To:** "Fox, Karen C. (GSFC-1300)" <[karen.c.fox@nasa.gov](mailto:karen.c.fox@nasa.gov)>, "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>, "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <[alana.r.johnson@nasa.gov](mailto:alana.r.johnson@nasa.gov)>, "Jones, Nancy N. (GSFC-1300)" <[nancy.n.jones@nasa.gov](mailto:nancy.n.jones@nasa.gov)>

**Subject:** UAP/UFO talking points

Are these final then? Rob wants to send to Goddard SMEs who might get a question in this dept., although by and large I'd hope we could refer people to Ravi.

Do you have any insights on HQ policy about UAP interviews going forward? The administrator's interview, of course, has gotten some notice!

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Nijo Abraham](#)  
**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper  
**Date:** Wednesday, June 23, 2021 7:34:58 AM  
**Attachments:** [mcdonald\\_aaas\\_69.pdf](#)  
[letter.pdf](#)

---

Hi Nijo,

My talk will include brief discussion of the 4 cases highlighted in Prof. James Mc Donald's "Science in Default", and my own short analysis of *\_one\_* aspect of the Nimitz encounter based on what has been reported. I included some comments in the PDF for the James Mc donald's document. I have not published the second analysis anywhere because there is no data other than the news reports to support the claims. I am uncomfortable publishing things based on just witness testimony and news reports. The intent of my letter is to show that it could not have been commercial or military planes, if the reports are true and accurate.

Ravi

---

**From:** Nijo Abraham <(b) (6)>  
**Date:** Tuesday, June 22, 2021 at 11:34 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper

Ravi, the topics of only two speakers are confirmed.  
Kevin will be addressing the Physics of the observations (such as accelerations etc.), and the results of remote experiments they conducted (on their measured temperature pattern).  
Peter, technical analysis of the Nimitz encounter  
Both of these are based on two papers they published.

Still waiting on others to reply to Kevin.  
Dr. Richard Haines will be addressing the safety aspect for pilots.

I will reiterate on not addressing any speculations, as speakers are confirmed.  
Once I have everyone, I will send out the discussion points.

Can you please elaborate on what you mean by 'Science of UAPs'? Are you referring to the difference in behaviors from Past vs. Present?

When you mention *\_reports\_*, does it include Nimitz or the papers from SCP  
(<https://www.explorescu.org/research-library/categories/scu-papers>)?

Please make sure it does not overlap with Peter's talk.

P.S. Removed the politicians out of the document

Nijo

On Tue, Jun 22, 2021 at 3:37 PM Kopparapu, Ravi Kumar (GSFC-6990)

<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Thank you Nijo. This looks good. The only thing that caught my attention is the mention of president Obama and Sen. Harry Reid.

Also, could you let me know the topics that other speakers are planning to talk about ? I might talk about "Science of UAPs: Past and Present". I will also include a brief analysis I have done based on the *\_reports\_* from recent Navy UAPs. I would recommend to collect the discussion points first from the speakers and then finalize the speakers. I am hoping none of the speakers mention anything related to alien life or speculation about how UAPs can do interstellar travel or exotic matter.

Best

Ravi

---

**From:** Nijo Abraham <(b) (6)>

**Date:** Tuesday, June 22, 2021 at 2:08 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper

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**From:** [Nijo Abraham](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper  
**Date:** Wednesday, June 23, 2021 8:40:44 AM  
**Attachments:** [proceedings-33-00026.pdf](#)

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Thank you, Ravi, please find the attached flight analysis by Peter Reali on Nimitz. His presentation will be based on it. So kindly ensure there is no overlap.

Nijo

On Wed, Jun 23, 2021 at 7:35 AM Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

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Request #: 21-HQ-F-00603

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# Estimating Flight Characteristics of Anomalous Unidentified Aerial Vehicles in the 2004 Nimitz Encounter <sup>†</sup>

Kevin H. Knuth <sup>1,2,\*</sup> , Robert M. Powell <sup>2</sup> , and Peter A. Reali <sup>2</sup>

<sup>1</sup> Department of Physics, University at Albany (SUNY), Albany, NY 12206, USA

<sup>2</sup> Scientific Coalition for UAP Studies (SCU), Fort Myers, FL 33913, USA;  
robertmaxpowell@gmail.com (R.M.P.); preali@cableone.net (P.A.R.)

\* Correspondence: kknuth@albany.edu

<sup>†</sup> Presented at the 39th International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering, Garching, Germany, 30 June–5 July 2019.

Published: 16 December 2019



**Abstract:** A number of Unidentified Aerial Phenomena (UAP) encountered by military, commercial, and civilian aircraft have been reported to be structured craft that exhibit ‘impossible’ flight characteristics. We consider the 2004 UAP encounters with the *Nimitz* Carrier Group off the coast of California, and estimate lower bounds on the accelerations exhibited by the craft during the observed maneuvers. Estimated accelerations range from 75 g to more than 5000 g with no observed air disturbance, no sonic booms, and no evidence of excessive heat commensurate with even the minimal estimated energies. In accordance with observations, the estimated parameters describing the behavior of these craft are both anomalous and surprising. The extreme estimated flight characteristics reveal that these observations are either fabricated or seriously in error, or that these craft exhibit technology far more advanced than any known craft on Earth. In the case of the *Nimitz* encounters the number and quality of witnesses, the variety of roles they played in the encounters, and the equipment used to track and record the craft favor the latter hypothesis that these are technologically advanced craft.

**Keywords:** UAP; UAV; UFO

## 1. Introduction

Unidentified Aerial Phenomena (UAPs) partially identified as being unknown anomalous aircraft, referred to as Unidentified Anomalous Vehicles (UAVs) or Unidentified Flying Objects (UFOs), have been observed globally for some time [1]. Such phenomena were studied officially by the United States Air Force in a series of projects: Project Sign (1947), Project Grudge (1949) and Project Blue Book (1952–1969) [2]. Other nations, such as Australia, Brazil, Canada, Chile [3], Denmark, France, New Zealand, Russia (the former Soviet Union), Spain, Sweden, the United Kingdom, Uruguay, and the Vatican have also conducted studies, or are currently studying, UAPs [4]. In December of 2017 it was revealed that the United States government had been studying UAPs through at least one secret program called the Anomalous Aerospace Threat Identification Program (AATIP) [5], and that there have been times at which United States Naval pilots have had to deal with nearly daily encounters with UAVs [6,7]. These unidentified craft typically exhibit anomalous flight characteristics, such as traveling at extremely high speeds, changing direction or accelerating at extremely high rates, and hovering motionless for long periods of time. Furthermore, these craft appear to violate the laws of physics in that they do not have flight or control surfaces, any visible means of propulsion apparently

violating Newton’s Third Law, and can operate in multiple media, such as space (low Earth orbit), air, and water without apparent hindrance, sonic booms, or heat dumps [4].

The nature, origin, and purpose of these UAVs are unknown. It is also not known if they are piloted, controlled remotely, or autonomous. If some of these UAVs are of extraterrestrial origin, then it would be important to assess the potential threat they pose [4]. More interestingly, these UAVs have the potential to provide new insights into aerospace engineering and other technologies [8]. The potential of a serious threat as well as the promise of advancements in science and engineering, along with our evolving expectations about extraterrestrial life are important reasons for scientists to seriously study and understand these objects [9–13]. We carefully examine a series of encounters in 2004 by pilots and radar operators of the *Nimitz* carrier group, and estimate lower bounds on their accelerations. We demonstrate that the estimated accelerations are indeed extraordinary and surprising.

## 2. *Nimitz* Encounters (2004)

For a two week period in November of 2004, the U.S. Navy’s Carrier Strike Group Eleven (CSG-11), which includes the USS *Nimitz* nuclear aircraft carrier and the Ticonderoga-class guided missile cruiser USS *Princeton*, encountered as many as 100 UAVs. We estimated the accelerations of UAVs relying on (1) radar information from USS *Princeton* former Senior Chief Operations Specialist Kevin Day; (2) eyewitness information from CDR David Fravor, commanding officer of Strike Fighter Squadron 41 and the other jet’s weapons system operator, LCDR Jim Slaight; and (3) analyses of a segment of the Defense Intelligence Agency-released Advanced Targeting Forward Looking Infrared (ATFLIR) video. The following descriptions of the *Nimitz* encounters were summarized from the more detailed study published by the Scientific Coalition for UAP Studies (SCU) [14].

### 2.1. Senior Chief Operations Specialist Kevin Day (RADAR)

An important role of the USS *Princeton* is to act as air defense protection for the strike group. The *Princeton* was equipped with the SPY-1 radar system which provided situational awareness of the surrounding airspace. The main incident occurred on 14 November 2004, but several days earlier, radar operators on the USS *Princeton* were detecting UAVs appearing on radar at about 80,000+ feet altitude to the north of CSG-11 in the vicinity of Santa Catalina and San Clemente Islands. Senior Chief Kevin Day informed us that the Ballistic Missile Defense (BMD) radar systems had detected the UAVs in low Earth orbit before they dropped down to 80,000 feet [15]. The UAVs would arrive in groups of 10 to 20, subsequently drop down to 28,000 feet with a several hundred foot variation, and track south at a speed of about 100 knots [15]. Periodically, the UAVs would drop from 28,000 feet to sea level (approx. 50 feet), or under the surface, in 0.78 seconds. Without detailed radar data, it is not possible to know the acceleration of the UAVs as a function of time as they descended to the sea surface. However, one can estimate a lower bound on the acceleration by assuming that the UAVs accelerated at a constant rate halfway and then decelerated at the same rate for the remaining distance so that

$$\frac{1}{2}d = \frac{1}{2}a \left(\frac{t}{2}\right)^2 \tag{1}$$

The data consisted of the change in altitude  $y \pm \sigma_y = 8530 \pm 90$  m ( $-28,000$  ft  $\pm 295$  ft) and the duration  $t' \pm \sigma_t = 0.78 \pm 0.08$  s, where the goal was to estimate the acceleration,  $a$ . The dominant source of uncertainty in altitude was due to the observed variation in altitude among the observed UAVs, which was on the order of 200 to 300 ft.

In the first analysis, we assigned a joint Gaussian likelihood,  $P(y, t|a, I)$  for the measured altitude change and the duration of the maneuver. Since the altitude change and the duration are independently measured, the joint likelihood is factored into the product of two likelihoods, and one can marginalize over the duration of the maneuver to obtain a likelihood for the altitude  $y$

$$P(y | a, I) = \int_{-\infty}^{\infty} dt P(y, t | a, \sigma_y, t', \sigma_t, I) \tag{2}$$

$$= \int_{-\infty}^{\infty} dt P(y | a, t, \sigma_y, I) P(t | t', \sigma_t, I), \tag{3}$$

where the symbol  $I$  represents the fact that these probabilities are conditional on all prior information. Assigning Gaussian likelihoods we have that

$$P(y | a, I) = \int_{-\infty}^{\infty} dt \frac{1}{\sqrt{2\pi}\sigma_y} \exp \left[ -\frac{1}{2\sigma_y^2} \left( y + \frac{1}{4}at^2 \right)^2 \right] \frac{1}{\sqrt{2\pi}\sigma_t} \exp \left[ -\frac{1}{2\sigma_t^2} (t - t')^2 \right] \tag{4}$$

$$= \frac{1}{2\pi\sigma_y\sigma_t} \int_{-\infty}^{\infty} dt \exp \left[ -\frac{1}{2\sigma_y^2} \left( y + \frac{1}{4}at^2 \right)^2 - \frac{1}{2\sigma_t^2} (t - t')^2 \right]. \tag{5}$$

The integrand is the exponential of a quartic polynomial in  $t$ , which was solved numerically. Assigning a uniform prior probability for the acceleration over a wide range of possible accelerations results in a posterior that is proportional to the likelihood (5) above resulting in a maximum likelihood analysis, which gave an estimate of  $a = 5600^{+2270}_{-1190}$  g, as illustrated in Figure 1A.

As a second analysis, we employed sampling for which the change in altitude and the elapsed time were described by Gaussian distributions with  $y \pm \sigma_y = 8530 \pm 90$  m and  $t' \pm \sigma_t = 0.78 \pm 0.08$  s, respectively. The most probable acceleration was  $5370^{+1430}_{-820}$  g while the mean acceleration was 5950 g (Figure 1B).

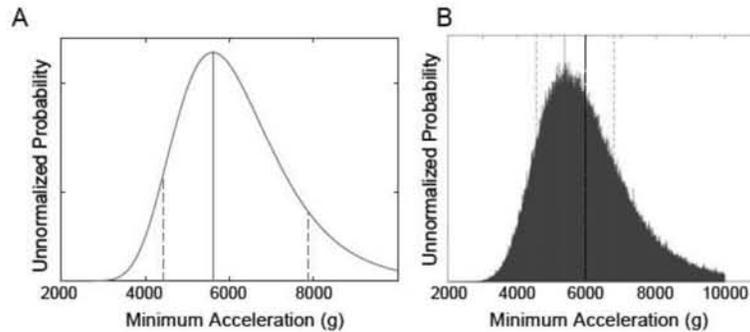


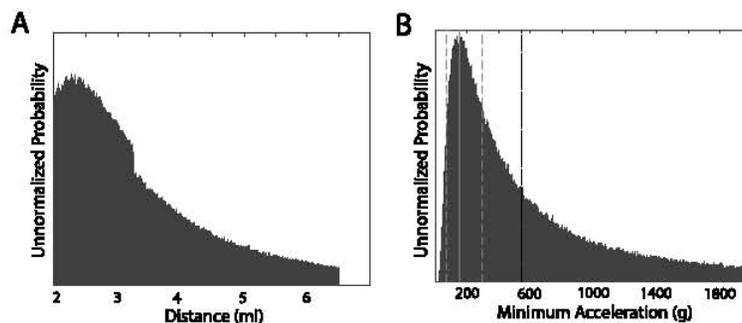
Figure 1. An analysis of Senior Chief Day’s radar observations. (A) The posterior probability indicates the maximum likelihood estimate of the acceleration to be  $5600^{+2270}_{-1190}$  g. (B) The accelerations obtained by sampling resulted in the most probable acceleration of  $5370^{+1430}_{-820}$  g (red lines) while the mean acceleration is 5950 g (black dotted line).

With acceleration estimates in hand, we obtained a ballpark estimate of the power involved to accelerate the UAV. Of course, this required an estimate of the mass of the UAV, which we did not have. The UAV was estimated to be approximately the same size as an F/A-18 Super Hornet, which has a weight of about 32,000 lbs, corresponding to 14,550 kg. Since we want a minimal power estimate, we took the acceleration as 5370 g and assumed that the UAV had a mass of 1000 kg. The UAV would have then reached a maximum speed of about 46,000 mph during the descent, or 60 times the speed of sound, at which point the required power peaked at a shocking 1100 GW, which exceeds the total nuclear power production of the United States by more than a factor of ten. For comparison, the largest nuclear power plant in the United States, the Palo Verde Nuclear Generating Station in Arizona, provides about 3.3 GW of power for about four million people [16].

## 2.2. Commander David Fravor (PILOT)

On Nov. 14, 2004, CSG-11 was preparing for training exercises. Two F/A-18F Super Hornets were launched from the *Nimitz* for the air defense exercise to be conducted in an area 80–150 miles SSW of San Diego. Both planes, with call signs “FastEagle01” and “FastEagle02”, had a pilot and a weapons system operator (WSO) onboard. VFA-41 Squadron Commanding Officer David Fravor was piloting FastEagle01 and LCDR Jim Slaughter was the WSO of FastEagle02. CDR Fravor and his wingman were headed for the Combat Air Patrol (CAP) point, which is given by predefined latitude, longitude and altitude coordinates, where they would conduct the training exercises.

About a half-hour after take-off, Senior Chief Day operating the SPY-1 radar system on the *Princeton* detected UAVs entering the training area. The training exercise was delayed and FastEagle01 and FastEagle02 were directed to intercept a UAV at a distance of 60 miles and an altitude of 20,000 feet. As the F-18s approached *merge plot*, which is the point at which the radar could not differentiate the positions of the F-18s and the UAV, Fravor and Slaughter noticed a disturbed patch of water, where it appeared as if there was a large object, possibly a downed aircraft, submerged 10 to 15 feet below the surface. As they observed the disturbance from 20,000 ft, all four pilots spotted a white UAV, shaped like a large cylindrical butane tank, or a Tic-Tac candy, moving erratically back and forth, almost like a bouncing ping-pong ball making instantaneous changes in direction without changing speed. The Tic-Tac UAV was estimated to be about the size of an F-18, about 40–50 feet in length and 10–15 feet wide, but had no apparent flight surfaces or means of propulsion, and its movement had no apparent effect on the ocean surface as one would expect from something like rotor wash from a helicopter.



**Figure 2.** An analysis of CDR Fravor’s encounter based on a Truncated Gaussian distribution ( $1/30^\circ \pm 1/60^\circ$ ) of Fravor’s visual acuity and a Truncated Gaussian distribution ( $1 \pm 1$  s) of elapsed time. A. Gaussian distribution of distances based on the visual acuity distribution. B. The distribution of accelerations has a maximum at  $150^{+140}_{-80}$  g (red lines) and a mean of 550 g (black dotted line).

Fravor started a descent to investigate while his wingman kept high cover. As Fravor circled and descended, the UAV appeared to take notice of him and rose to meet him. The F-18 and the UAV circled one another. When Fravor reached the nine o’clock position, he performed a maneuver to close the distance by cutting across the circle to the three o’clock position. As he did so, the Tic-Tac UAV accelerated ([14], p.12) across Fravor’s nose heading south. Fravor said that the UAV was gone within a second. As a comparison, Fravor noted that even a jet at Mach 3 takes 10 to 15 seconds to disappear from sight ([14], p.11). LCDR Slaughter described the UAV as accelerating as if it was “shot out of a rifle” and that it was out of sight in a split second. ([14], p. 12).

The engagement lasted five minutes. With the Tic-Tac gone, the pilots turned their attention toward the large object in the water, but the disturbance has disappeared. The two FastEagles returned to the *Nimitz*, without sufficient fuel to attempt to pursue the Tic-Tac. On their way back, they received a call from the *Princeton* that the Tic-Tac UAV was waiting precisely at their CAP point. Senior Chief Day noted that this was surprising because those coordinates were predetermined and secret. Given that the CAP point was approximately  $R = 60$  mi away, the probability of selecting the CAP point out

of all the locations within the 60 mile radius, to within a one mile resolution (slightly more than the resolution of the radar system), is

$$P(x|I) = \frac{1}{\pi R^2} = \frac{1}{11310} = 0.0088\%, \tag{6}$$

discounting the altitude. It appears that the Tic-Tac UAV intentionally went to that location, although it is not clear how this would be possible.

To obtain a lower bound on the acceleration, we assume that the UAV exhibited constant acceleration so that the distance traveled was given by

$$d = \frac{1}{2}at^2 \tag{7}$$

during the elapsed time. The length of the Tic-Tac UAV was estimated to be about 40 ft with a cross sectional width of about  $w = 10$  ft. Given that the acuity of human vision is about  $\theta = 1/60^\circ$  the UAV, at its narrowest, would be out of sight at a maximum distance of

$$d = \frac{w/2}{\tan(\theta/2)}, \tag{8}$$

which is  $d \approx 6.5$  mi. It is difficult to know what Fravor’s acuity was given the viewing conditions. For this reason, we model the acuity conservatively as a truncated Gaussian distribution with a peak at  $\theta = 1/30^\circ \pm 1/60^\circ$ . The truncation at  $\theta = 1/60^\circ$  resulted in a discontinuity in the distribution of the distances (Figure 2A), which peaks around 2.25 mi.

The elapsed time is modeled as a Gaussian distribution with a mean of  $1 \pm 1$  s and truncated for positive values of time. The resulting acceleration distribution was a skewed distribution of accelerations (Figure 2B) with a most probable acceleration of  $150^{+140}_{-80}$  g, indicated in the figure by the red vertical lines and a mean acceleration of about 550 g indicated by the black vertical dotted line. Note that this is a lower bound, probably far below the observed acceleration if the UAV accelerated briefly as if “shot out of a rifle” and then traveled at a constant speed.

### 2.3. ATFLIR Video

Upon returning to the *Nimitz*, CDR Fravor requested that a crew equipped with the ATFLIR pod obtain videos of the Tic-Tac UAV. Two F/A-18Fs were launched under the guidance of an E-2 Hawkeye airborne radar plane. The two planes separated in search of the UAV, with one plane heading south toward the CAP point where the UAV was last seen on radar. That plane picked up a contact 33 miles to the south on the Range While Search (RWS) scan. This Tic-Tac UAV was filmed using the ATFLIR system, and the video was released to the public as the “*Nimitz* video” (Figure 3A).

We examined the last 32 frames of the *Nimitz* video in which the Tic-Tac UAV accelerated to the left and the targeting system lost lock. The video frame rate was 29.97 frames/s. As the UAV accelerates the image of the UAV becomes elongated and blurred. If the shutter speed was known, then this information could be used to better estimate the speed of the craft. This could be accomplished by treating the shutter speed as a model parameter, but such analysis is beyond the scope of this project. Instead, we concentrated on tracking the position of the right edge of the UAV and using those positions to estimate the kinematics. The left edge of the UAV was also estimated in the first frame to provide some information about the range,  $z_0$ , to the UAV given that that UAV was estimated to be about 40 feet in length. However, since the orientation was not known, this is modeled as a uniformly distributed unknown angular parameter  $\phi \in \{0, 3\pi/8\}$ , which allowed one to at least put an upper bound on the range  $z_0$ .

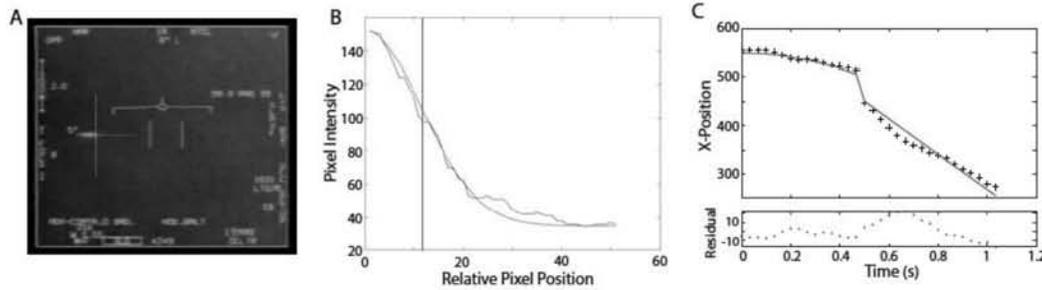
To estimate the position of the right edge of the craft in each frame (Figure 3A), the row of pixels for which the UAV has a maximum intensity was examined. The pixel intensities along that row at the

right edge of the UAP were fit (maximum likelihood method with a Student-t likelihood) to half of a Gaussian curve. The center position of the Gaussian plus the standard deviation was used as the position of the right side of the UAV for that frame (Figure 3B).

Horizontal positions of the UAV are related to the pixel coordinates by noting that the entire field of view (approximately  $FOV_{pix} = 606$  pixels) corresponds to an angular field of view of  $0.7^\circ$  in the narrow (NAR) mode, which is indicated in the upper left hand corner of the video. At the range,  $z_0$ , of the UAV this results in the proportion

$$X_{scale} = \frac{FOV_{pix}/2}{z_0 \tan \frac{0.7^\circ}{2}} \quad (9)$$

where  $X_{scale}$  has units  $\frac{\text{pixels}}{\text{m}}$  when  $z_0$  is in units of m. The ATFLIR has a zoom feature that can change the field of view. In the *Nimitz* video frames analyzed, the zoom is first set to unity in the NAR mode so that the angular field of view is  $0.7^\circ$ . However, at frame 16, the zoom changes to two, so that the angular field of view in the NAR mode changes to  $0.35^\circ$ . This appears as a discontinuity in the data ('+' symbols) illustrated in Figure 3C.



**Figure 3.** (A) Frame 19 of the last 32 frames of the *Nimitz* ATFLIR video. The narrow horizontal and vertical lines intersecting at the right edge of the UAP image indicate the position of the UAP. (B) The pixel intensities along a row of the frame are plotted along with the best Gaussian curve fit. The rightmost edge of the craft is defined as the center position of the Gaussian plus one standard deviation (indicated by the vertical red line). (C) This is an illustration the data (+), the most probable kinematic fit (solid curves) to the UAV positions in the *Nimitz* ATFLIR video, and the residuals (model minus data) for the model described by (11). Details can be found in Table 1.

We analyzed four different kinematic models using nested sampling, and statistically tested them by comparing the log Bayesian evidence. We used uniform prior probabilities for the kinematic parameters as well as a Student-t likelihood function, which is robust to outliers, such as those due to camera (airplane) motion. Model #1 considers constant acceleration to the left ( $-x$  direction). Model #2 considers constant acceleration both to the left ( $-x$  direction) and toward or away from the camera ( $z$ -direction). The forward model provides the position of the UAV as a function of time, where  $t_i$  is the time of the  $i^{th}$  video frame:

$$\text{Models \#1 and \#2} \quad \begin{cases} x(t_i) = \frac{1}{2}a_x t_i^2 + x_0 \\ z(t_i) = \frac{1}{2}a_z t_i^2 + z_0 \end{cases} \quad \text{const. accel.}, \quad (10)$$

for which  $a_x \in [-200, 0]$  g,  $a_z \in [-100, 100]$  g,  $x_0 \in [-100, 100]$  px,  $z_0 \in [7.57, 75.75]$  mi, and Model #1 just considers the UAV's acceleration in the  $x$ -direction (to the left) so that  $a_z \doteq 0$ .

Models #3 and #4 describe the kinematics as constant acceleration followed by constant velocity motion after Frame 15:

$$\text{Models \#3 and \#4} \quad \begin{cases} x(t_i) = \frac{1}{2}a_x t_i^2 + x_o & \text{for } t_i < t_{16} \\ x(t_i) = \frac{1}{2}a_x t_{15}^2 + a_x t_{15}(t_i - t_{15}) + x_o & \text{for } t_i \geq t_{16} \\ z(t_i) = \frac{1}{2}a_z t_i^2 + z_o & \text{for } t_i < t_{16} \\ z(t_i) = \frac{1}{2}a_z t_{15}^2 + a_z t_{15}(t_i - t_{15}) + z_o & \text{for } t_i \geq t_{16} \end{cases} \quad (11)$$

for which  $a_x \in [-200, 0]$  g,  $a_z \in [-100, 100]$  g,  $x_o \in [-100, 100]$  px,  $z_o \in [7.57, 75.75]$  mi, and Model #3 just considers the UAV's acceleration in the x-direction (to the left) so that  $a_z \doteq 0$ .

The models were analyzed using a nested sampling algorithm [17,18], which allowed for the estimation of the logarithm of the Bayesian evidence,  $\log Z$ , as well as the logarithm of the likelihood,  $\log L$ , and mean estimates of the model parameters. The analysis was performed for  $N = 500$  samples and was run until the change in  $\log Z$  from successive iterations was less than  $10^{-5}$ , ensuring a reliable estimate of the log evidence. Tests were performed to ensure that the trial-to-trial variations in parameter estimates were within the estimated uncertainties.

The results of the nested sampling analysis are listed in Table 1. The uncertainties in the  $\log Z$  estimates (not listed) were on the order of one or less. Model 4, which describes the motion of the UAV as a constant acceleration to the left and away from the observer for the first 15 frames (approximately 0.53 s), is the most probable solution with acceleration components of  $a_x = -35.64 \pm 0.08$  g and  $a_z = 67.04 \pm 0.18$  g for a net acceleration of about  $75.9 \pm 0.2$  g. The residuals indicate that a more precise model would consist of multiple episodes of acceleration during the maneuver. This was observed in SCU's analysis [14] where the accelerations were estimated to vary from around 40 to 80 g.

**Table 1.** Kinematic Models for the *Nimitz* Video Given the log evidence ( $\log Z$ ), Model 4 (**bold**) is most probable with a net acceleration of  $75.9 \pm 0.2$  g.

Model	$\log Z$	LogL	$a_x$ (g)	$a_z$ (g)	$x_o$ (m)	$z_o$ (m)
Model 1	-253,640	-253,614	$-71.1 \pm 0.7$	-	$-15.40 \pm 0.04$	$119,700 \pm 1200$
Model 2	-236,950	-236,287	$7.564 \pm 0.002$	$99.994 \pm 0.005$	$-13.36 \pm 0.04$	$12,193 \pm 1$
Model 3	-53,282	-53,261	$-40.2 \pm 3.8$	-	$-4.02 \pm 0.05$	$49,700 \pm 4800$
<b>Model 4</b>	<b>-52,084</b>	<b>-52,031</b>	<b><math>-35.64 \pm 0.08</math></b>	<b><math>67.04 \pm 0.18</math></b>	<b><math>-3.89 \pm 0.05</math></b>	<b><math>43,870 \pm 110</math></b>

A more detailed analysis would involve modeling the motion of the UAV more precisely by modeling the pixel intensities on the video frames themselves. By considering the shutter speed, the blurring of the UAV image due to its motion would provide more information about its speed. In addition, the “change points” at which the accelerations changed could be treated as model parameters allowing for a more precise description of the UAV's behavior.

### 3. Discussion

In this paper, we have worked under the assumption that these UAPs were physical craft as described by the pilots. The fact that these UAPs exhibited astonishing flight characteristics leaves one searching for other possible explanations. One very clever explanation suggested by one of the reviewers was that these UAPs could have been generated by the intersection of two or more laser or maser beams ionizing the air, which could create a visual image, an infrared image, as well as a radar reflective region possibly explaining much of the observations.

While such an explanation could explain the visual, infrared and radar observations, it would not be able to explain either the suborbital radar returns from the ballistic missile defense (BMD) radar systems on the *Princeton* before the UAPs dropped to 80,000 ft, or the sonar returns when the TicTac UAPs went into the ocean [15], both of which are not as well substantiated or documented as the other observations.

More importantly, the distribution of the UAPs ranged from over 100 miles to the north over Catalina Island to about 70 miles to the west. This would require an array of widely distributed and coordinated lasers situated on multiple ships or aircraft. However, it is known that there were no other ships or airplanes in the area. In addition, the fact that the UAP reacted to CDR Fravor’s maneuvers would require that radar be used to track the F-18s so that the laser-produced imagery could react to them. However, any such radar frequencies being used in the area would have been detected by the *Princeton*, the E-2 Hawkeye, and the F-18s themselves.

If any such system were being secretly tested against CSG-11, one would expect it to mimic real-life events, such as an enemy aircraft, drone, or missile launch. But the UAPs and their behavior were nothing like this. Furthermore, such powerful lasers might endanger the planes or personnel if anything went wrong in the testing, and the fact that the pilots were forced to take evasive maneuvers [19] reveals that they were being put in harms way. One wouldn’t need to test a system in this manner, and if such a test did take place it would very likely have been illegal. Furthermore, such an explanation would have difficulty explaining the almost daily encounters experienced by pilots in the *Roosevelt* Carrier Group both off the coast of Virginia and during military operations in the Persian Gulf [6,7], or earlier encounters, such as that by Lt. Bethune in 1951, two years before the invention of the maser and nine years before the invention of the laser, which was analyzed in the extended version of this paper [20].

**4. Conclusions**

We have carefully considered a set of encounters between the *Nimitz* CSG-11 and UAPs of unknown nature and origin. Much of the information available consisted of eyewitness descriptions made by multiple trained witnesses observing in multiple modalities including visual contact from pilots, radar, and infrared video. While fabrication and exaggeration cannot be ruled out, the fact that multiple professional trained observers working in different modalities corroborate the reports greatly minimizes such risks.

The analysis aimed to estimate lower bounds on the acceleration. This was found by assuming that the UAVs accelerated a constant rate. We worked to obtain conservative estimates by assigning liberal uncertainties. It was found that the minimum acceleration estimates, ranging from about 70 g to well over 5000 g, far exceeded those expected for an aircraft (Table 2). For comparison, humans can endure up to 45 g for 0.044 s with no injurious or debilitating effects, but this limit decreases with increasing duration of exposure [21]. For durations more than 0.2 s the limit of tolerance decreases to 25 g and it decreases further still for longer durations [21].

**Table 2.** Summary of Estimated Accelerations ranging from about 75 g to over 5300 g. Detection Modalities refer to Multiple Pilots Visual Contact (Vs), Radar (R), Infrared Video (IR).

Case	Detection Modalities	Kinematic Model	Figure	Min. Acceleration
Day	R	(1)	Figure 1B	5370 <sup>+1430</sup> / <sub>-820</sub> g
Fravor	R,Vs	(7)	Figure 2C	150 <sup>+140</sup> / <sub>-80</sub> g
ATFLIR	R,Vs,IR	(11)	Figure 3C	75.9 ± 0.2 g

These considerations suggest that these UAVs may not have been piloted, but instead may have been remote controlled or autonomous. However, it should be noted that even equipment can only handle so much acceleration. For example, the Lockheed Martin F-35 Lightning II has maintained structural integrity up to 13.5 g [22]. Missiles can handle much higher accelerations. The *Crotale* NG VT1 missile has an airframe capable of withstanding 50 g and can maintain maneuverability up to 35 g [23]. However, these accelerations are still only about half of lowest accelerations that we have estimated for these UAVs. The fact that these UAVs display no flight surfaces or apparent propulsion mechanisms, and do not produce sonic booms or excessive heat that would be released given the hundreds of GigaWatts of power that we expect should be involved, strongly suggests that these

anomalous craft are taking advantage of technology, engineering, or physics that we are unfamiliar with. For example, the Tic-Tac UAV dropping from 28,000 ft to sea level in 0.78 s involved at least  $4.3 \times 10^{11}$  J of energy (assuming a mass of 1000 kg), which is equivalent to about 100 tons of TNT, or the yield of 200 Tomahawk cruise missiles, released in  $\frac{3}{4}$  of a second. One would have expected a catastrophic effect on the surrounding environment. This does not rule out the possibility that these UAVs have been developed by governments, organizations, or individuals on Earth, but it suggests that these UAVs and the technologies they employ may be of extraterrestrial origin. That being said, it should be strongly emphasized that proving that something is extraterrestrial would be extremely difficult, even if one had a craft in hand.

The purpose of this paper is to focus on the flight kinematics of these UAVs with the aim of building up a body of scientific evidence that will allow for a more precise understanding of their nature and origin.

As such, it is difficult to draw any useful conclusions at this point. We have characterized the accelerations of a number of UAVs and have demonstrated that if they are craft then they are indeed anomalous, displaying technical capabilities far exceeding those of our fastest aircraft and spacecraft. It is not clear that these objects are extraterrestrial in origin, but it is extremely difficult to imagine that anyone on Earth with such technology would not put it to use. Moreover, observations of similar UAPs go back to well before the era of flight [1]. Collectively, these observations strongly suggest that these UAVs should be carefully studied by scientists [9–13].

Unfortunately, the attitude that the study of UAVs (UFOs) is “unscientific” pervades the scientific community, including SETI (Search for Extraterrestrial Intelligence) [24], which is surprising, especially since efforts are underway to search for extraterrestrial artifacts in the solar system [25–29], in particular, on the Moon, Mars, asteroids [30], and at Earth-associated Lagrange points. Ironically, such attitudes inhibit scientific study, perpetuating a state of ignorance about these phenomena that has persisted for well over 70 years, and is now especially detrimental, since answers are presently needed [31–34].

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**From:** [Nijo Abraham](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper  
**Date:** Wednesday, June 23, 2021 9:19:42 AM

---

Excellent, thank you Ravi. Please carry on with the presentation prep. The title I have for you is as you suggested "Science of UAP - Past and Present".

Nijo

On Wed, Jun 23, 2021 at 9:08 AM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Nijo,

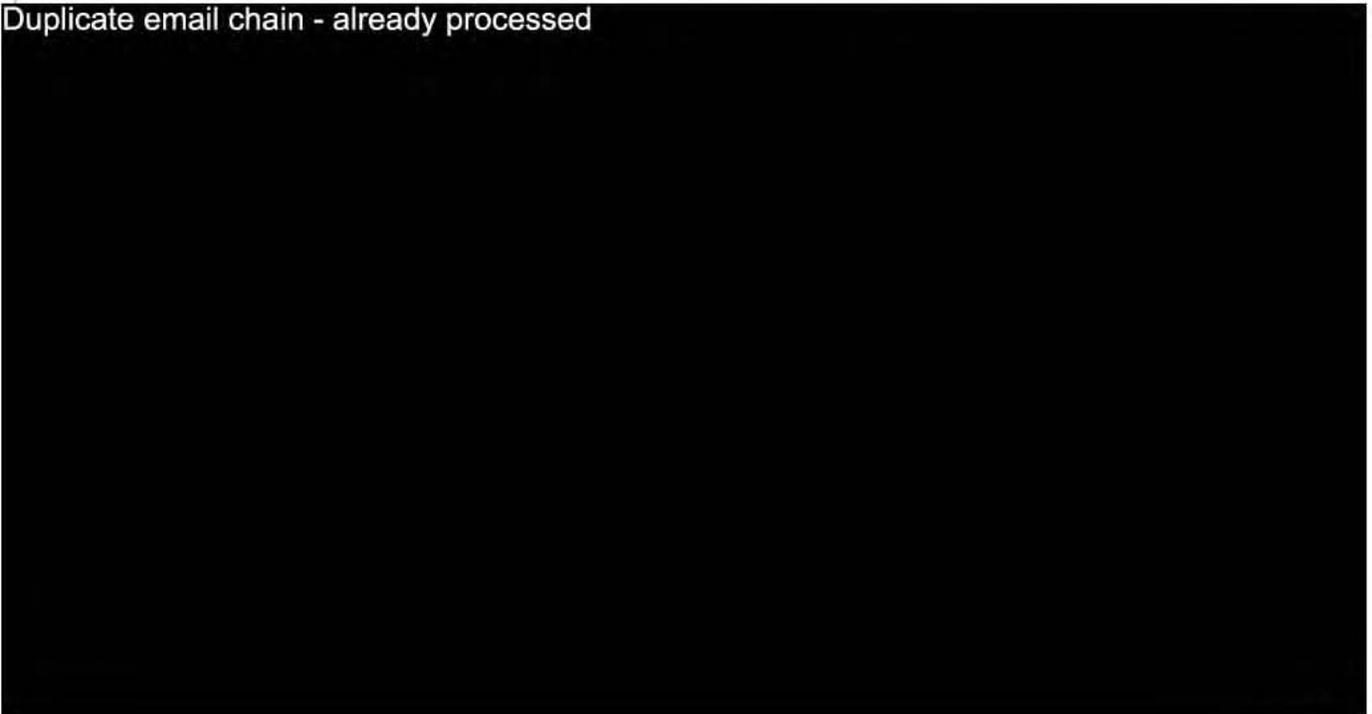
Yes, I am aware of this proceedings paper, and also the full version of the paper published elsewhere. The analysis I have done is not in these papers, and my analysis is focused on only one aspect of it. So I don't think there is any overlap. As I said, all this work, including mine, is based on data that is edited or not complete. I hope to discuss this and other cases in James Mc Donald's papers.

Ravi

---

**From:** Nijo Abraham <(b) (6)>  
**Date:** Wednesday, June 23, 2021 at 8:40 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper

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Requester: John Greenewald

Request #: 21-HQ-F-00603

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**From:** [Gran, Rani C. \(GSFC-1300\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Christine Schiffner Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: [EXTERNAL] upcoming "UFO" report  
**Date:** Wednesday, June 23, 2021 1:16:19 PM

---

3:00 works,

Christine, I want to listen in, but I don't want to be in the way of your production...so I'm happy to stay on mute, with camera off.

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Date:** Wednesday, June 23, 2021 at 12:47 PM  
**To:** Christine Schiffner <(b) (6)>  
**Cc:** Rani Gran <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>  
**Subject:** Re: [EXTERNAL] upcoming "UFO" report

I am good with either. We use Teams anyway, so we could try that? If that doesn't work, my Skype id is 'ravikumarkopparapu'

Ravi

---

**From:** Christine Schiffner <(b) (6)>  
**Date:** Wednesday, June 23, 2021 at 12:46 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>  
**Subject:** Re: [EXTERNAL] upcoming "UFO" report

Great! What about 3pm.

Would Skype be possible?

Or better Microsoft Teams... any preference?

Thank you so much!

~ Sent from my iPhone

On Jun 23, 2021, at 12:44 PM, Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov> wrote:

Hi all,  
I am free from 1pm-4pm tomorrow.  
Best  
Ravi

---

**From:** Christine Schiffner <(b) (6)>  
**Date:** Wednesday, June 23, 2021 at 12:39 PM  
**To:** "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: [EXTERNAL] upcoming "UFO" report

Dear Rani and Ravi,

That is great news! Thank you so much!

Could we do the interview on Thursday afternoon? Would Skype or Microsoft Teams work for you? Which time would be best?

I look very much forward to the interview.

Best regards,

Christine

Sent from my iPad

On Jun 23, 2021, at 12:31 PM, Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov> wrote:

Hello Christine and Ravi,

We can go ahead with tomorrow's interview.

Christine, how can I help you with the set up?

For awareness we have a full video gallery of content/ animations and data visualizations. All in many different video formats.

<https://svs.gsfc.nasa.gov/Gallery/index.html>

While the search engine on this site is better, Google can be a better option. Feel free to ask for help.

One note, I go on vacation starting Friday. So if something comes up, please contact Lonnie Shekhtam, cc'd on this email.

Also, we would like to record the interview for our internal purposes.

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** Christine Schiffner <(b) (6)>  
**Date:** Tuesday, June 22, 2021 at 2:35 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Cc:** Rani Gran <rani.c.gran@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: [EXTERNAL] upcoming "UFO" report

Dear all,

Thank you so much again for signaling that you might be open to an

interview on the UFO report later this week.

After some more discussion here, we would like to ideally conduct this interview on Thursday afternoon. This could be via Skype or Zoom.

Could you kindly let me know if this would be feasible?

Thank you so much!

Christine Schiffner

Ph. (b) (6)

On Mon, Jun 21, 2021 at 4:01 PM Christine Schiffner

<(b) (6)> wrote:

Dear Ravi,

Thank you so much for your prompt reply! Sounds great!

Rani - please let me know how I can help to set this up.

Best wishes,

Christine

On Mon, Jun 21, 2021 at 4:00 PM Kopparapu, Ravi Kumar (GSFC-6990)

<ravikumar.kopparapu@nasa.gov> wrote:

Hi Christine,

Thank you for your email. I am copying our NASA public office representative, Rani Gran, in this email to coordinate. I would be happy to chat once we sort out the details.

Best

Ravi

---

**From:** Christine Schiffner <(b) (6)>

**Date:** Monday, June 21, 2021 at 2:43 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)"

<ravikumar.kopparapu@nasa.gov>

**Subject:** [EXTERNAL] upcoming "UFO" report

Dear Mr. Kopparapu,

I am a DC-based producer for Germany's largest TV network ARD. We are a public channel similar to PBS here in the US.

As part of our upcoming coverage of the "UFO" report to be released later this week, I read an article in the Scientific American which quoted you among other scientists.

I was wondering if you might be available for a brief on-camera interview later this week, ideally on Wednesday or Thursday. This could be either done via Skype or we could meet you Greenbelt. We would ask you just a few questions along the lines of the Scientific American article.

Could you kindly let me know if this would be doable?

Thank you so much in advance.

Kind regards,

Christine Schiffner

**ARD GERMAN RADIO & TV**

Studio Washington  
3132 M Street NW  
Washington, DC 20007  
Phone (b) (6)  
[www.ard.de](http://www.ard.de)

ARD GERMAN Television, with 22,000 employees is one of the world's largest broadcast organizations. It's Germany's market leader in hard news, news magazines, and documentaries. ARD also commits a large percentage of its prime time programming to features and documentaries from abroad. News bureaus in 27 countries underscore the network's commitment to international reporting. And with 13 radio and television correspondents and a staff of over 30 specialists, ARD's Washington, DC Bureau runs one of the largest foreign broadcast operations in the city.

**From:** [Gran, Rani C. \(GSFC-1300\)](#)  
**To:** [Christine Schiffner](#)  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: [EXTERNAL] upcoming "UFO" report  
**Date:** Wednesday, June 23, 2021 2:07:31 PM

---

Yep, I can call your cell.

Rani

--

Rani C. Gran  
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NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** Christine Schiffner <(b) (6)>  
**Date:** Wednesday, June 23, 2021 at 1:59 PM  
**To:** Rani Gran <rani.c.gran@nasa.gov>  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: [EXTERNAL] upcoming "UFO" report

Dera Rani and Ravi,

I just spoke with our technicians here. We will use Skype for the interview.  
Rani, could you call my phone and I put it on speaker for you to listen in?  
Otherwise, we would see another person on screen which would make it a bit difficult for TV editing later.

Would that be fine with you? My cell number is (b) (6)

Thank you so much again for arranging this interview.  
I look forward to speaking with you tomorrow.

Regards,

Christine

On Wed, Jun 23, 2021 at 12:31 PM Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov> wrote:

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Requester: John Greenewald

Request #: 21-HQ-F-00603

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**From:** [Eghigian, Greg](#)  
**To:** [\(b\) \(6\)](#) [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)](#)[Science Collaborator]  
**Cc:** [Adam Frank](#); [Kevin Knuth](#)  
**Subject:** Re: [EXT] [EXTERNAL] Re: UAP discussion  
**Date:** Wednesday, June 23, 2021 5:21:27 PM

---

Hi All,

Thanks, Ravi, for the document. I'll take a close look soon.

Jacob, I know some of the people behind the UFODATA project. There is certainly some overlap between them and the SCU group (in terms of personnel). I've always had the sense that UFODATA is more European-driven as an endeavor, but I might be wrong about that. Kevin would know far more about the nuts-and-bolts of the operation.

Greg

Greg Eghigian  
Professor of History  
Penn State University

Department of History  
108 Weaver Building  
Penn State University  
University Park, PA 16802  
USA  
Email: [\(b\) \(6\)](#)

---

**From:** Jacob Haqq Misra <[\(b\) \(6\)](#)>  
**Date:** Wednesday, June 23, 2021 at 9:21 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** Adam Frank <[\(b\) \(6\)](#)> [\(b\) \(6\)](#) Greg Eghigian <[\(b\) \(6\)](#)> Kevin Knuth <[\(b\) \(6\)](#)> <[\(b\) \(6\)](#)> <[\(b\) \(6\)](#)> <[\(b\) \(6\)](#)>  
**Subject:** Re: [EXT] [EXTERNAL] Re: UAP discussion

Thanks Ravi for starting this document. I enjoyed our group discussion yesterday.

One question (possibly for Kevin) with regard to instrumentation: are you familiar with the UFO Data Acquisition Project? They contacted me several years ago when they were first crowdfunding, and it seems now that they have developed hardware and software systems for data collection. Does this group have any connection to SCU or other groups conducting scientific research into UAP? I would be curious if anyone has opinions on their hardware approach—if they are on the right track, then the problem becomes more about finding funding to build a large enough detection network. (Although I think we would also want radar in addition to such a network.)

<https://ufodap.godaddysites.com/>

On Tue, Jun 22, 2021 at 4:04 PM Kopparapu, Ravi Kumar (GSFC-6990)

<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hello all,

Thank you again for taking the time to participate in today's telecon. Following the action item that we discussed about drafting a whitepaper on what exactly is needed for a scientific study of UAP, here are some points that I could think of. If I am missing anything, please let me know so that I can add them, or please feel free to directly edit the document:

<https://docs.google.com/document/d/1fdYuRiK7Z1uvYEOcHEPpskoMjvClajNe9OpBK4uZgwA/edit?usp=sharing>

The intent is to make a robust case for scientifically studying UAP, so please do not hesitate to add some hard questions so that we could think about an effective response.

Thanks again

Best

Ravi

---

**From:** Adam Frank <(b) (6)>

**Date:** Tuesday, June 22, 2021 at 12:09 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

**Cc:** "Eghigian, Greg" <(b) (6)> Kevin Knuth <(b) (6)> "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>

**Subject:** Re: [EXT] [EXTERNAL] Re: UAP discussion

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**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Date:** Thursday, June 24, 2021 8:55:50 AM

---

hey, btw, i was asked to give a talk at an Aerospace conference, in a session exclusively for technical study of UAP..

**From:** [Gran, Rani C. \(GSFC-1300\)](#)  
**To:** [Christine Schiffner](#)  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: [EXTERNAL] upcoming "UFO" report  
**Date:** Thursday, June 24, 2021 1:53:04 PM

---

Could you send us the questions ahead of the interview to help with prep.

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** Christine Schiffner <(b) (6)>  
**Date:** Wednesday, June 23, 2021 at 1:59 PM  
**To:** Rani Gran <rani.c.gran@nasa.gov>  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: [EXTERNAL] upcoming "UFO" report

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**From:** [Gran, Rani C. \(GSFC-1300\)](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Date:** Thursday, June 24, 2021 2:21:42 PM

---

Please see a few talking points for the interview later today.

\*What are your expectations with the release of the "UFO" report on Friday? \*Do you believe that we are alone in the universe? \*What do you think about the flying objects observed by various members of the US military? \*What do you think about the suggested acceleration and other flying capabilities of these aircraft? Human-made? Chinese or Russian technology? \*Do you think that contact with an extraterrestrial species could actually occur at some point in the future and if so, what would you hope to find out?

Thank you so much - I look forward to our chat at 3PM.



**From:** [Nijo Abraham](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper  
**Date:** Thursday, June 24, 2021 3:52:19 PM  
**Attachments:** [aiaareport.pdf](#)

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Ravi,

We have our 5th presenter. Ted Roe, is the Director of Research and co-founder of NARCAP. He will be speaking on the safety concerns to air travel based on the 24 years of pilot reports and trends collected by NARCAP. (Dr. Richard Haines, his co-founder retired due to old age).

Attached is a report that he sent me. It is an investigation of the phenomenon that was performed by an AIAA Subcommittee from 1971.

Thought it might be of interest to you.

Nijo

On Wed, Jun 23, 2021 at 2:33 PM Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

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Requester: John Greenewald

Request #: 21-HQ-F-00603

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## UFO ENCOUNTER 1

### Sample Case Selected by the UFO Subcommittee of the AIAA

In its "Appraisal of the UFO Problem" A/A Nov. 1970, pp. 49-51, the Subcommittee pledged to give the members of this society an opportunity to form their own opinions with respect to the type of observations which form the core of the UFO controversy.

The selected case, which occurred on July 17, 1957, is treated in the Condon Report (Condon, E. U., 1969, *Scientific Study of Unidentified Flying Objects*, Bantam Books, N.Y., pp.56-58,136-139, 260-266, 750, 877-894). During the study by the University of Colorado group, the case files were not located due to an error in date. In addition, radar and weather analyses were made for September 19, 1957, rather than July 17, 1957. The conclusions drawn by members of the Condon Committee, based on available information are as follows:

1. *If the report is accurate, it describes an unusual, intriguing, and puzzling phenomenon, which, in the absence of additional information, must be listed as unidentified. (Condon, p.57).*
2. *In view of... the fact that additional information on this incident is not available, no tenable conclusions can be reached. From a propagation [Based on a wrong date.] standpoint, this sighting must be tentatively classified as an unknown. (Thayer, p.139).*
3. *If a report of this incident, written either by the B-47*

*crew or by Wing Intelligence personnel, was submitted in 1957, it apparently is no longer in existence. Moving pictures of radar scope displays and other data said to have been recorded during the incident apparently never existed. Evaluation of the experience must, therefore, rest entirely on the recollection of crew members ten years after the event. These descriptions are not adequate to allow identification of the phenomenon encountered. (Craig, p.265).*

4. *After review the unanimous conclusion was that the object was not a plasma or an electrical luminosity by the atmosphere. (Altschuler, p.750).*

Subsequently, James McDonald has been able to locate the case files, to correct the date of the flight and to draw additional information from the files as well as from personal interviews with the crew. At the request of the UFO Subcommittee, he describes the case in the following article. It is left to the reader to draw his own conclusions.

The aircraft Commander, Lt. Colonel Lewis D. Chase, USAF (Ret.), has confirmed the accuracy of this report in a letter to the Subcommittee.

This sample case may serve to illuminate the difficulties in deciding whether or not the UFO problem presents a scientific problem.

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### **Air Force Observations of an Unidentified Object in the South-Central U.S., July 17, 1957**

#### **Summary**

An Air Force RB 47, equipped with electronic countermeasures (ECM) gear and manned by six officers, was followed by an unidentified object for a distance of well over 700 mi. and for a time period of 1.5 hr., as it flew from Mississippi, through Louisiana and Texas and into Oklahoma. The object was, at various times, seen visually by the cockpit crew as an intensely luminous light, followed by ground radar and detected on ECM monitoring gear aboard the RB 47. Of special interest in this case are several instances of simultaneous appearances and disappearances on all three of those physically distinct "channels," and

rapidity of maneuvers beyond the prior experience of the aircrew.

#### **Introduction**

In the early morning hours of July 17, 1957, an RB 47 was flying out of Forbes Air Force Base, Topeka, Kansas, on a composite mission that included gunnery exercises over the Texas Gulf area, navigation exercises over the open Gulf, and finally ECM exercises scheduled for the return trip across the south central United States. The RB 47 was carrying a six man crew, of whom three were electronic warfare officers manning ECM gear in the aft portion of the aircraft. Their names are as follows: Lewis D. Chase, pilot; James H. McCoid, co pilot; Thomas H. Hanley, navigator; John J. Provenzano, No.1 monitor; Frank B. McClure, No.2 monitor; Walter A. Tuchscherer, No.3 monitor.

I shall draw upon my interview with the crew as well as case files which I finally located. The files consist of a three

page TWX filed from the 745th ACWRON, Duncanville, Texas, at 1557Z on July 17, 1957, and a four page case summary prepared by E. T. Piwetz, Wing Intelligence Officer, 55th Reconnaissance Wing, Forbes AFB, and transmitted to ADC Hq., Ent AFB, Colorado, in compliance with a request of August 15, from Col. F. T. Jeep, Director of Intelligence, ADC. That summary, plus a 12 page Airborne Observer's Data Sheet, was forwarded on November 17 from ADC to Blue Book, and was evidently the first notification Project Blue Book received concerning this case.

The 12 page Data Sheet (AISOP #2) was prepared by Major Chase on September 10, and contains a number of points of relevance not covered in other parts of the case file.

There is very relevant information in the case file as to precise times, locations, and other circumstances, and the case file does have the great

virtue of representing a summary account prepared while all of the details were fresh in the minds of the crew.

Before describing the first ECM contact, it is necessary to explain briefly the nature of the ECM gear involved in this case. (Details are no longer classified, although all of the basic case-file documents were initially SECRET.) This RB-47 had three passive direction-finding (DF) radar-monitors for use in securing coordinate information and pulse characteristics on enemy ground-based radar. The #2 monitor, manned by McClure, was an ALA-6 DF-receiver with back-to-back antennas in a housing on the belly of the RB-47 near the tail spun at 150 or 300 rpm as it scanned an azimuth. (Note that this implies ability to scan at 10/sec past a fixed ground radar in the distance.) Its frequency range was 1000-7500 MHz. Inside the aircraft, the signals from the ALA-6 were processed in an APR-9 radar receiver and an ALA-5 pulse-analyzer. All subsequent references to the #2 monitor imply that system.

#### Number 1 Monitor

The #1 monitor, manned by Provenzano, was an APD-4 DF system, with a pair of antennas permanently mounted on either wing tip. It was working at a higher frequency. The #3 monitor, with a frequency range from 30-1000 MHz, was manned by Tuchscherer. It was not affected and will not be described here. VHF communications were likewise not affected.

For emphasis, it needs to be stressed that the DF receivers are *not* radars and do not emit a signal for reflection off a distant target. They only listen passively to incoming radar signals and analyze signatures and other characteristics. When receiving a distant radar set's signal, the scope displays a pip or strobe at an azimuthal position corresponding to the relative bearing in the aircraft coordinate system. For the case of a fixed ground radar, approached from one side, the strobe is initially seen in the upper part of the scope and moves *down scope*, a point to be carefully noted in interpreting the following discussion.

Having completed the navigational exercises over the Gulf, Chase headed across the Mississippi coastline, flying at an altitude of 34,500 ft, at about Mach 0.75 (258 kt IAS=500 mph TAS). The weather was perfect and practically cloudless

under the influence of a large high-pressure area extending throughout the troposphere. There were no showers or thunderstorms anywhere along the flight route. Shortly after the coast near Gulfport was crossed at a point marked A on the map in page 68, McClure detected on the #2 monitor a signal painting at their 5 o'clock position (aft of the starboard beam). It looked to him as if he were receiving a legitimate ground-radar signal. Upon noting that the strobe was moving *up scope*, McClure tentatively decided that it must be a ground radar off to their northwest painting with 180 deg ambiguity for some electronic reason. But when the strobe, after sweeping up-scope on the starboard side, crossed the flight path of the RB-47 and proceeded to move *down scope* on the port side McClure said he gave up the hypothesis of 180 deg ambiguity as incapable of explaining such behavior.

Fortunately, he had examined the signal characteristics on his ALA-5 pulse-analyzer, before the signal left his scope on the port side aft. In discussing it with me, his recollection was that the frequency was near 2800 mcs, and he recalled that what was particularly odd was that it had a pulse-width and pulse repetition frequency (PRF) much like that of a typical S-band, ground-based, search radar. He even recalled that there was a simulated scan rate that was normal. Perhaps because of the strong similarities to ground-based sets such as the CPS-6B, widely used at that time, McClure did not, at that juncture, call this signal to the attention of anyone else in the aircraft. The #1 monitor was not working the frequency in question, it later developed. The #3 monitor was incapable of working the frequency in question, McClure and the others indicated to me.

I next quote information transcribed from the summary report prepared by the Wing Intelligence Officer, COMSTRATRECONWG 55, Forbes Air Force Base, concerning this part of the incident that involved this aircraft (call sign "Lacy 17"):

*ECM reconnaissance operator #2 of Lacy 17, RB 47H aircraft, intercepted at approximately Meridian, Mississippi, a signal with the following characteristics: frequency 2995 mc to 3000 mc; pulse width of 2.0 microseconds; pulse repetition frequency of 600 cps; sweep rate of 4 rpm; vertical polarity. Signal moved rapidly up the D/F scope*

*indicating a rapidly moving signal source; i.e., an airborne source. Signal was abandoned after observation...*

#### Initial Visual Contact

If nothing further had occurred on that flight to suggest that some unusual object was in the vicinity of the RB-47, McClure's observations undoubtedly would have gone unmentioned and would have been quickly forgotten even by him. He was puzzled, but at that point still inclined to think that it was some electronic difficulty.

The flight plan called for a turn to the west in the vicinity of Meridian and Jackson, Mississippi (Point B), with subsequent planned exercises wherein the EWOs did simulated ECM runs against known ground radar units. The contemporary records confirm what Chase and McCoid described to me far more vividly and in more detail concerning the unusual events that soon ensued.

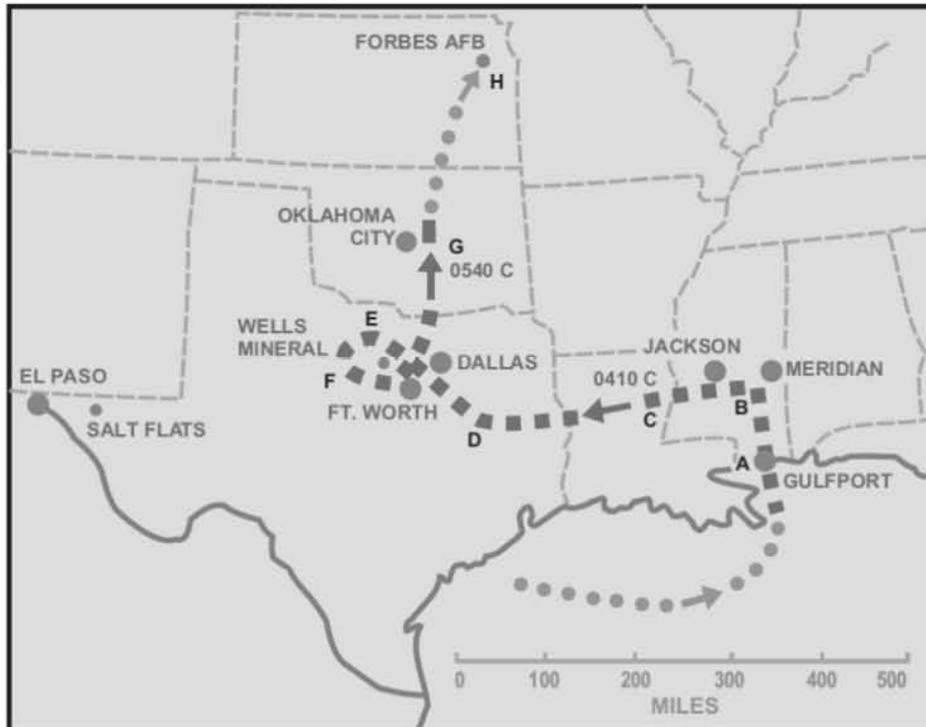
They turned into a true heading of 265 deg, still at Mach 0.75 at 34,500 ft. At 1010Z (0410 CST), Major Chase, in the forward seat, spotted what he first thought were the landing lights of another jet coming in fast from near his 11 o'clock position at, or perhaps a bit above, the RB-47's altitude. He called McCoid's attention to it, noted absence of any navigational lights, and as the single intense bluish-white light continued to close rapidly, he used the intercom to alert the rest of the crew to be ready for sudden evasive maneuvers.

But before he could attempt evasion, he and McCoid saw the brilliant light almost instantaneously change direction and flash across their flight path from port to starboard at an angular velocity that Chase told me he had never seen matched in all of his 20 years of flying, before or after that incident. The luminous source had moved with great rapidity from their 11 o'clock to about their 2 o'clock position and then blinked out.

The Airborne Observer's Data Sheet filled out by Chase as part of the post-interrogation gives the RB-47 position at the time of that 1010Z first visual contact as 32-00N, 91-28W, which puts it near Winnsboro in east-central Louisiana (Point C).

The descriptions obtained in the 1969 interviews with these officers are closely supported by the original intelligence report:

**MAP OF THE  
JULY 17, 1957,  
UFO EPISODE.**



- KEY**
- ■ ■ PATH OF RB-47H DURING PERIOD OF CONTACT WITH UFO
  - ● ● OTHER PORTIONS OF RB-47H FLIGHT
- |   |  |
|---|--|
| A--FIRST ECM CONTACT OVER GULFPORT AREA               | E--AREA NEAR WHICH AIRCRAFT OVERSHOOTS UFO   |
| B--RB-47H TURNS TO WEST NEAR MERIDIAN                 | F--OBJECT APPEARS TO RAPIDLY DROP 5000 FT., THEN BLINKS OUT AS RB-47H ATTEMPTS TO DIVE ON IT |
| C--FIRST VISUAL SIGHTING BY COCKPIT CREW              | G--LAST ECM CONTACT NEAR OKLAHOMA CITY, 1.5 HR AFTER FIRST VISUAL CONTACT                    |
| D--RB-47H TURNS NORTHWESTWARD TO PURSUE AT FULL POWER | H--RB-47H LANDS AT HOME BASE   |

At 1010Z aircraft cmdr first observed a very intense white light with light blue tint at 11 o'clock from his aircraft, crossing in front to about 2:30 o'clock position, co pilot also observed passage of light to 2:30 o'clock where it apparently disappeared.

Chase did not observe any magnetic compass anomalies during the flight.

**Actions over Louisiana-Texas Area**

Immediately after the luminous source blinked out, Chase and McCoid began talking about it on the interphone, with the already alerted crew listening in. McClure, recalling the unusual signal he had received on his ALA-6 back near Gulfport, now mentioned for the first time that peculiar incident and concurrently set his #2 monitor to scan at about 3000 mcs, to see what might show up.

He found he was getting a strong 3000 mcs signal from about their 2 o'clock position, just the relative bearing at which the unknown luminous source had blinked out moments earlier.

Provenzano told me that immediately after that they checked out the #2 monitor on other known ground-radar stations, to be sure that it was not malfunctioning; it appeared to be in perfect working order.

He then tuned his own #1 monitor to 3000 mcs and also got a signal from the same bearing. There remained, of course, the possibility that, just by chance, this signal was from a real radar down on the ground and off in that relative direction. But as the minutes went by and the RB-47 continued westward at about 500 mph, the relative bearing of the 3000 mcs source out in the dark did not move down-scope on the monitors as should have occurred with any ground-radar, but instead kept up with the RB-47, holding a fixed relative bearing.

I found these and ensuing portions of the entire episode still vivid in the minds of all the men, although their recollections for various details varied somewhat, depending on the particular activities in which they were then engaged.

Chase varied speed, going to maximum allowed power, but

nothing seemed to change the relative bearing of the 3000-mcs source. They crossed Louisiana and headed into eastern Texas, with the object still maintaining station with them. Eventually they got into the radar-coverage area of the 745th ACWRON, Duncanville, Texas, and Chase dropped his earlier reluctance about calling attention to these peculiar matters and contacted that station (code name "Utah"). The crew was becoming uneasy about the incident by this time, several of them remarked to me. That phase of the incident is tersely described in the following quotes from the report of the Wing Intelligence Officer:

*Aircraft cmdr notified crew and ECM operator Nr 2 searched for signal described above, found same approximately 1030Z at a relative bearing of 070 degrees; 1035Z, relative bearing of 068 degrees; 1038Z, relative bearing 040 degrees.*

Note that the above time would indicate that McClure did not immediately think of making his ALA-6 check, but rather that some 20 min went by before that was thought of. Note also that by 1038Z the

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## THE UFO SUBCOMMITTEE OF THE AIAA

Chairman

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Secretary

**VERNON J. ZURICK**

Environmental Research Laboratories of the  
National Oceanic and Atmospheric Administration  
Boulder, Colorado

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unknown source of the 3000 mcs radar-like signal was moving up scope relative to the 500 mph RB-47. The Wing Intelligence Officer continued:

*At 1039Z aircraft comdr sighted huge light which he estimated to be 5000 [ft] below aircraft at about 2 o'clock. Aircraft altitude was 34,500 ft, weather perfectly clear. Although aircraft comdr could not determine shape or size of object, he had a definite impression light emanated from top of object.*

*At about 1040Z ECM operator #2 reported he then had two signals at relative bearings of 040 and 070 deg. Aircraft comdr and co pilot saw these two objects at the same time with same red color. Aircraft comdr received permission to ignore flight plan and pursue object. He notified ADC site Utah and requested all assistance possible. At 1042Z ECM #2 had one object at 020 deg relative bearing.*

In my interviews with the aircrew, I found differences between the recollections of the various men as to some of these points. McCoid recalled that the luminous source occasionally moved abruptly from starboard to port side and back again. Chase recalled that they had contacted Utah (his recollection was that it was Carswell GCI, however)

prior to some of the above events and that Utah was ground-painting the target during the time it moved up-scope and reappeared visually. As will be seen below, the contemporary account makes fairly clear that Utah was not painting the unknown until a bit later, after it had turned northwestward and passed between Dallas and Ft. Worth. Chase explained to me that he got FAA clearance to follow it in that off-course turn (Point D) and indicated that FAA got all jets out of the way to permit him to maintain pursuit. The Intelligence summary continues:

*At 1042Z ECM #2 had one object at 020 deg relative bearing. Aircraft comdr increased speed to Mach 0.83, turned to pursue, and object pulled ahead. At 1042.5Z ECM #2 again had two signals at relative bearings of 040 and 070 deg. At 1044Z he had a single signal at 050 deg relative bearing. At 1048Z ECM #3 was recording interphone and command position conversations.*

*ADC site requested aircraft to go IFF Mode III for positive identification and then requested position of object. Crew reported position of object as 10 n. mi. northwest of Ft. Worth, Texas, and ADC site Utah immediately confirmed presence of objects on their scopes.*

*At approximately 1050Z object*

*appeared to stop, and aircraft overshoot. Utah reported they lost object from scopes at this time, and ECM #2 also lost signal.*

Chase, in reply to my questions, indicated that it was his recollection that there was simultaneity between the moment when he began to sense that he was getting closure at approximately the RB-47 speed, and the moment when Utah indicated that their target had stopped on their scopes. He said he veered a bit to avoid colliding with the object, not then being sure what its altitude was relative to the RB-47, and then found that he was coming over the top of it as he proceeded to close. At the instant that it blinked out visually and disappeared simultaneously from the #2 monitor and from the radar scopes at Site Utah, it was at a depression angle relative to his position of something like 45 deg.

Chase put the RB-47 into a port turn in the vicinity of Mineral Wells, Texas (Point E), and he and McCoid looked over their shoulders to try to spot the luminous source again. All of the men recalled the near simultaneity with which the object blinked on again visually, appeared on the #2 scope, and was again skin-painted by ground radar at Site Utah. The 1957 report describes these events as follows:

*Aircraft began turning, ECM #2 picked up signal at 160 deg relative bearing, Utah regained scope contact, and aircraft comdr regained visual contact. At 1052Z ECM #2 had signal at 200 deg relative bearing, moving up his D/F scope. Aircraft began closing on object until the estimated range was 5 n. mi. At this time object appeared to drop to approximately 15,000 ft altitude, and aircraft comdr lost visual contact. Utah also lost object from scopes.*

*At 1055Z in the area of Mineral Wells, Texas, crew notified Utah they must depart for home station because of fuel supply. Crew queried Utah whether a CIRVIS Report had been submitted, and Utah replied the report had been transmitted. At 1057Z ECM#2 had signal at 300 deg relative bearing, but Utah had no scope contact. At 1058Z aircraft comdr regained visual contact of object approximately 20 n. mi. northwest of Ft. Worth, Texas, estimated altitude 20,000 ft at 2 o'clock from aircraft.*

Case added further details on this portion of the events, stating that he requested and secured permission from Utah to dive on the object when it was at lower altitude. He did not recall the sudden descent that is specified in the contemporary account, and there are a number of other minor points in the Intelligence Report that were not recollected by any of the crew. He told me that when he dove from 35,000 ft to approximately 20,000 ft the object blinked out, disappeared from the Utah ground-radar scopes, and disappeared from the #2 monitor, all at the same time. McClure recalled that simultaneous disappearance, too. It should be mentioned that the occasional appearance of a second visual and radar-emitting source was not recalled by any of the officers when I interviewed them in 1969.

#### **Actions over Texas-Oklahoma Area**

McCoid recalled that, at about this stage of the activities, he was becoming a bit worried about excess fuel consumption resulting from use of maximum allowed power, plus a marked departure from the initial flight plan. He advised Chase that fuel limitations would necessitate a return to the home base at Forbes AFB, so they soon headed north from the Ft. Worth area (Point F).

McClure and Chase recalled that the ALA-6 system again picked up a

3000 mcs signal on their tail, once they were northbound from Ft. Worth, but there was some variance in their recollections as to whether the ground radar concurrently painted the object. McCoid was unable to fill in any of those details. Fortunately the 1957 Intelligence Report summarized further events in this part of the flight, as they moved northward into Oklahoma:

*At 1120Z aircraft took up heading for home station. This placed area of object off the tail of aircraft. ECM #2 continued to [get] D/F signal of object between 180 and 190 deg relative bearing until 1140Z, when aircraft was approximately abeam Oklahoma City, Oklahoma. At this time, signal faded rather abruptly. 55 SRW DOI [55th Strategic Reconnaissance Wing, Director of Intelligence] has no doubt the electronic D/F's coincided exactly with visual observations by aircraft comdr numerous times, thus indicating positively the object being the signal source.*

It was Chase's recollection that the object was with them only into southern Oklahoma; Hanley recalled that it was with them all the way to Oklahoma City area (Point G); the others remembered only that it was there for some indefinite distance on the northbound leg between Ft. Worth and Topeka, their home base.

#### **Blue Book**

The records indicate that Project Blue Book received summary information on this incident from ADC on Oct. 25, 1957 (over two months after occurrence of the event). A "Brief Summary" ends with the following paragraph:

*In joint review with the CAA of the data from the incident, it was definitely established by the CAA that object observed in the vicinity of Dallas and Ft. Worth was an airliner.*

This refers to a near-collision of two DC-6 American Airliners near Salt Flats, Texas, 50 mi. from El Paso at 14,000 ft at 3:30 a.m. of this day. (See the map on page 68.) The case is now carried in the official Blue Book files as "Identified as American Airlines Flight 655."

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#### **MacDonald Dies**

On June 13, James E. MacDonald was found dead in the desert near Tuscon. He was 51 years old.

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Nijo Abraham](#)  
**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper  
**Date:** Thursday, June 24, 2021 4:23:07 PM  
**Attachments:** [mcdonald\\_aaas\\_69.pdf](#)

---

Hi Nijo,

Interesting! This case was the first case discussed in James Mc Donald's "Science in Default" document. It is one of the cases I am going to highlight in my talk, but won't have the time to discuss in detail. This report also has a picture of the flight path, which was missing from Mc Donald's document.

Could you send the attached document of "Science in Default", with my comments, to Ted?

Thanks

Ravi

---

**From:** Nijo Abraham <(b) (6)>  
**Date:** Thursday, June 24, 2021 at 3:52 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper

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Requester: John Greenewald

Request #: 21-HQ-F-00603

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**From:** Nijo Abraham  
**To:** (b) (6)  
**Cc:** Ravi Kumar (GSFC-6990) Kopparapu; Kopparapu, Ravi Kumar (GSFC-6990)  
**Subject:** Fwd: [EXTERNAL] Contacting for an AIAA Conference Paper  
**Date:** Thursday, June 24, 2021 4:40:51 PM  
**Attachments:** mcdonald aaas 69.pdf

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Ted,

The case in the 1970 AIAA report was one of the cases our opening presenter (Dr. Ravi Kopparapu, cc'd) was going to mention in his talk ('Science of UAP-Past and Present')

He wanted you to see the attached document he was basing his talk on. It includes his comments as well.

Nijo

----- Forwarded message -----

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Date:** Thu, Jun 24, 2021 at 4:23 PM  
**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper  
**To:** Nijo Abraham <(b) (6)>

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**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Evan Dawson](#); [Gran, Rani C. \(GSFC-1300\)](#); [Adam Frank](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Cc:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: [EXTERNAL] Radio interview  
**Date:** Friday, June 25, 2021 8:45:25 AM

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Thanks Evan, Next week Thursday (July 1<sup>st</sup>) and Friday (July 2<sup>nd</sup>) are best for me. The week after that (July 5<sup>th</sup> – 9<sup>th</sup>) is essentially free.

If these are not possible, I could next week Monday, Tuesday, Wednesday (Jan 28, 29, 30) but we will be cutting close to one or another meeting ending or a meeting beginning,

With regards to UAP and technological life, We are trying to decouple these two and view them as separate things. Only when the scientific evidence points to any connection can we consider them together.

So far, we don't have that kind of evidence. HOWEVER, the core point is that scientific investigation of UAP needs to be done and without any taboo. When scientists are missing from the scene, conspiracy theories fill the void that perpetuates the taboo.

Best  
Ravi

---

**From:** Evan Dawson <(b) (6)>  
**Date:** Friday, June 25, 2021 at 7:26 AM  
**To:** "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>, "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, Adam Frank <(b) (6)> "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Cc:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: [EXTERNAL] Radio interview

Hello everyone -

Apologies for the sluggish response; I'm on a rare vacation.

We can work with the parameters some of you have set; specifically, if you can't comment on specific reports, that's no problem. The goal of the conversation is to discuss what we have learned -- or not learned -- about the search for intelligent life. The recent reporting (thanks a whole lot, 60 Minutes) has sparked a flood of interest in the subject. I'm not sure all of it is particularly healthy. My own bias is that the vast numbers confronting us make it very likely that there is or has been technologically advanced life elsewhere -- but we need something truly extraordinary to declare that we have glimpsed it. A bug on the lens of a camera is not exactly it.

We'd be looking to have this conversation during the 1pm hour as soon as we can square things up. Can I ask you to share some open 1pm hours next week and the following week? If we have a good date, we'll lock it down.

Cheers and thanks -

Evan

---

**From:** Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>

**Sent:** Monday, June 21, 2021 11:07 AM

**To:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>; Adam Frank

<(b) (6)> Evan Dawson <(b) (6)> Haqq-Misra, Jacob D. (GSFC-6062)  
[Science Collaborator] <(b) (6)>

**Cc:** Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC] <lonnie.shekhtman@nasa.gov>

**Subject:** Re: [EXTERNAL] Radio interview

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Requester: John Greenewald

Request #: 21-HQ-F-00603

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**From:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Date:** Friday, June 25, 2021 10:54:14 AM

---

apparently, several ppl pointed out the prob with the UFO/search for life connection

**From:** Kevin Knuth  
**To:** Nijo Abraham  
**Cc:** Peter Reali; Ravi Kumar (GSFC-6990) Kopparapu; Kopparapu, Ravi Kumar (GSFC-6990)  
**Subject:** [EXTERNAL] Re: Good News: AIAA Special Session Approved + Registration Fees Waived  
**Date:** Friday, June 25, 2021 11:38:17 AM

---

This is great news!  
Thank you Nijo.

Cheers  
Kevin

On Fri, Jun 25, 2021 at 10:31 AM Nijo Abraham <(b) (6)> wrote:

Hello Everyone,

I have some good news to share with you: (see email below from AIAA)

- 1) Special session on the UAP topic has been APPROVED by AIAA for Aviation conference.
- 2) Registration fees of \$600 has been WAIVED for all speakers.

They would like to promote the event likely on the AIAA website. This is a step towards normalizing the topic within the aerospace community.

If you have any reservations against promoting this session please let me know by Wednesday, 30th June.

Next Step: I am still finalizing the other speakers. Speaker credibility is important as was told by my committee (STEM background + objective opinions on UAP).

Nijo Abraham  
DETC, AIAA

----- Forwarded message -----

**From:** Lisa Le <(b) (6)>  
**Date:** Fri, Jun 25, 2021 at 10:10 AM  
**Subject:** RE: AIAA AVIATION: Special Session -- Requesting Speaker Fees Exemption

Hi Nijo,

I have some great news regarding your session.

1. **Session topic:** Our events team shared that this is certainly a timely topic and that they appreciate the way they have laid it out to discuss the real issues and avoid the hype. As long as all of the panelists are comfortable speaking in an unclassified, on-the-record environment, we should be good to go. They wish we could promote it but understand the concerns behind that.
2. **Access to Session:** Once the zoom link is created, I will share it with you to provide to the panelists so they can access the session without registering. Please feel free to call me/text me directly at 571.214.0343 to request the Zoom Link 1 or 2 hours before the session, as my inbox may be overflowing during the week of the event. No event registration is required, although we encourage all session participants to create a Zoom account with their profile picture/name to access all the features in the app instead of the web browser.

**Session Abbreviation:** DE-08

**Session Title:** Advocating for Scientific Study of Unidentified Aerial Phenomenon – with focus on Aviation Safety and Technical Perspective

**Session Type:** Technical Panel

**Session Start Time:** Fri 8/06/2021 11:15 AM

**Duration:** 240

**SESSION LOCATION:** DE

**Chair(s):** Moderator: Nijo Abraham

**Session Creator:** Le, Lisa

**SESSION EXPECTED ATTENDANCE:**

**Session Notes:**

**SESSION** Nijo Abraham will get back session description, panelist info.

**NOTES TO NOTES TO PROJECT MANAGER:** Presenters would like no

**ADMIN:** media attention/promotion. - Recording okay

I look forward to receiving the confirmed panelist information and final session description to enter into ScholarOne. I suggest providing the information no later than 15 July as that is usually when we receive the most uptick in registrations and attendees will be adding sessions to their agenda.

Kind regards,

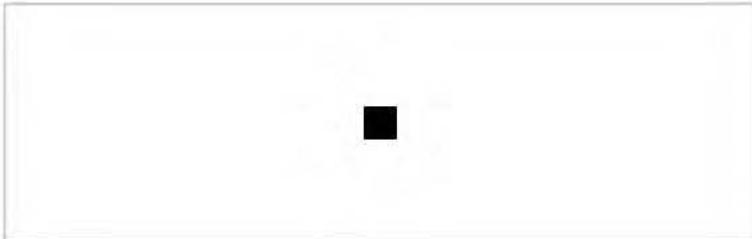
Lisa

**Lisa Le**

Technical Program Specialist

American Institute of Aeronautics and Astronautics [www.aiaa.org](http://www.aiaa.org)

(b) (6) (b) (6) (direct)



<https://www.aiaa.org/aviation/program/virtual-event-faqs>

<https://www.aiaa.org/propulsionenergy/program/virtual-event-faqs>

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Kevin H. Knuth, Ph.D.  
Editor-in-Chief of Entropy  
Associate Chair, Physics  
Associate Professor of Physics  
University at Albany (SUNY)  
Albany NY 12222  
<http://knuthlab.org>

**From:** [Nijo Abraham](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Cc:** [Kevin Knuth](#); [Peter Reali](#)  
**Subject:** Re: [EXTERNAL] Good News: AIAA Special Session Approved + Registration Fees Waived  
**Date:** Friday, June 25, 2021 12:19:27 PM

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Ravi,  
It will be restricted to registered participants.  
I will insist on no media attention. I will request no promotion if there is a chance of media being involved.

Nijo

On Fri, Jun 25, 2021 at 11:42 AM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Nijo,

Thank you.

The document looks good. When promoting, please insist on no media attention. And it will be restricted to registered participants, right?

Ravi

---

**From:** Nijo Abraham <(b) (6)>  
**Date:** Friday, June 25, 2021 at 10:32 AM  
**To:** Kevin Knuth <(b) (6)> Peter Reali <(b) (6)> "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL] Good News: AIAA Special Session Approved + Registration Fees Waived

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Requester: John Greenewald

Request #: 21-HQ-F-00603

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**From:** [Hautaluoma, Grey \(HQ-NA020\)](#)  
**To:** [Stephanie Bianca](#); [Gran, Rani C. \(GSFC-1300\)](#)  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Re: Science Channel - The UAP Report - Invitation  
**Date:** Friday, June 25, 2021 1:19:43 PM

---

Thanks!

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On: 25 June 2021 12:07, "Stephanie Bianca" <(b) (6)> wrote:

Hi Grey,

Yes, this is correct. It's airing simultaneously on Discovery Channel, Travel Channel and The Science Channel on 6/30/2021 at 8pm ET.

Best,  
Stephanie

---

**From:** Hautaluoma, Grey (HQ-NA020) <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>  
**Sent:** Friday, June 25, 2021 3:32 AM  
**To:** Gran, Rani C. (GSFC-1300) <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>; Stephanie Bianca <(b) (6)>  
**Cc:** Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Science Channel - The UAP Report - Invitation

Hi, Stephanie,

For our internal tracking, could you please confirm that The UAP Report is still scheduled to air on Discovery Networks and the Science Channel June 30 and at what time? Thanks so much.

Grey Hautaluoma  
Acting News Chief, Office of Communications  
NASA's Goddard Space Flight Center  
202-358-0668  
[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)

**From:** [Jill Robinson](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Cc:** [Lonnie Shekhtman](#); [Gran, Rani C. \(GSFC-1300\)](#); [Hautaluoma, Grey \(HQ-NA020\)](#); [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: [EXTERNAL] Media query for National Geographic on upcoming UFO/UAP report  
**Date:** Friday, June 25, 2021 8:43:45 PM

---

Let's do 9 a.m./12 p.m. Thank you, Lonnie.

-jill

Jill K. Robinson  
Traveling Writer  
Clips: [dangerjillrobinson.com/writing](http://dangerjillrobinson.com/writing)  
IG and Twitter: [@dangerjr](#)  
Pronouns: she/her

On Fri, Jun 25, 2021 at 5:25 PM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

We could do 9am PDT (12pm EDT), or 1pm PDT (4pm EDT). Either one is fine.

---

**From:** Jill Robinson <(b) (6)>  
**Date:** Friday, June 25, 2021 at 8:16 PM  
**To:** Lonnie Shekhtman <(b) (6)>  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>, "Hautaluoma, Grey (HQ-NA020)" <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Media query for National Geographic on upcoming UFO/UAP report

Excellent, thanks.

I'm free between 7:30-10:30 a.m. PDT and 1-5 p.m. PDT on Tuesday.

-jill

On Jun 25, 2021, at 5:12 PM, Lonnie Shekhtman

<(b) (6)> wrote:

Hi Jill --

Good on my end. Let's come up with a time on Tuesday and I'll set up a video chat.

Best,

Lonnie

On Fri, Jun 25, 2021, 7:02 PM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Jill,

I am also copying Lonnie Shekhtman, Senior science writer at Goddard, in this email. Tuesday is more suitable for me, pending PAO response.

Best

Ravi

---

**From:** Jill Robinson <(b) (6)>  
**Date:** Friday, June 25, 2021 at 5:52 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>, "Hautaluoma, Grey (HQ-NA020)" <[grey.hautaluoma-1@nasa.gov](mailto:grey.hautaluoma-1@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Media query for National Geographic on upcoming UFO/UAP report

Hi Ravi,

Now that the report is out (today!), I'd love to follow up with you.

Rani and Grey, can you tell me if he has any availability for a phone call next

week, ideally on Monday, Tuesday, or Friday?

Thanks again,

-jill

Jill K. Robinson  
Traveling Writer  
Clips: [dangerjillrobinson.com/writing](https://dangerjillrobinson.com/writing)  
IG and Twitter: @dangerjr

Pronouns: she/her

On Wed, Jun 9, 2021 at 10:12 AM Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Jill,

Thank you for your query. I will be happy to talk after the report is released and have an opportunity to look at it carefully. I am copying our Public Office representatives Rani Gran and Grey Hautaluoma in this email as well so you can coordinate with them.

Best

Ravi

---

**From:** Jill Robinson <(b) (6)>  
**Date:** Tuesday, June 8, 2021 at 7:01 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)"  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL] Media query for National Geographic on upcoming UFO/UAP report

Dear Dr. Kopparapu,

I'm a freelance journalist writing a story for National Geographic Travel about the upcoming report on UFO/UAP data and intelligence that was spurred by the Intelligence Authorization Act for Fiscal Year 2021. I realize that the unclassified version of the report has not yet been released, however I would like to talk with you once it is released to get your perspective on what you think these things might actually be, the necessity for scientific analysis of this data, and whether you think it may give us a more cohesive understanding of ourselves as a species and our planet as an ecosystem among others (perhaps leading us to take more care with what we already have).

My editor also wants me to address why there's a cultural phenomenon of "extraterrestrial hot spots," and certainly, if you think any of the sightings and their locations raise important scientific questions (whether or not it has anything to do with "aliens") or if you find any of them interesting as a theory, I'd like to talk about that. But I'm not trying to make you acknowledge something you don't believe.

Please let me know if you're open to talking with me for this article, and if you have any preferences for timing once the report is released. Thank you in advance for your consideration.

Best,

-Jill Robinson

Jill K. Robinson  
Traveling Writer  
Clips: [dangerjillrobinson.com/writing](https://dangerjillrobinson.com/writing)  
IG and Twitter: @dangerjr

Pronouns: she/her

**From:** [Lonnie Shekhtman](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Lonnie Shekhtman](#); [Shekhtman, Lonnie \(GSFC-690.0\)](#)[ADNET SYSTEMS  
[INC](#)]  
**Subject:** [EXTERNAL] NASA UAP FAQ  
**Date:** Friday, June 25, 2021 10:12:53 PM

---

<https://www.nasa.gov/feature/faq-unidentified-aerial-phenomena-uapsufos>

**From:** [newsspace](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Leonard David INquiry: UAP report reaction?  
**Date:** Saturday, June 26, 2021 11:43:48 AM

---

Excellent and many thanks!  
LD

Sent from my iPhone

On Jun 26, 2021, at 9:39 AM, Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Leonard,  
(Copying our PAO representatives).

From my perspective, the report is very similar to what I have been writing in my articles. The summary is: We need more systematic collection of data, we need more resources, it should be scientifically studied, stigma should be removed, some of these are real objects, some could be clutter, and some could be unexplained. I am glad to see that the focus is on data collection and I really like that there was no speculation about their nature. I am hoping that several independent groups could begin (or continue) such data collection efforts to understand UAPs without any prior speculation and with the help of some resources.

Here is NASA's FAQ on UAPs.

<https://www.nasa.gov/feature/faq-unidentified-aerial-phenomena-uapsufos>

Best  
Ravi

---

**From:** "(b) (6)" <(b) (6)>  
**Reply-To:** "(b) (6)" <(b) (6)>  
**Date:** Saturday, June 26, 2021 at 10:46 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL] Leonard David INquiry: UAP report reaction?

Ravi:

Any comments for a story I'll be turning in on Monday - reactions to the UAP Task Force Report?

Thanks,  
Leonard

**From:** Kopparapu, Ravi Kumar (GSFC-6990)  
**To:** Gran, Rani C. (GSFC-1300); Hautaluoma, Grey (HQ-NA020); Hatfield, Miles S. (GSFC-130.0)[TELOPHASE CORP]; Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]; Hoover, Rachel L. (ARC-DO); Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]; Tran, Lina (GSFC-670.0)[SGT INC]; Barry, Caela E. (GSFC-690.0) [ADNET SYSTEMS INC]; Tiedeken, Staci L. (GSFC-690.0)[ADNET SYSTEMS INC]  
**Date:** Saturday, June 26, 2021 11:44:35 AM

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[https://www.washingtonpost.com/national-security/ufo-report/2021/06/25/ba323b20-d52c-11eb-ae54-515e2f63d37d\\_story.html](https://www.washingtonpost.com/national-security/ufo-report/2021/06/25/ba323b20-d52c-11eb-ae54-515e2f63d37d_story.html)

"While NASA was not involved in writing the public report, Nelson, who spent six days orbiting the Earth during a space shuttle mission in the 1980s, said he had asked the agency's scientists to study the incidents that the report addressed and their potential explanations. NASA has a small office devoted to searching for extraterrestrial life."

Do we know which office is this referring to?

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** (b) (6)  
**Cc:** [Gran, Rani C. \(GSFC-1300\)](#); [Lonnie Shekhtman](#)  
**Subject:** Re: [EXTERNAL] Leonard David INquiry: UAP report reaction response  
**Date:** Sunday, June 27, 2021 1:01:55 PM

---

Hi Leonard,

I have no details about the science team, so I cannot comment on this aspect.

Best

Ravi

---

**From:** (b) (6) <(b) (6)>  
**Reply-To:** (b) (6) <(b) (6)>  
**Date:** Saturday, June 26, 2021 at 7:55 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** [EXTERNAL] Leonard David INquiry: UAP report reaction response

Ravi: NASA Administrator Nelson has indicated that he's directed a science team to engage with further UAP/UFO phenomenon.

How is that shaping up - are you on that group - and who's who?

Can you comment?

Leonard

-----Original Message-----

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**To:** (b) (6) <(b) (6)>  
**Cc:** Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC] <lonnie.shekhtman@nasa.gov>; Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>  
**Sent:** Sat, Jun 26, 2021 9:39 am  
**Subject:** Re: [EXTERNAL] Leonard David INquiry: UAP report reaction?

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

1 page(s) containing duplicate information is/are held in the file.

**From:** (b) (6)  
**To:** ravikumar.kopparapu@nasa.gov; lonnie.shekhtman@nasa.gov; rani.c.gran@nasa.gov;  
(b) (6) (b) (6) Kopparapu, Ravi Kumar (GSFC-6990); Shekhtman, Lonnie  
(GSFC-690.0)[ADNET SYSTEMS INC]; Gran, Rani C. (GSFC-1300)  
**Subject:** [EXTERNAL] Leonard David FYI: UAP/UFO - Citizen Science?  
**Date:** Sunday, June 27, 2021 1:39:26 PM

---

Ravi:

Ok, thanks. I'd encourage some thinking in that area.

I've been engaged with folks on this topic for quite a while - and you're right:

How best to sort out junk from beneficial observations?

Alison Parker at the Wilson Center in D.C. might be a good start for thinking on this:

(b) (6)

Thanks again for your weekend thinking on all this!

Later,  
Leonard

-----Original Message-----

**From:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**To:** (b) (6) (b) (6) Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS  
INC] <lonnie.shekhtman@nasa.gov>; Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>; Lonnie  
Shekhtman (b) (6)  
**Sent:** Sun, Jun 27, 2021 11:17 am  
**Subject:** Re: [EXTERNAL] Leonard David FYI: UAP/UFO - Citizen Science?

Hi Leonard,

Thank you, it is indeed a good thing whenever there is an opportunity to educate the public about the scientific process. I am hoping to do such efforts through my writing initially, with the limited time I have at this moment. Furthermore, I need to spend a bit of time educating myself about potential false positives in any publicly available data so that I can appropriately guide any citizen scientists. Such endeavors, while undoubtedly exciting, will also be time and resource consuming. I am trying to see how to balance all these priorities. But thank you for the suggestion. I will definitely keep that in mind.

Ravi

---

**From:** (b) (6) (b) (6)  
**Reply-To:** (b) (6) (b) (6)  
**Date:** Sunday, June 27, 2021 at 12:56 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, (b) (6) (b) (6) "Shekhtman, Lonnie (GSFC-690.0) [ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>, "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>  
**Subject:** [EXTERNAL] Leonard David FYI: UAP/UFO - Citizen Science?

Ravi: Thanks for the comments and the NASA FAQ link.

While all this is going on, I am working with BryceTech on an Innovation report, part of which details the role of "citizen science."

Putting the FAQ and my Citizen Science writing together - I think you may have a match "made in heaven."

Why not have the public engaged in an educational opportunity with UAPs...while also learning about atmospheric phenomenon?

What do you think?

From the NASA FAQ:

However, through our Earth-observing satellites, NASA collects extensive data about Earth's atmosphere, often in collaboration with the other space agencies of the world. While these data are not specifically collected to identify UAPs or alien technosignatures, they are publicly available and anyone may use them to search the atmosphere.

Leonard

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Nijo Abraham](#)  
**Subject:** Re: [EXTERNAL] Good News: AIAA Special Session Approved + Registration Fees Waived  
**Date:** Sunday, June 27, 2021 8:49:16 PM

---

Hi Nijo,  
I guess that's fine. Let's see how the session unfolds.  
Best  
Ravi

---

**From:** Nijo Abraham <[\(b\) \(6\)](#)>  
**Date:** Sunday, June 27, 2021 at 6:11 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Good News: AIAA Special Session Approved + Registration Fees Waived

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## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

1 page(s) containing duplicate information is/are held in the file.

**From:** [Brian Miller](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Cc:** [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#); [Gran, Rani C. \(GSFC-1300\)](#); [Lonnie Shekhtman](#)  
**Subject:** Re: [EXTERNAL] Emerging scientific discourse regarding unidentified aerospace phenomena  
**Date:** Monday, June 28, 2021 8:39:34 AM

---

Thanks, Ravi. Totally makes sense. I appreciate you getting back to me and sending the link. Brian

> On Jun 28, 2021, at 6:13 AM, Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

>

> Hi Brian,

> Thank you for your enquiry. I am unavailable right now. In the meantime, here is NASA FAQ on the topic of UFOs. As you may have seen in the articles I have co-authored, my intent is to decouple the search for life and the study of UFOs and look at them as independent scientific studies.

> <https://www.nasa.gov/feature/faq-unidentified-aerial-phenomena-uapsufos>

>

> Best

> Ravi

>

> On 6/27/21, 1:06 PM, "Brian Miller" (b) (6) wrote:

>

> Ravi/Jacob,

>

> I'm Brian Miller, (b) (6) I'm currently working on a piece about the emerging scientific discourse on UAPs. I have already interviewed Dr. Matt Syzdagis, a dark matter researcher on this topic, and am in the process of interviewing others.

>

> Would you considering being interviewed? If so, I can provide you a draft of my piece and the interview I did with Dr. Syzdagis. Then we can talk further to see if you would consent to an interview.

>

> Thanks,

>

> Brian

>

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** FW: [EXTERNAL] Contacting for an AIAA Conference Paper  
**Date:** Monday, June 28, 2021 10:14:51 AM

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**From:** Nijo Abraham <(b) (6)>  
**Date:** Friday, June 25, 2021 at 9:48 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper

Will do,

Thank you

On Fri, Jun 25, 2021 at 9:40 AM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Nijo,  
Jacob would be great. He and I have the same thinking and is the reason why we write articles together. Please contact him and ask.  
Ravi

---

**From:** Nijo Abraham <(b) (6)>  
**Date:** Friday, June 25, 2021 at 9:30 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper

Good Morning Ravi,

What do you think about inviting Dr. Jacob Haqq Mishra?  
I came across an article you both co-wrote. Do you know if he would be able to make a case for more studies required in terms of the UAP activities?

Nijo

On Thu, Jun 24, 2021 at 4:30 PM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Nijo,  
I guess you can forward to him. We will see how it goes going forward.  
Thanks  
Ravi

---

**From:** Nijo Abraham <(b) (6)>

**Date:** Thursday, June 24, 2021 at 4:28 PM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

**Subject:** Re: [EXTERNAL] Contacting for an AIAA Conference Paper

Glad you have a picture to put it together.

Of course, I will forward the document to him.

His email is (b) (6) in case you want to reach him directly.

On Thu, Jun 24, 2021 at 4:23 PM Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Duplicate email chain - already processed

## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

8 page(s) containing duplicate information is/are held in the file.

**From:** [Barnes, Dustin](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Cc:** [Lonnie Shekhtman](#); [Gran, Rani C. \(GSFC-1300\)](#)  
**Subject:** RE: [EXTERNAL] USA TODAY request: Response to Congressional UFO report  
**Date:** Monday, June 28, 2021 12:43:47 PM

---

Thank you. Happy to work with them both to set this up.

Dustin Barnes  
NOW Reporter

(b) (6)



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**From:** Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Sent:** Monday, June 28, 2021 11:38 AM  
**To:** Barnes, Dustin <(b) (6)>  
**Cc:** Lonnie Shekhtman <(b) (6)> Gran, Rani C. (GSFC-1300) <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Subject:** Re: [EXTERNAL] USA TODAY request: Response to Congressional UFO report

Hi Dustin,  
I am copying our Public Affairs Office representatives, Lonnie Shekhtman and Rani Gran to coordinate. I am available until 5pm today.  
Best  
Ravi

---

**From:** "Barnes, Dustin" <(b) (6)>  
**Date:** Monday, June 28, 2021 at 12:33 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL] USA TODAY request: Response to Congressional UFO report

Good afternoon, Dr. Kopparapu,

I'm a reporter with USA TODAY and am working on a follow up story on the release of the congressional UFO report last Friday.

I wanted to reach out to see if you could talk with me about your perspective on the unclassified findings that were released. If so, I'd love to set up an interview with you over the phone today, or if you prefer, I could send over some questions via email.

Thank you for your time, and I hope to talk soon.

Dustin Barnes  
NOW Reporter

(b) (6)



**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Dillon Guthrie](#)  
**Subject:** Re: [EXTERNAL] UAP/UFO Whole of Government Science Op-Ed in The Hill  
**Date:** Monday, June 28, 2021 1:23:54 PM

---

Thank you for the article link. I will read it with interest.

Best

Ravi

--

Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

---

**From:** Dillon Guthrie (b) (6)  
**Date:** Sunday, June 27, 2021 at 7:55 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL] UAP/UFO Whole of Government Science Op-Ed in The Hill

Dr. Kopparapu,

I hope that you're well. I thought you might be interested in an article I recently wrote for *The Hill*: [America needs a whole-of-government approach to studying unidentified aerial phenomena | TheHill](#). (I cited your and Jacob Haqq-Misra's excellent 2020 piece in *Scientific American*, which I think really changed the debate on this topic.)

Thank you for the consideration.

Respectfully,  
Dillon Guthrie

**From:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Date:** Monday, June 28, 2021 2:49:47 PM

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in fact, he's not going to be doing UAP interviews for a while

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Date:** Monday, June 28, 2021 2:55:15 PM

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did the administrator had enough of UFO stuff?

**From:** [Barnes, Dustin](#)  
**To:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] RE: USA TODAY request: Response to Congressional UFO report  
**Date:** Monday, June 28, 2021 3:05:24 PM

---

I understand. Thank you for your time.

Dustin

Sent from my iPhone. There are probably typos.

On Jun 28, 2021, at 2:00 PM, Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC] <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)> wrote:

Hey Dustin,

We can't answer these specific questions about the report, as it is not ours and we were not involved in writing it. I think you'd have better luck talking to someone else.

Thanks for reaching out and best of luck with your story.

Lonnie

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

---

**From:** "Barnes, Dustin" (b) (6)  
**Date:** Monday, June 28, 2021 at 2:07 PM  
**To:** "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL] RE: USA TODAY request: Response to Congressional UFO report

Hi there.

My deadline is today. I'm free except for 2:30-3 p.m. ET. I can talk at any other time.

I also got your email RE: questions. Below are some of the points I wanted to discuss with Dr. Kopparapu.

- The government can't explain 143 of the 144 cases reported by military officials. Could further development of a reporting system help scientists/researchers better identify these UAPs? And could that also help remove some of the stigma attached to reporting a UFO/UAP that's mentioned in this report?
- This report did not rule out extraterrestrial life. And there were 18 UAP incidents mentioned that appeared to demonstrate "advanced technology." These are some of the areas where enthusiasts may point to as proof of alien life. Are there other key points in this report's findings that may support their hopes?
- What do you see as the biggest revelations in this report? Where do you think the government should go from here in regards to its awareness and communication of UAPs?

Thank you for your time!

Dustin

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**From:** Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]  
<lonnie.shekhtman@nasa.gov>  
**Sent:** Monday, June 28, 2021 12:40 PM  
**To:** Barnes, Dustin <(b) (6)>  
**Cc:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Subject:** Re: USA TODAY request: Response to Congressional UFO report

Hey Dustin,

Just trying to sort out some schedules on our end. Is your story deadline today? What's the latest you can talk?

Thanks,  
Lonnie

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

----- Forwarded message -----

From: **Kopparapu, Ravi Kumar (GSFC-6990)** <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

Date: Mon, Jun 28, 2021, 12:37 PM

Subject: Re: [EXTERNAL] USA TODAY request: Response to Congressional UFO report

To: Barnes, Dustin <[dbarnes2@usatoday.com](mailto:dbarnes2@usatoday.com)>

Cc: Lonnie Shekhtman <(b) (6)> Gran, Rani C. (GSFC-1300)

<[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>

Duplicate email chain - already processed



**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Cc:** [Gran, Rani C. \(GSFC-1300\)](#)  
**Subject:** FW: [EXTERNAL] Press Inquiry  
**Date:** Tuesday, June 29, 2021 8:43:04 AM

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Hi Lonnie and Rani,

Another quote request. Could you send the NASA FAQ to this query? It addresses how NASA is searching for extra-terrestrial life, including technological life.

This is the space.com article they are referring to:

<https://www.space.com/pentagon-ufo-report-reactions-uap>

Thanks

Ravi

---  
Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

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**From:** Steven Hall (b) (6)  
**Date:** Tuesday, June 29, 2021 at 8:33 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL] Press Inquiry

Hello I'm a reporter for the Daily Caller and I'm doing a story on the recent UFO report published Friday, I saw your comments in the Space.com article. How concerned should Americans be about the possibility these UFOs could be aliens?

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** FW: [EXTERNAL] Re: Press Inquiry  
**Date:** Tuesday, June 29, 2021 9:04:14 AM  
**Attachments:** [Iqno.pdf](#)

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Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

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**From:** Avi Loeb (b) (6)  
**Date:** Tuesday, June 29, 2021 at 9:03 AM  
**To:** Steven Hall (b) (6)  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL] Re: Press Inquiry

Dear Steven,

My view is summarized in the attached document below. Feel free to quote from there. Regarding your question, I would not use the word "concerned" but rather "excited" or "intrigued". I am intrigued enough by the report to initiate a related science research program.

With kind regards,  
Avi

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*Abraham (Avi) Loeb*  
*Frank B. Baird Jr. Professor of Science*  
*Harvard University*  
*Website: <https://web.cfa.harvard.edu/~loeb/>*  
*Cell: (b) (6) [he/him/his]*

On Tue, Jun 29, 2021 at 8:33 AM Steven Hall (b) (6) wrote:

Hello I'm a reporter for the Daily Caller and I'm doing a story on the recent UFO report published Friday, I saw your comments in the Space.com article. How concerned should Americans be about the possibility these UFOs could be aliens?

# Why is Anomalous Evidence So Unpopular?

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By Avi Loeb on June 28, 2021

**I**gnorance is like the number zero. Its product with any topic leads to no new content. As a result, ignorance allows people to maintain prior convictions. This benefit was embraced by philosophers who refused to look through the telescope of [Galileo Galilei](#) - the pioneer of evidence-based science, because they “knew” that the Sun moves around the Earth. Strangely enough, the same theme of “no need for new data” is currently advocated by scientists with prejudice. They maintain a self-fulfilling prophecy of “knowing” the answer in advance, and bring the risk of maintaining our comfort zone of ignorance while affirming Ecclesiastes’ observation that “[there is nothing new under the Sun](#)”.

The Pentagon [report](#) delivered to Congress on June 25<sup>th</sup> is intriguing enough to motivate scientific inquiry towards the goal of identifying the [Unidentified Aerial Phenomena](#) (UAP). Some of the UAP discovered since March 2019 - when a new reporting mechanism was established by the US Navy, are likely real objects whose nature is unknown. The report states: “a majority of UAP were registered across multiple sensors, to include radar, infrared, electro-optical, weapon seekers, and visual observation”. UAP could be human-made (in which case, they would imply a national intelligence shortcoming), natural atmospheric phenomena or extraterrestrial in origin. All possibilities imply something new and interesting that we did not know about before. Hence, it would be exciting to gain insight into the nature of UAP by assembling fresh scientific data in the coming years. Most UAP might have mundane explanations, but even if only one object is of extraterrestrial origin - it would have a huge impact on society. This is why I dedicated an entire book titled “[Extraterrestrial](#)”, to one anomalous interstellar object [‘Oumuamua](#), that did not resemble any comet or asteroid observed before. As we have learned from the discovery of [quantum mechanics](#) a century ago, experimental anomalies are the precursor for progress in our scientific knowledge.

The Pentagon report admits: “Sociocultural stigmas and sensor limitations remain obstacles to collecting data on UAP... reputational risk may keep many observers silent, complicating scientific pursuit of the topic”. It importantly adds: “The sensors mounted on U.S. military platforms are typically designed to fulfill specific missions. As a result, those sensors are not generally suited for identifying UAP”. The report avoids any scientific discussion of the possibility that the unexplained phenomena are extraterrestrial in origin, since this goes beyond the charter assigned to the government’s task force.

Given these limiting factors, the study of UAP should now shift from the talking points of national security administrators and politicians to the mainstream of science, where it would be studied by scientists rather than government or military personnel that were not trained as scientists and that did not have access to the best scientific instrumentation for

collecting the Pentagon's data. New scientific data can clear up the fog in interpreting the nature of UAP.

It is therefore surprising that the Pentagon report was followed by pushback from some scientists, including astrophysicists and SETI advocates, who dismissed the need for a follow-up study of UAP. Just as in Galileo's days, they prefer not to look through telescopes and argue that they need "extraordinary evidence" before contemplating the possibility that any anomalous object might be the product of extraterrestrial technology.

Our Galactic neighbors could be out there irrespective of whether we look for them through our open windows, in the same way that the Earth continued to move around the Sun even when Galileo was put in house arrest. Ignorance can be maintained forever if we refuse to look for evidence that may prove our convictions wrong. Pretending that we have no neighbors will only make us unprepared for the day when they will knock on our front door. Opening that door would indeed provide the extraordinary evidence that some scientists require, but it will arrive too late for contemplating a proper response.

Science must echo the public's interest in UAP. The Pentagon's report should therefore trigger a scientific research program that will monitor the sky with wide-field telescopes connected to state-of-the-art cameras and computer systems, in search for unusual phenomena. In particular, the open data stream from the upcoming Vera C. Rubin Observatory could be mined for UAP with a dedicated computer software. The telescope's Legacy Survey of Space and Time (LSST) is expected to be sensitive to sunlight reflected from Starlink communication satellites and could therefore discover any UAP of meter size that enter its field of view.

Federal agencies, guided by committees led by mainstream scientists, will naturally be slow to adapt to these new challenges. But my tour through the landscape of philanthropy implies that the private sector is more open-minded to fund a proper response. To figure out the nature of UAP might require less funding than was already spent in the search for the elusive nature of dark matter, a subject with much less impact on society. It is the duty of scientists to explain the unexplained in the Pentagon's data, rather than focus on hypothetical questions that encourage intellectual gymnastics within academia but are less relevant to explaining reality, as in "how many angels can dance on the head of a pin?"

If academia would respect the public's interest in UAP, a new normal may be established in which much more funding and talent will be drawn to the pursuit of evidence-based knowledge in the way that Galileo envisioned it. There is nothing more exciting than a paradigm shift in the way we perceive our place in the universe. Just as my daughters benefitted greatly from being exposed to smarter kids in kindergarten, Silicon Valley entrepreneurs might acquire new aspirations from alien technological equipment.

## ABOUT THE AUTHOR



### **Avi Loeb**

Avi Loeb is the founding director of Harvard University's Black Hole Initiative, director of the Institute for Theory and Computation at the Harvard-Smithsonian Center for Astrophysics, and the former chair of the astronomy department at Harvard University (2011-2020). He chairs the advisory board for the Breakthrough Starshot project, and is a former member of the President's Council of Advisors on Science and Technology and a former chair of the Board on Physics and Astronomy of the National Academies. He is the bestselling author of "*Extraterrestrial: The First Sign of Intelligent Life Beyond Earth*" and a co-author of the textbook "*Life in the Cosmos*".

**From:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Date:** Tuesday, June 29, 2021 9:22:30 AM

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So Jill Robinson today is going to ask about these ET hotspots:

<https://www.nationalgeographic.com/travel/article/five-ufo-hot-spots-in-the-southwest-u-s>

**From:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Date:** Tuesday, June 29, 2021 10:18:56 AM

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\* Now that the study has been released, one thing that's clear is that there are no simple answers. Do you have thoughts about what these sightings might actually be, and how do you suggest we proceed with analyzing the data to move forward? (How should we be looking at this information?)

\* Why do you think there's a cultural phenomenon of "extraterrestrial hot spots"? Do you think any of the sightings and their locations raise important scientific questions or do you find any of them interesting as a theory?

\* Acknowledging that extraordinary claims require extraordinary evidence, how can we recalibrate our expectations in a more scientific way with regard to UAP/UFO?

\* Do you think our realization that we may not be alone in the universe may give us a more cohesive understanding of ourselves as a species and our planet as an ecosystem among others (perhaps leading us to take more care with what we already have)?

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Christine Schiffner; Gran, Rani C. \(GSFC-1300\)](#)  
**Cc:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: [EXTERNAL] upcoming "UFO" report  
**Date:** Tuesday, June 29, 2021 11:33:56 AM

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Hi Christine,  
Not a problem. Thank you for letting us know.  
Best  
Ravi

--  
Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

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**From:** Christine Schiffner <(b) (6)>  
**Date:** Tuesday, June 29, 2021 at 11:17 AM  
**To:** "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>  
**Subject:** Re: [EXTERNAL] upcoming "UFO" report

Dear Rani and Ravi,

Thank you so much again for taking the time for the fascinating interview the other day.

Unfortunately, due to the building collapse in Miami and a devastating tornado in the Czech Republic, our news editors in Germany canceled the UFO report at the last minute - despite my strong protest against the decision.

My deepest apologies.

Best of luck with your research!

Christine

On Wed, Jun 23, 2021 at 12:31 PM Gran, Rani C. (GSFC-1300) <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)> wrote:

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

3 page(s) containing duplicate information is/are held in the file.

**From:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**To:** [Christine Schiffner](#)  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Gran, Rani C. \(GSFC-1300\)](#)  
**Subject:** Re: [EXTERNAL] upcoming "UFO" report  
**Date:** Tuesday, June 29, 2021 11:35:57 AM

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Hi Christine,

Sorry to hear about your story, but we completely understand. No worries at all. Happy to talk to you again any time.

Take care,  
Lonnie

--

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

---

**From:** Christine Schiffner <(b) (6)>  
**Date:** Tuesday, June 29, 2021 at 11:17 AM  
**To:** "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: [EXTERNAL] upcoming "UFO" report

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

3 page(s) containing duplicate information is/are held in the file.

**From:** [newsspace](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Leonard David FYI: story posted - thanks for the assist!  
**Date:** Tuesday, June 29, 2021 11:46:17 AM

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That is the issue. What next? Do keep me in the loop and onward!

LD

Sent from my iPhone

On Jun 29, 2021, at 7:45 AM, Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Thanks Leonard. Let's hope all the attention moves the needle in the right direction of scientific study of UAPs.

--

Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

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**From:** "(b) (6)" <(b) (6)>  
**Reply-To:** "(b) (6)" <(b) (6)>  
**Date:** Tuesday, June 29, 2021 at 8:31 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL] Leonard David FYI: story posted - thanks for the assist!

Ravi:

Up in the air! US government's UFO report stirs range of reactions

<https://www.space.com/pentagon-ufo-report-reactions-uap>

**From:** Nijo Abraham  
**To:** Ravi Kumar (GSFC-6990) Kopparapu; Kevin Knuth; Peter Reali; Ryan Graves; (b) (6)  
(b) (6) Kopparapu, Ravi Kumar (GSFC-6990)  
**Cc:** Vincent P. (LARC-E1A) Schultz; Edward J. Stanton Jr; Schultz, Vincent P. (LARC-E1A)  
**Subject:** [EXTERNAL] Re: AIAA AVIATION UAP Session: Updates and Requests  
**Date:** Tuesday, June 29, 2021 7:28:01 PM  
**Attachments:** AIAA Session UAP.pdf

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Proposed schedule attached..

On Tue, Jun 29, 2021 at 7:25 PM Nijo Abraham <(b) (6)> wrote:

Hello Team,

AIAA had a meeting today to discuss this session. The following were the outcomes. Let me know if any concerns.

By **COB Friday, July 2nd**, please send: **(for advertising on program website)**

- Title of Presentation
- Job Title/Designation
- Profile picture (any format)

By **COB Wednesday, July 7th**, please send:

- Abstract (< 300 words)

By **COB Monday, Aug, 2nd**, please send:

- Slides

- **Expect attendance of greater than 100** aerospace professionals
- **Proposed schedule attached**
- **3 hours presentation + 1 hour panel session + two 10 min breaks**
- Air Traffic Management technical committee will be co-sponsoring this session with the Design Engineering technical committee. This effort will enable greater visibility and participation
- AIAA will be advertising this event for maximum participation.
- Vince Schultz (NASA Langley) and Ed Stanton (AIAA + former NASA/Lockheed) will be **co-moderators**
- We will be scheduling a **Zoom session during last week of July** with all the presenters together to ensure common message, internet connection checks, rules of engagement.

Concerns/Questions?

Nijo Abraham  
DETC, AIAA

Title: Advocating for Scientific Study of Unidentified Aerial Phenomenon – Technical Perspective with focus on Aviation Safety

Venue: (Virtual) AIAA Aviation, Friday Aug 6<sup>th</sup> 2021 (11:15 am - 3:45 pm; EST)

Sponsored by:

Design Engineering Technical Committee  
Aerospace Traffic Management Committee

The proposed technical panel will have an individual presentation format, and will advocate for an unbiased, agnostic scientific study into the Unidentified Aerial Phenomenon (UAP). This session is inspired by a series of updates that occurred during 2020-21: release of videos from the U.S. Navy, Advanced Aerospace Threat Identification Program (AATIP), upcoming UAP Task Force report. The topics presented during this discussion will include: Physics of UAP, Impact on safety of air travel, Technical analysis of encounters, Challenges in explaining the phenomenon; Proposed approach for further study.

The technical presentations will be based on observations made from the unclassified release of videos, radar observations and experiments performed.

The following are the objectives and why research into UAP should be of interest to AIAA community:

- 1) There have been multiple cases of this phenomenon violating restricted airspace and being in proximity during flight as reported by pilots. Research is required to at least predict this phenomenon, and ensure safer airspace.
- 2) Due to the novel nature in studying this phenomenon, normalizing this once stigmatized element through sessions as through this panel is essential to hold technical forums and arrive at decisions that identify areas where to begin and focus research.
- 3) [The panel that comprises physicists and engineers highlights the multifaceted nature of this phenomenon that manifests in the Aviation domain. Therefore, the term 'Unidentified' to such a phenomenon is a challenge to the technical prowess of the AIAA community.

Furthermore, investigation into UAP is not new to AIAA. The organization did have a dedicated subcommittee, 'UFO Subcommittee of the AIAA' during 1970s. The following reports were generated on this topic by this subcommittee.

Reports:

- 1) UFO Encounter 1, Sample Case Selected by the UFO Subcommittee of the AIAA (July 1971).
- 2) Appraisal of the UFO Problem, UFO Subcommittee of the AIAA (November 1970)

During this panel, there will be no speculations on the actors or fringe theories behind this phenomenon.

The panel will include five oral presentations, 15-20 minutes each, with 10 minutes questions. The following are the proposed presenters (subject to change):

**Introduction:**

Time: 11:15 – 11:20 (5 minutes)

**Moderator - Nijo Abraham**

**Technical Characteristics of UAP: (1 hour, 15 min)**

**Moderator - Ed Stanton/Vince Schultz**

Time: 11:20 – 11:45 (20 min presentation, 5 min questions)

1. Dr. Ravi Kopparapu, Planetary Scientist, NASA Goddard Space Flight Center  
TOPIC: Science of UAPs – Past and Present

Time: 11:45 – 12:10 (20 min presentation, 5 min questions)

2. Dr. Kevin Knuth, Dept of Physics, University at Albany (Editor in Chief - Entropy Journal, former NASA Ames Research Scientist)  
TOPIC: Physics of UAP

Time: 12:10 – 12:35 (20 min presentation, 5 min questions)

3. Peter Reali - Scientific Coalition of UAP Studies (Retired Electrical Engineer (Silicon Valley); BSE/MSEE from University of California, Berkley)  
TOPIC: Technical Analysis of the USS Nimitz 2004 Encounter

**BREAK – 10 minutes (till 12:45 pm)**

**Safety Implications of UAP: 1 hour, 30 minutes**  
**Moderator - Ed Stanton/Vince Schultz**

Time: 12:45 – 13:10 (20 min presentation, 5 min questions)

4. Lieutenant Ryan Graves – Former U.S. Navy F-18 pilot  
TOPIC: Firsthand Account/ Squadron Safety Assessment from Encounters with UAP

Time: 13:10 – 13:35 (20 min presentation, 5 min questions)

5. Ted Roe - Executive Director, National Aviation Reporting Center on Anomalous Phenomenon—NARCAP  
TOPIC: Civilian Aircraft Safety Assessment due to UAP

Time: 13:35 – 14:00 (20 min presentation, 5 min questions)

6. Philippe Ailleris – Board Member, UFODATA  
(Project Controller, Space Research and Technology Center, European Space Agency)  
*Title: Mitigating Flight Safety's Hazards: Towards a Better Detection and Characterization of Unidentified Aerial Phenomena (UAP)*

**BREAK – 10 minutes (till 14:10 pm)**

**PANEL DISCUSSION: 60 minutes, 14:10 – 15:10**  
**Moderator - Ed Stanton/Vince Schultz**

**From:** [Naa135](#)  
**To:** [Ravi Kumar \(GSFC-6990\) Kopparapu](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Fwd: UAP Session: Analysis of Nimitz Video  
**Date:** Friday, July 2, 2021 11:13:11 AM

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Ravi, the problem is these are not scientists and they do not know the rigor involved that you mentioned. Hence, why we need a scientific study instead of a pilot and a journalist posting videos, and the public swaying from one to the other. Clearly it seems mick just comes with a theory and supports it with math, without cross checking. As you said, there seems to be no peer review by experts in this case.

Yes, thanks Ravi, the draft covers all the points we discussed. Since it is a draft, I presume all the grammar and first person statements will be corrected.

briefly also include as a scientist, why this phenomenon interests you, and what questions you hope to get answered, prior to referring the physical data required to answer these questions. Also, can you mention why you think the objects are of the same nature from that mentioned in the DoD report vs. McDonald's? It helps make a connection to the audience.

Nijo

On Jul 2, 2021 at 10:13 AM, <[Ravi Kumar \(GSFC-6990\) Kopparapu](#)> wrote:

Hi Nijo,

Thanks for forwarding Peter's response. Intriguing indeed. I just wish both the youtube creators (Chris Lehto and Mick West) actually respond to each other face-to-face (or online to online) and discuss why they think they are right. This is what we do in science! And that is how we can make any progress. Can you imagine how far we will be able to progress if scientists try to resolve each other's disagreements on youtube? We will get nowhere. We won't even have Youtube. Someone needs to get these people talking. If Mick is really interested in truth, he should talk to pilots and see if his analysis is correct. Maybe he did? I do not know.

In any case, please see my attached draft of the abstract. Is this consistent with what you have in mind?

Best

Ravi

--

Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
[Greenbelt, MD 20771](#)

email: ravikumar.kopparapu@nasa.gov

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**From:** Nijo Abraham <(b) (6)>  
**Date:** Thursday, July 1, 2021 at 1:25 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** [EXTERNAL] Fwd: UAP Session: Analysis of Nimitz Video

Ravi,

Please see Peter's reply below.

----- Forwarded message -----

**From:** Peter Reali <(b) (6)>  
**Date:** Thu, Jul 1, 2021 at 1:10 PM  
**Subject:** Re: UAP Session: Analysis of Nimitz Video  
**To:** Nijo Abraham <(b) (6)>

Hi Nijo,

I have fully analyzed the Nimitz Video and I will represent the SCU's official analysis of this event. The SCU as an organization has no opinion on the Go Fast or Gimbal videos as these have not been studied in detail as official projects. You have to realize that it took a year and a half to analyze the Nimitz video to produce the 270 page report that I sent you. There is a huge amount of research to understand and analyze the specifications for the Raytheon FLIR targeting pod, which is highly classified military gear and it was only through painstaking research that we found background information on the metadata to understand the meaning of the data on the screen and interview the witnesses, get ship logs from FOIA requests, and do time line analysis and peer reviews.

This was the targeting pod in 2004 the more recent video like Go Fast have similar information but it is a more modern version which has changed where the metadata on the screen has moved around some are different and this would need to be researched to come up with a definitive report. I have partially analyzed the go fast video. I have not analyzed the Gimbal video so I will try and add rebuttals to the go fast video but in questions and answers I will only be able to point out where I disagree with Mick's analysis. This will be a personal rebuttal and does not represent an official position of the SCU and I will state that in any question and answer period.

Mick makes many obvious mistakes in his presentations and you must remember he is basically not interested in scientific analysis but entertainment for his Youtube audience. It is basically tabloid internet and the SCU was formed to counteract this type of misinformation but more to make the study of this phenomenon respectable to the scientific community.

I will point out why the Go Fast video presents anomalous characteristics. You pointed to the Mick West video but there is a much better analysis by Chris Lehto who was a 16 year veteran who flew F18's and understands how these targeting pods work. He points out the errors in both Mick's analysis of the Go Fast and Gimbal videos and here is a link to the Go Fast video. Mick's analysis critically depends on the RNG reading on the meta data and as Chris points out this is wrong because the screen shows it is not locked and is giving a wrong indication that Mick uses to calculate his results. It is obvious he has not done any research on obtaining information and how to interpret the meta data on the screen. He has just borrowed the information from the TTSA website which was another entertainment site and did no detailed analysis of the videos. Here is a link for you or your friends to watch: <https://www.youtube.com/watch?v=YYLKK6ZlCHc&t=858s>

Regards,  
Peter

On Wednesday/6/30/2021 2:43:28 PM, Nijo Abraham wrote:

Peter,

Dr. Ravi Koppurappu and I were discussing the presentations and the audience for the AIAA UAP session.

If there are questions based on Mick West's explanations to the Navy videos, would your analysis/presentation be able to address them?

If you have not seen Mick's videos, the links are below. Please take them into account to make a strong point that all explanations were considered.

Nijo

On Wed, Jun 30, 2021 at 3:42 PM Koppurapu, Ravi Kumar (GSFC-6990)

<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Nijo

Here are some sample videos from Mick West, who seem to explain "Go Fast" video:

<https://youtu.be/PLyEO0jNt6M>

And for "GIMBAL" video:

<https://youtu.be/4Bt9s91W5J8>

As I mentioned in our chat, these are the explanations that a LOT of people point to reach a conclusion that the Navy videos are known objects or misunderstood observations.

If the desire is to change minds, then these videos by Mick West must be addressed. No one countered him on these explanations. So they stand as of now. Some questions are: Is there anything in his analysis that he is missing? What is the counter argument to his analysis?

Ravi

--

Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
[Greenbelt, MD 20771](https://www.nasa.gov/location/greenbelt/)  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)



Could you arrive at NASA Goddard Visitor Center by 9:30 am. We will be taping in the Visitor Center's auditorium. I want to have everything set up, so when Ravi arrives, we can do the interview.

How many people are coming from your organization?

One note, the visitor center is closed to the public, but the VC manager is letting us in. We will have to be quiet when we come in, because they are doing virtual field trips.

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** David Sloan <(b) (6)>  
**Date:** Thursday, June 17, 2021 at 11:47 AM  
**To:** Rani Gran <rani.c.gran@nasa.gov>  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Subject:** Antwort: Re: [EXTERNAL] Media Request - German Broadcasting

Hi Rani:

Sorry for the delay, sure thing

Ideally we want to understand what it means for the scientific study of UAP/UFO and explaining how the general public should view this subject now, with the taboo is starting to shrink. Also, what does it mean for the study of the habitability of other planets and potential life in other solar systems/planets/ect. When the report is made public and whatever parts are not redacted, what will be NASA's interest be in studying this subject.

This is the broad scope of what we are looking for in the story. We welcome any other input that will help move the story along.

- David

-----"Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov> schrieb: -----  
An: "David Sloan" <(b) (6)>  
Von: "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>

Datum: 16.06.2021 16:12

Kopie: "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
Betreff: Re: Antwort: Re: Antwort: Re: Antwort: Re: Antwort: Re: Antwort: Re: Antwort:  
Re: Antwort: Re: [EXTERNAL] Media Request - German Broadcasting

HI David,

Could you send us the questions ahead of time so we can prep, or have a better idea on the thrust of the interview.

Rani

--

Rani C. Gran  
Office of Communications  
Mail Code 420, B36, S470  
NASA Goddard Space Flight Center  
Greenbelt, MD. 20771  
Work Cell : (b) (6)  
Phone: 301-286-2483

*"If we amplify everything, we hear nothing," Jon Stewart.*

---

**From:** David Sloan <(b) (6)>  
**Date:** Tuesday, June 15, 2021 at 3:09 PM  
**To:** Rani Gran <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Antwort: Re: [EXTERNAL] Media Request - German Broadcasting

Okay. Sounds good. Also, would you or Ravi be the point of contact?

-----"Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)> schrieb: -----  
An: "David Sloan" <(b) (6)> "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
Von: "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
Datum: 15.06.2021 14:46  
Betreff: Re: Antwort: Re: [EXTERNAL] Media Request - German Broadcasting

I need to heck with the people who run the Visitor center.

---

On: 15 June 2021 14:34, "David Sloan" <(b) (6)> wrote:

Great! Is there anything we need to know as far as entering the grounds, etc.  
Let me know. We look forward to it.

- David

-----"Kopparapu, Ravi Kumar (GSFC-6990)"  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> schrieb: -----  
An: "David Sloan" <(b) (6)>  
Von: "Kopparapu, Ravi Kumar (GSFC-6990)"  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
Datum: 15.06.2021 14:28  
Kopie: "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
Betreff: Re: Antwort: Re: Antwort: Re: Antwort: Re: Antwort: Re: Antwort:  
Re: [EXTERNAL] Media Request - German Broadcasting

Sure, works for me.

---

**From:** David Sloan <(b) (6)>  
**Date:** Tuesday, June 15, 2021 at 2:27 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)"  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>  
**Subject:** Antwort: Re: Antwort: Re: Antwort: Re: Antwort:  
Re: Antwort: Re: [EXTERNAL] Media Request - German  
Broadcasting

Does 10am work on the 22nd?

-----"Kopparapu, Ravi Kumar (GSFC-6990)"  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> schrieb: -----  
An: "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>, "David Sloan"  
<(b) (6)>  
Von: "Kopparapu, Ravi Kumar (GSFC-6990)"  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
Datum: 15.06.2021 14:18  
Betreff: Re: Antwort: Re: Antwort: Re: Antwort: Re: Antwort: Re:  
[EXTERNAL] Media Request - German Broadcasting

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

5 page(s) containing duplicate information is/are held in the file.

**From:** [Jacob Haqq Misra](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: FW: [EXTERNAL] Fwd: UAP Session: Analysis of Nimitz Video  
**Date:** Friday, July 2, 2021 12:20:53 PM

---

Thanks! I had not seen Mick's videos before.

The "debunking" video about focal lengths maybe makes some points, but the presentation (toys on a tile floor) will make it difficult for many scientists to take seriously.

On Thu, Jul 1, 2021 at 1:45 PM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

FYI.

--

Ravi kumar Kopparapu

NASA Goddard Space Flight Center

Greenbelt, MD 20771

email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

---

**From:** Nijo Abraham <(b) (6)>  
**Date:** Thursday, July 1, 2021 at 1:25 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL] Fwd: UAP Session: Analysis of Nimitz Video

Ravi,

Please see Peter's reply below.

----- Forwarded message -----

From: Peter Reali <(b) (6)>  
Date: Thu, Jul 1, 2021 at 1:10 PM  
Subject: Re: UAP Session: Analysis of Nimitz Video  
To: Nijo Abraham <(b) (6)>

Hi Nijo,

I have fully analyzed the Nimitz Video and I will represent the SCU's official analysis of this event.

The SCU as an organization has no opinion on the Go Fast or Gimbal videos as these have not been studied in detail as official projects. You have to realize that it took a year and a half to analyze the Nimitz video to produce the 270 page report that I sent you. There is a huge amount of research to understand and analyze the specifications for the Raytheon FLIR targeting pod, which is highly classified military gear and it was only through painstaking research that we found background information on the metadata to understand the meaning of the data on the screen and interview the witnesses, get ship logs from FOIA requests, and do time line analysis and peer reviews.

This was the targeting pod in 2004 the more recent video like Go Fast have similar information but it is a more modern version which has changed where the metadata on the screen has moved around some are different and this would need to be researched to come up with a definitive report. I have partially analyzed the go fast video. I have not analyzed the Gimbal video so I will try and add rebuttals to the go fast video but in questions and answers I will only be able to point out where I disagree with Mick's analysis. This will be a personal rebuttal and does not represent an official position of the SCU and I will state that in any question and answer period.

Mick makes many obvious mistakes in his presentations and you must remember he is basically not interested in scientific analysis but entertainment for his Youtube audience. It is basically tabloid internet and the SCU was formed to counteract this type of misinformation but more to make the study of this phenomenon respectable to the scientific community.

I will point out why the Go Fast video presents anomalous characteristics. You pointed to the Mick West video but there is a much better analysis by Chris Lehto who was a 16 year veteran who flew F18's and understands how these targeting pods work. He points out the errors in both Mick's analysis of the Go Fast and Gimbal

videos and here is a link to the Go Fast video. Mick's analysis critically depends on the RNG reading on the meta data and as Chris points out this is wrong because the screen shows it is not locked and is giving a wrong indication that Mick uses to calculate his results. It is obvious he has not done any research on obtaining information and how to interpret the meta data on the screen. He has just borrowed the information from the TTSA website which was another entertainment site and did no detailed analysis of the videos. Here is a link for you or your friends to watch: <https://www.youtube.com/watch?v=YYLKK6ZlCHc&t=858s>

Regards,  
Peter

On Wednesday/6/30/2021 2:43:28 PM, Nijo Abraham wrote:

Peter,

Dr. Ravi Kopparappu and I were discussing the presentations and the audience for the AIAA UAP session.

If there are questions based on Mick West's explanations to the Navy videos, would your analysis/presentation be able to address them?

If you have not seen Mick's videos, the links are below. Please take them into account to make a strong point that all explanations were considered.

Nijo

On Wed, Jun 30, 2021 at 3:42 PM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Nijo

Here are some sample videos from Mick West, who seem to explain "Go Fast" video:

<https://youtu.be/PLyEO0jNt6M>

And for “GIMBAL” video:

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Some questions are: Is there anything in his analysis that he is missing? What is the counter argument to his analysis?

Ravi

--

Ravi kumar Kopparapu

NASA Goddard Space Flight Center

Greenbelt, MD 20771

email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

From: [David Marks \(DSO\) <David.Marks@nasa.gov>](mailto:David.Marks@nasa.gov)  
To: [Ravi Kumar \(DSO\) <Ravi.Kumar@nasa.gov>](mailto:Ravi.Kumar@nasa.gov)  
Subject: [Ravi Kumar \(DSO\) <Ravi.Kumar@nasa.gov>](mailto:Ravi.Kumar@nasa.gov)  
Date: [Sat May 31 2023 12:51:11 H](mailto:Ravi.Kumar@nasa.gov)  
Attachments:

Hello Service

Thank you, I will take a look at it.

Best

Ravi

Ravi Kumar Kopperapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravi.kumar@nasa.gov](mailto:ravi.kumar@nasa.gov)

From: [Servicio Meteorológico Nacional <David.Marks@nasa.gov>](mailto:David.Marks@nasa.gov)  
Date: Tuesday, June 28, 2022 at 5:32 PM  
To: "Kopperapu Ravi Kumar (DSO-6990)" <[ravi.kumar@nasa.gov](mailto:ravi.kumar@nasa.gov)>  
Subject: [EXTERNAL] Identifying Aerial Phenomena

Dear Ravi Kumar Kopperapu:

Reading your opinion piece in the Washington Post from the end of May, I couldn't agree more with your perspective. Although I'm not a scientist, I am an investigative reporter and filmmaker, and have done some research on the topic of UFOs.

In confidence, I'm sending this opinion piece (below) that the Washington Post is considering though unlikely to publish.

Although I hope you find the essay compelling, allow me to ask that you look at the video clip; there's a description and link in the piece under the last section *Velocity is the Message*. With basic math I calculated and estimated some objects traveling at 18,000 MPH at no more than 1000 feet in altitude. They are in wide shots that include the Bay Bridge to just east of the Golden Gate in San Francisco. It wasn't for seeing these fast objects somewhat closer in other footage; these "blips" would not even be noticeable. I did keep to deducting they were similar or the same, whatever they are, they are very fast.

I'd be pleased to discuss this with you. Perhaps I can forward the higher resolution footage for further scrutiny. I also have an idea for "re-capturing" the objects with film equipment having higher resolution and frame rate.

I look forward to your response.

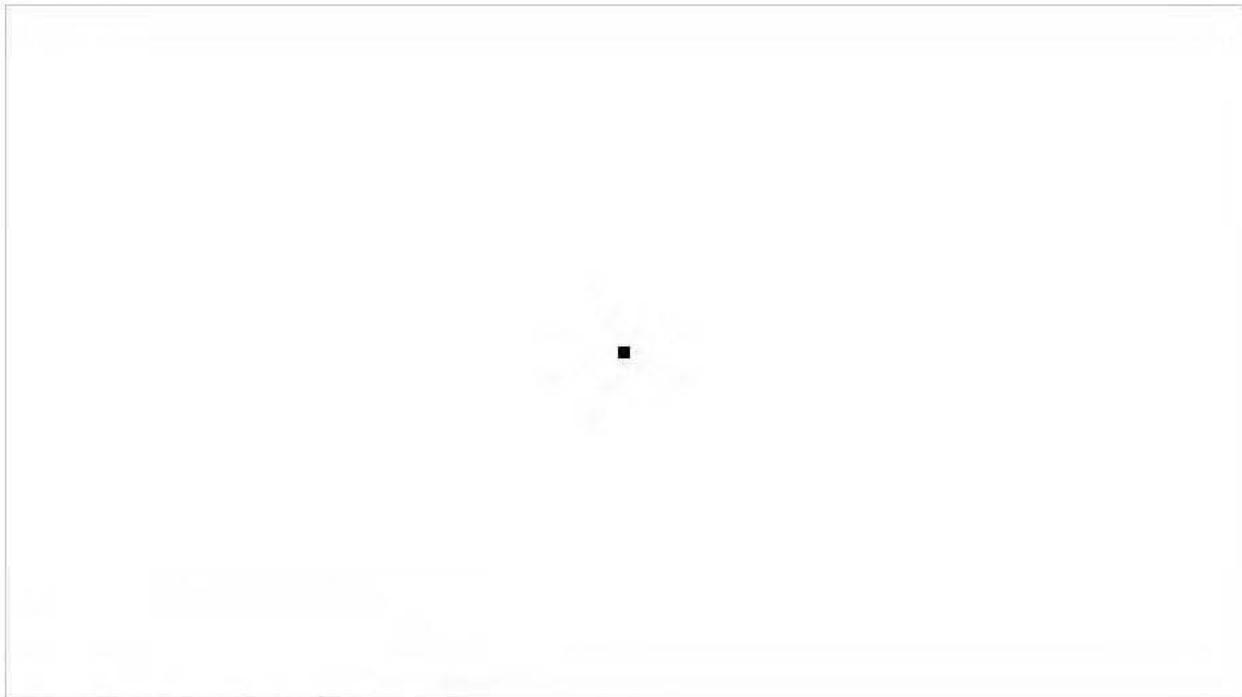
With kind regards,

David

—

David Marks

(b) (6)



Video Frame of Object over Mount Tamalpais, Marin County, California - © David Marks

## Identifying Aerial Phenomena

by David Marks

The minimal and inconclusive US Government report on [Unidentified Aerial Phenomena](#) has not enlightened us about the nature of UFOs. If a division of the government has elucidated anything about the subject, their findings remain a secret.

After 15 years of evaluating the phenomena, the combined intelligence and military branches of the most powerful, advanced country on the planet have little to say. The first line of the *Executive Summary* of the report reveals deception, complacency, or ineptitude: *The limited amount of high-quality reporting on unidentified aerial phenomena (UAP) hampers our ability to draw firm conclusions about the nature or intent of UAP.*

However, news of the report and coverage of US Navy pilots' sightings have already influenced one aspect of this mystery. Unimpeachable eyewitnesses, who have had a lot to lose by being honest about what they've seen, are less likely to be doubted or dismissed.

And despite minimal and disparaging press coverage over many years, a huge proportion of people on Earth would like to know more about this phenomenon. A [Gallup poll in 2019](#) indicated that one-third of all Americans believe that UFOs are from somewhere off-planet.

The current open attitude and interest in these aerial phenomena have given me an opportunity, for the first time, to share my personal experience and perspective.

### Sighting of a Very Fast Disc

Over fifty years ago, I observed a spectacular accelerating disc-shaped object. The memory is still vivid and no less extraordinary; it remains unexplainable within commonly accepted norms of activity on Earth. It does give me some reference to the first-person testimony of other witnesses.

And beyond the description of glowing shapes of triangles, cigars, tic-tacs, or discs, it is the swiftness of these objects that has startled many observers. For those who have had sightings of moving UFOs, including seasoned pilots, it is their speed and agility that gives us an unforgettable impression.

I've come to believe that the velocity of reported sightings should have greater attention; it seems to be a reasonable starting point in an attempt to identify what we have seen. And speeding objects have always captured my imagination.

My childhood home was under the primary flight pattern of an active military airbase, and I had a passion for identifying aircraft of various sizes and shapes. My dad sometimes called me "eagle eye," as I could see small things in the sky and on land from very far away. As a devotee of the emerging space age, I hoped to attend the *US Air Force Academy* and eventually become an astronaut.

At the age of fourteen, on a warm evening at dusk, a friend and I were sitting by a small lake in the Catskill Mountains, north of New York City. We were healthy, athletic, clear-headed teens on a break after dinner at a rural summer camp. We had never discussed nor heard of UFOs; they were beyond our imagination.

The lake was no more than a quarter-mile wide. Across the water, there were rolling hills to the west. The sun had just set, and the clear August sky was still a bright blue.

Something approaching us caught our attention. It was flying over the hills, about halfway to the horizon.

Watching in wonder, a disc-shaped object, at about a thousand feet above the terrain, high enough to catch the last direct light of the sun; slowly, without a sound, headed in our direction.

The disc approached the airspace just beyond the far side of the lake. It had an unmistakable round metallic form perhaps thirty feet in diameter, with a flat underside and a curved top.

Completely silent, exhibiting no means of propulsion, and without stopping, it accelerated away at ninety degrees, disappearing within a second. It was faster than anything I had ever seen before, or since.

The entire sighting was profoundly moving, but it was the disc's impossible turn and dramatic departure that bolted us to our feet. Feeling a mixture of exhilaration and fear, we ran from the lake; we had to let someone know about the disc.

Out of breath at the top of a hill, with hearts pounding, we suddenly stopped and expressed the same thoughts. Who would understand? No one would believe us.

We shook hands and agreed to never forget that incredible sight.

### Understanding the Impossible

A though this UFO sighting eventually opened up my imagination. I initially attempted to encapsulate the encounter within the limits of my young mind. I had a repeating dream where a similar disc approached in the sky until a mundane news headline appeared on its edge, assuring my psyche of its Earthly provenance. For the most part, the memory was repressed.

For over a decade, I rarely considered the incident. It was after seeing a book with photographs of some similar discs that I recalled that summer evening. I read about UFOs and the various theories about what they were. Attempts to explain them as meteors, solar flares, balloons, or pranks were laughable, considering the details of my sighting.

Most press coverage explained UFOs within the boundaries of contemporary science or would mock people who dared to describe a sighting. Although this made me guarded about who I shared my story with, the inability to address the topic seriously seemed as strange as the phenomena itself.

The general reluctance of media to even consider that these ships are unexplainable or extraterrestrial was a fascinating revelation.

There is little ability to perceive or process anything new without reference to what is already known. Scientific method emerged from this sober impulse; the development of new ideas usually relies on foundational knowledge.

In the past month, as news of the government report leaked, many scientists and journalists eagerly insisted that it would be *impossible* for UFOs to be extraterrestrial in origin.

Proponents of this conventional wisdom confidently assure us that even if there are extraterrestrial beings, enormous interstellar distances will *never* be traversed by any life form because of the limits on speed and the amount of energy required.

This unreasonable over-confidence that we have attained supreme knowledge of all manifestations of energy ends discussion of the topic before it begins. The skepticism about UFOs emanates from overt geocentric narcissism and a fear of the unknown.

Our grasp of wave energy, including light and gravity has grown in the last one hundred years. However, we are only at the beginning of comprehending fundamental universal forces with relatively primitive tools and references.

All of our faith in data of the scientific realm, from the sub-atomic to the astronomical, is built on observations that we define and evaluate within the electromagnetic spectrum. Much of this data is directly applicable to practical use. However, the dogmatic insistence that this range of energy is all that exists has diminished our ability to more deeply understand both our planet and the stars.

Considering the history of scientific development and recent discoveries, it is likely that this limitation of perception will be deemed naive in the not too distant future.

Small particles and waves have been observed behaving in a manner that defies known functional models, suggesting we have more to learn about the very nature of reality. Concepts that not long ago were completely speculative, including [quantum entanglement](#), [wormholes](#), [extra dimensions](#), and travel beyond the speed of light are the subject of experimentation and serious discussion among an increasing number of dedicated scientists.

We certainly have the ability to reach a greater understanding of our world, leading to possible contact with other sentient life in the universe. But progress is predicated on our *willingness* to re-evaluate and go beyond self-imposed barriers.

### Velocity is the Message

If spacecraft from our Milky Way or more distant galaxies are visiting, we should consider how ships could traverse millions of light-years to get here. We can start by evaluating how they navigate within our atmosphere.

For a moment, we accept that interstellar ships have arrived and are moving about our planet, such super high-tech aircraft would be able to travel so fast that most of the time we would not even see them.

That we rarely catch a glimpse of the objects suggests that they are cloaking their ships, perhaps with exceptional hypervelocity. The meager information gathered to date supports this simplistic, yet profound evaluation of the enigma.

This is not just a wild guess. I had a second indirect encounter with these phenomena that gives credence to the hypothesis that they are unidentified because of their speed.

While making a documentary a few years ago about an unrelated topic near San Francisco, I was filming some exteriors that included wide shots of the sky. Editing the material a few weeks later, I noticed something that seemed to blur across the monitor. Slowing down the footage substantially and looking at individual frames, there was what appeared to be a flying object. Similar images appeared in other shots and were compiled in a short assembly, which has not been released until now. ([View by clicking here](#)).

With reference to some known locations in the footage, distances of various flying objects were estimated at one to four miles away from the camera. In one shot, an object crossing a five-mile-wide view within the frame was calculated to be traveling at about 18,000 miles per hour. Although the *International Space Station* is traveling at a [very similar speed](#) to neutralize the effect of Earth's gravity, nothing just above the planet is known to travel that fast.

The key takeaway from this footage is that these silent disc-shaped objects were invisible to the naked eye and not noticeable when seen on-screen at standard frame rates. It could mean that the sightings we know about only represent a tiny fraction of the activity in the sky above the Earth.

It does not require revolutionary cameras to better observe these objects. If the will to find the phenomena is applied, then it's a matter of using appropriate techniques to make tracking possible.

If their technology greatly surpasses ours, most of their actions are very likely evolved and intentional, including deciding how and where they might be observed. They could be stealthily speeding around us, in expectation of increased enthusiasm to perceive them.

US Navy pilots could not identify or steadily track unknown flying objects, although, as the new report admits, their equipment was not designed to see them, so they are described as *evasive*.

Perhaps revealing themselves to the governments of a planet distracted by competitive materialism and warfare is not a priority. Interestingly, the most detailed and provocative sightings have been by non-military observers.

The clearest images and reports over the last seventy-four years haven't changed the status of sightings beyond a mystery. Putting aside what governments might have or have not done to find out more, there hasn't been a concerted program to identify this type of aerial phenomena.

Until there is such an effort, it seems their velocity makes them virtually invisible and is the main factor keeping the topic of UFOs in a realm of speculation. Their staggering pace raises questions that should be approached with open-mindedness as the foundation of inquiry.

Once we accept that they exist, we might begin to understand why they are here.

—

**David Marks** is a veteran investigative reporter and documentary producer. His work for PBS and the *BBC* includes the biographies of *Jimi Hendrix* and *Frank Sinatra* and *Nazi Gold*, on the role of Switzerland in World War II. His recently published book, *The Way*, is an interpretation of the Chinese classic, the *Tao Te Ching*, and is available at [LeaoTzu-TheWay.org](#)





## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

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## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

8 page(s) containing duplicate information is/are held in the file.

**From:** [Naa135](#)  
**To:** [Ravi Kumar \(GSFC-6990\) Kopparapu](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Good News: AIAA Special Session Approved + Registration Fees Waived  
**Date:** Tuesday, July 6, 2021 9:43:46 AM

---

Perfect thank you, Ravi.

Nijo

On Jul 6, 2021 at 9:23 AM, <[Ravi Kumar \(GSFC-6990\) Kopparapu](#)> wrote:

Hi Nijo,

This is the final version that I could come up with.

Best

Ravi

--

Ravi kumar Kopparapu

NASA Goddard Space Flight Center

[Greenbelt, MD 20771](#)

email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

---

**From:** Nijo Abraham <(b) (6)>  
**Date:** Tuesday, July 6, 2021 at 9:17 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Good News: AIAA Special Session Approved + Registration Fees Waived

Thank you, Ravi, hope yours went well too.

This abstract looks great, covers the points we discussed.

Is this the final version? Or do you have any further modifications?

Nijo

On Mon, Jul 5, 2021 at 7:17 PM Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Nijo,

I hope you had a nice long weekend. Please find attached abstract, and let me know if this is what you have in mind.

Best  
Ravi

—  
Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
[Greenbelt, MD 20771](#)  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

---

**From:** Nijo Abraham <(b) (6)>  
**Date:** Friday, July 2, 2021 at 3:57 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Good News: AIAA Special Session Approved + Registration Fees Waived

Ravi,

Note a correction in the title: changed from UAPs to UAP (I think we have UFOs in our mind)

Science of **UAP** – Past and Present

On Wed, Jun 30, 2021 at 2:57 PM Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Science of UAPs – Past and Present  
Ravi Kopparapu, Planetary Scientist, NASA Goddard Space Flight Center



—  
Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

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**From:** Nijo Abraham <(b) (6)>  
**Date:** Wednesday, June 30, 2021 at 12:56 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Good News: AIAA Special Session Approved + Registration Fees Waived

Thank you, Ravi,  
Just sent you the invite for 2:00 pm EST today, If not received, see the link below.

<https://georgetown.zoom.us/j/95720471433>

~N

On Wed, Jun 30, 2021 at 12:51 PM Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Nijo,  
I am available from 2pm -5pm today.  
Ravi

—  
Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

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**From:** Nijo Abraham <(b) (6)>  
**Date:** Wednesday, June 30, 2021 at 12:04 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Good News: AIAA Special Session Approved + Registration Fees Waived

Ravi, let me know if you would like to have a Zoom or phone call to have a clear direction on the session/presentation to have an appropriate title/abstract. I have spoken to all other presenters, except you.

I am available today or tomorrow anytime.

Nijo

On Tue, Jun 29, 2021 at 6:23 PM Nijo Abraham <(b) (6)> wrote:

No, I don't think he will add value. Your audience is experienced engineers and scientists that have worked with actual data and designed aviation technology. I don't think West has that experience.

You can consider the audience as a team of Mick Wests w/ actual experience.

Nijo

On Tue, Jun 29, 2021 at 5:06 PM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Nijo,  
Have you considered asking Mick West?  
Ravi

--  
Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
[Greenbelt, MD 20771](https://www.nasa.gov/location/greenbelt/)  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

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**From:** Nijo Abraham <(b) (6)>  
**Date:** Sunday, June 27, 2021 at 6:11 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Good News: AIAA Special Session Approved +  
Registration Fees Waived

Ravi,

I am leaning towards letting AIAA promoting the session so that it generates the serious discussion we hope this accomplishes.

I agree on having no media, but as long as they don't interfere, and contact the speakers for comment, promoting the event should be in the topic's favor.  
Thoughts ?

Nijo

On Sun, Jun 27, 2021 at 5:56 PM Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Hi Nijo,  
Thank you. I need to mention this to my NASA Public Affairs Office representatives, in case any media writes any articles. I am still fine to give a talk, but would have preferred no media presence. If they want any comment, they can certainly contact me (or any other speakers) after the session. I am hoping that this session initiates some serious discussion on how to move ahead with a scientific study of UAP.  
Best  
Ravi

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**From:** Nijo Abraham <(b) (6)>  
**Date:** Sunday, June 27, 2021 at 4:26 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, '(b) (6)' <(b) (6)>, '(b) (6)' <(b) (6)>  
**Subject:** Re: [EXTERNAL] Good News: AIAA Special Session Approved + Registration Fees Waived

Ravi,

I am cc'ing Lisa from AIAA to address the media concerns. Please see the email chain below.

The media will be able to attend if they register.

Lisa,

Can you clarify what sort of promotion you were referring to?  
If it was only 10 people attended the session, it would not satisfy our objective is changing the academic attitude on the phenomenon.  
Were you referring to displaying it on the following page: <https://www.aiaa.org/aviation/program>

Nijo Abraham

Hi Nijo,

Yes, I believe press can attend the session by registering with media

credentials.

See more information online here:

<https://www.aiaa.org/aviation/registration>

Media Registration: Fill out the [Press Credential Registration Form](#)

If you have concerns about what type of questions are asked, we can discuss this more with the events team. I have copied my colleague, Tobey Jackson, Forum Program Executive, on this email. She may be able to provide insight and assistance to ensure this session is hosted in a manner that panelists are comfortable.

I believe your moderation will be key in keeping the session focused on the technical and academic nature of the content. A statement at the beginning of the event and before the Q&A portion/on slides may be helpful to steer/focus the questions.

Kind regards,

Lisa

Lisa Le

Technical Program Specialist

American Institute of Aeronautics and Astronautics [www.aiaa.org](http://www.aiaa.org)

[12700 Sunrise Valley Drive, Suite 200](#)

[Reston, VA 20191-5807](#)

[800-639-AIAA \(2422\)](#)

**(b) (6)** **(b) (6)** (direct)

**From:** [Martin J. Kernan](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Journalist Inquiry  
**Date:** Tuesday, July 6, 2021 10:32:27 AM

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Thank you Ravi. You have provided an essential framework within which to think about this. I'll be working on the story idea more the next month or so, and will likely be in touch again.

Best to you,

Martin J. Kernan

(b) (6)

> On Jul 6, 2021, at 9:57 AM, Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov> wrote:

>

> Hi Martin,

> I think so. What I would say is that having the data available to a wider and diverse group of experts (aviation experts, aerospace engineers, physicists etc.) may provide a much better understanding of the phenomena. It will also hopefully help in de-mystifying and reduce the pre-ponderance of speculation about their nature. Data availability and collection is critical. This is how we all in science work to make progress on something that initially appears to be puzzling.

>

> And yes, I would be happy to respond the best way I can if you have any further questions.

> Best

> Ravi

>

>

> --

> Ravi kumar Kopparapu

> NASA Goddard Space Flight Center

> Greenbelt, MD 20771

> email: ravikumar.kopparapu@nasa.gov

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> On 7/5/21, 4:29 PM, "Martin J. Kernan" (b) (6) wrote:

>

> Thank you for your thoughtful response Ravi. You raise a very interested and excellent point, one I hadn't considered. I didn't realize (though I should have) that the data collection being so fragmented, hampers if not cripples scientists' ability to interpret it in a comprehensive way. I imagine the fact that the US military is a big collector, albeit unintentionally, certainly complicates matters. I'm starting to see the outlines of a story here, we have all the brains and ability and technology to data visualize/interpret - but no system to funnel that data to the right people so that it can be reviewed in a comprehensive way. Is that right? Would you add to, revise that statement?

>

> As I develop the story idea, I hope it's okay if I keep in touch.

>

> Best to you,

>

> Martin J. Kernan

> (b) (6)

>

>> On Jul 5, 2021, at 12:08 PM, Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov> wrote:

>>

>> Hi Martin,

>> Thank you for your question. The data visualization would indeed be a wonderful thing to identify patterns in UFO phenomena. The only issue is that there is not enough comprehensive hard data (radar, optical, thermal) available to perform such kind of data visualization. Witness testimonies might be useful to corroborate each witnesses' accounts, but unfortunately they cannot be translated into hard data without measuring with actual instruments. This is what I have been advocating for: to have access to any data. There are some individuals and independent groups, including traditionally trained scientists, who attempt to collect their own data. However, I am not sure how that data was collected, under what circumstances, that could affect the data quality.

>>

>> I would love to have a data visualization that could help us understand the nature of the phenomena. I just wonder where to get such data from.

>>

>> Best

>> Ravi

>>

>> --

>> Ravi kumar Kopparapu

>> NASA Goddard Space Flight Center

>> Greenbelt, MD 20771

>> email: ravikumar.kopparapu@nasa.gov

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>> On 7/3/21, 9:44 AM, "Martin J. Kernan" (b) (6) wrote:

>>

>> Hi Dr. Kopparapu,

>>

>> Really enjoyed and appreciated your opinion piece in the Washington Post on ufos. I'm a contributing writer to Smithsonian Magazine exploring a story idea that involves the work of Dr. Robert Nathan, whom as you may know performed the very first data visualization in connection with early NASA missions. It's fascinating history, as the techniques were later applied to medical technology to great effect. In any event, Nathan was also very interested in ufos and used his expertise to analyze many sightings. I would like to write something about how an understanding of data visualization properly grounded in science can help people make sense of certain unusual phenomena, and highlight the history of the technology. I have a contact on the Mars mission performing data visualization, and he said the foundational code hasn't changed since Nathan invented it, but he is not involved in ufos. So, I was wondering if you had any thoughts on the role of data visualization in ufos, how it might be leveraged to keep the emphasis on scientific inquiry with respect to sightings, and whether you may be willing to act as a source for the story, more generally. I haven't pitched it to my editor yet, as he has been ill, but anticipate there will be interest.

>>

>> Best to you,

>>

>> Martin J. Kernan

>> (b) (6)

>>

>>

>>

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Gran, Rani C. \(GSFC-1300\)](#); [Hautaluoma, Grey \(HO-NA020\)](#); [Hatfield, Miles S. \(GSFC-130.0\)\[TELOPHASE CORP\]](#); [Landau, Elizabeth R \(HO-1864\)\[ASRC FEDERAL SYSTEM SOLUTIONS\]](#); [Hoover, Rachel L. \(ARC-DO\)](#); [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#); [Tran, Lina \(GSFC-670.0\)\[SGT INC\]](#); [Barry, Caela E. \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#); [Tiedeken, Staci L. \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Date:** Wednesday, July 7, 2021 9:33:08 AM

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Also,

*The first step, according to Tough, would be to confirm that the craft really isn't from Earth, perhaps from a secretive government. A smart, skeptical team, ideally composed of scientists from various countries, would need to be recruited to examine the probe. If it's on land, the rover should probably be quarantined at the area it touched down. If it's in space, a robotic or a crewed mission would undoubtedly be required for an up-close look. Once the probe's authenticity is confirmed, Tough stresses that the finding should be made public worldwide, with all collected data openly shared.*

But what if we call it an UFO or UAP? Then will we be interested in studying it?

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Date:** Wednesday, July 7, 2021 11:04:36 AM

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her..... yes, Passant's article on technosignature back in April led to WaPo reporter calling me to write about technosignatures which led to the UFO article

**From:** [Jacob Haqq Misra](#)  
**To:** [Evan Dawson](#)  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#); [Adam Frank](#); [Gran, Rani C. \(GSFC-1300\)](#); [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: [EXTERNAL] Radio interview  
**Date:** Wednesday, July 7, 2021 3:32:32 PM

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Yes, that works for me.

On Wed, Jul 7, 2021 at 3:31 PM Evan Dawson <(b) (6)> wrote:

How did I miss all of these emails? I was on vacation that week!

The week of the 12<sup>th</sup>, Wednesday. So next Wednesday, one week from today. The 14<sup>th</sup>. Can that work for you?

Thanks –

Evan

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**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#) [<mailto:ravikumar.kopparapu@nasa.gov>]  
**Sent:** Friday, June 25, 2021 9:58 AM  
**To:** [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#) <(b) (6)> [Adam Frank](#) <(b) (6)>  
**Cc:** [Evan Dawson](#) <(b) (6)> [Gran, Rani C. \(GSFC-1300\)](#) <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>; [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#) <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Radio interview

That works for me as well.

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**From:** [Jacob Haqq Misra](#) <(b) (6)>  
**Date:** Friday, June 25, 2021 at 9:57 AM  
**To:** [Adam Frank](#) <(b) (6)>  
**Cc:** "[Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)" <(b) (6)> [Evan Dawson](#) <(b) (6)> "[Gran, Rani C. \(GSFC-1300\)](#)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>, "[Kopparapu, Ravi Kumar \(GSFC-6990\)](#)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, "[Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>

**Subject:** Re: [EXTERNAL] Radio interview

The week of the 12th I can do Monday-Wednesday.

Jacob

On Fri, Jun 25, 2021 at 9:49 AM Adam Frank <(b) (6)> wrote:

Hi Evan

I am gonna ask if we can do this later in the week of the 12th. W,T or F

Adam

On Jun 25, 2021, at 8:46 AM, Jacob Haqq Misra <(b) (6)> wrote:

Hi Evan,

Sounds great! I am available at 1pm on Monday-Thursday the next two weeks.

Jacob

On Fri, Jun 25, 2021 at 7:26 AM Evan Dawson <(b) (6)> wrote:

Duplicate email chain - already processed

## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

3 page(s) containing duplicate information is/are held in the file.

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [cosmoeticalist](#)  
**Cc:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#); [Gran, Rani C. \(GSFC-1300\)](#)  
**Subject:** Re: Interview request on Pentagon UFO Report- RK Kopparapu  
**Date:** Friday, July 9, 2021 7:40:45 AM

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Hello Dan,

Thank you for your email. I am copying our NASA Public Affairs Office representatives Lonnie Shekhtman and Rani Gran to co-ordinate. We will wait for their response.

Best

Ravi

--  
Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

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**From:** cosmoeticalist (b) (6)  
**Date:** Friday, July 9, 2021 at 7:24 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** [EXTERNAL] Interview request on Pentagon UFO Report- RK Kopparapu

My name is Dan Schneider and I am the founder and owner of the popular and influential arts website Cosmoetica. Here is a link: <http://www.cosmoetica.com/>. I have a Youtube series that interviews individuals and panels of people on the arts and sciences, called the Dan Schneider Video Interview: <https://www.youtube.com/user/cosmoetica>. My interviews provide depth that harkens back to the days of David Susskind, Dick Cavett, WF Buckley, and Phil Donahue.

I would like to do a panel show on the recent UFO/UAP report.

I am a great interviewer, and if you look thru some earlier shows you'll see I get to the core of an issue like no one else.

Cosmoetica will go down as one of the most influential websites from the early Internet years, and easily the most influential in the arts. I hope you agree to be interviewed. If you agree, I can get things ready. **The interviews require a good Internet connection, Skype on both ends- a free download, having a good webcam so we can see you, and my little recording device.**

Please let me know if you would be interested in an interview. I think it might be mutually beneficial.

Thanks,

DAN

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[www.Cosmoetica.com](http://www.Cosmoetica.com), Cosmoetica: The Best In Poetica

<https://www.youtube.com/user/cosmoetica>, Cosmoetica's channel

[https://www.youtube.com/channel/UC0zBf\\_K3uchXAPDzCsrQV5A](https://www.youtube.com/channel/UC0zBf_K3uchXAPDzCsrQV5A), E-Cosmoetica

<https://vimeo.com/user36938996>, Vimeo channel

Amazon Books: [https://www.amazon.com/s/ref=dp\\_byline\\_sr\\_ebooks\\_1?ie=UTF8&text=Dan+Schneider&search-alias=digital-text&field-author=Dan+Schneider&sort=relevancerank](https://www.amazon.com/s/ref=dp_byline_sr_ebooks_1?ie=UTF8&text=Dan+Schneider&search-alias=digital-text&field-author=Dan+Schneider&sort=relevancerank)

<https://www.facebook.com/DanSchneiderVideoInterviews/>

<https://twitter.com/DanSchneiderVI>

**From:** [Jacob Haqq Misra](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Cc:** [Adam Frank](#); [Evan Dawson](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#); [Gran, Rani C. \(GSFC-1300\)](#); [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**Subject:** Re: [EXTERNAL] Radio interview  
**Date:** Monday, July 12, 2021 9:45:05 AM

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Works for me too.

On Mon, Jul 12, 2021 at 9:28 AM Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)> wrote:

Wednesday 14<sup>th</sup> 1pm works for me as well.

--

Ravi kumar Kopparapu

NASA Goddard Space Flight Center

Greenbelt, MD 20771

email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

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**From:** Adam Frank <(b) (6)>  
**Date:** Monday, July 12, 2021 at 9:26 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** Evan Dawson <(b) (6)> [Jacob Haqq-Misra <\(b\) \(6\)>](#) "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>, "Shekhtman, Lonnie (GSFC-690.0) [ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Radio interview

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

6 page(s) containing duplicate information is/are held in the file.

**From:** [Evan Dawson](#)  
**To:** [Adam Frank](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Cc:** [Jacob Haqq-Misra](#); [Gran, Rani C. \(GSFC-1300\)](#); [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#)  
**Subject:** RE: [EXTERNAL] Radio interview  
**Date:** Monday, July 12, 2021 2:58:33 PM

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Hi everyone –

1pm it is. I'm going to follow up on a few points tomorrow; happy to lock down 1pm on Wednesday.

Evan

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**From:** Adam Frank [mailto:(b) (6)]  
**Sent:** Monday, July 12, 2021 9:27 AM  
**To:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Cc:** Evan Dawson <(b) (6)> [Jacob Haqq-Misra <\(b\) \(6\)>](#) [Gran, Rani C. \(GSFC-1300\) <rani.c.gran@nasa.gov>](#); [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\] <lonnie.shekhtman@nasa.gov>](#)  
**Subject:** Re: [EXTERNAL] Radio interview

If we could nail this down today that would be grand.

I am good noon or 1 this wednesday the 14th. I would prefer 1 pm.

My best

Adam

=====

Adam Frank  
Helen F. and Fred H. Gowen Professor  
Department of Physics and Astronomy  
University of Rochester  
Rochester New York 14627-0171

<http://www.adamfrankscience.com>

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On Jul 9, 2021, at 4:47 PM, Adam Frank <(b) (6)> wrote:

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

5 page(s) containing duplicate information is/are held in the file.

**From:** [Shekhtman, Lonnie \(GSFC-690.0\)\[ADNET SYSTEMS INC\]](#)  
**To:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Evan Dawson](#); [Adam Frank](#)  
**Cc:** [Haqq-Misra, Jacob D. \(GSFC-6062\)\[Science Collaborator\]](#); [Gran, Rani C. \(GSFC-1300\)](#)  
**Subject:** Re: [EXTERNAL] Radio interview  
**Date:** Wednesday, July 14, 2021 9:36:29 AM

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Evan,

I really like the way you're thinking about this. I totally agree that UFOs should not be the primary focus of the discussion. The UFO topic is a nice hook, but a much more interesting discussion would be about what scientists are actually doing to find life out there. There's no speculation or controversy: looking for evidence if life is one of NASA's primary drivers. There's technosignatures, there's potentially habitable planets outside of our solar system, there's James Webb Space Telescope (which is about to launch), ocean worlds, Mars rovers and orbiters looking for clues of past or present life, etc. Should be a fun discussion; your listeners are in for a treat!

Lonnie

Lonnie Shekhtman  
Senior Science Writer  
Solar System Exploration  
NASA's Goddard Space Flight Center  
301-614-6833

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**From:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Date:** Wednesday, July 14, 2021 at 9:25 AM  
**To:** Evan Dawson <(b) (6)> Adam Frank <(b) (6)>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)> "Gran, Rani C. (GSFC-1300)" <[rani.c.gran@nasa.gov](mailto:rani.c.gran@nasa.gov)>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <[lonnie.shekhtman@nasa.gov](mailto:lonnie.shekhtman@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Radio interview

Hi Evan,

My phone number: (b) (6)

And I am a "Planetary Scientist at NASA Goddard Space Flight Center"

And yes, let's separate the recent stuff on UAPs/UFOs and our work related to Technosignatures. They are independent from each other. The first one needs a scientific investigation without assuming anything about their nature (explained or not), and the second one (Technosignatures) is pointedly looking for other technological civilizations that we are proposing to carry out with traditional astronomical searches. There are nuances in both that cannot be broadly brushed. That

is the point I am hoping to discuss.

Ravi

--

Ravi kumar Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

---

**From:** Evan Dawson <(b) (6)>  
**Date:** Wednesday, July 14, 2021 at 9:09 AM  
**To:** Adam Frank <(b) (6)> "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)> "Gran, Rani C. (GSFC-1300)" <rani.c.gran@nasa.gov>, "Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC]" <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: [EXTERNAL] Radio interview

Good morning everyone -

As Adam Frank and I have discussed, I don't want to make this conversation today entirely about the recent obsession with the declassified videos. I realize that the general public has been buzzing about them. My own personal view -- perhaps a bias -- is that it's a mistake for the media to treat the videos with such open speculation about aliens. Every video we've seen so far, and every photograph, has ended up with a natural explanation. A smudge on a camera lens, or a bug. A weather balloon. Etc etc.

I think there's real potential harm with stoking the public's belief in this stuff. But I also tend to believe that, just based on math, we're unlikely to be the only technological civilization that has existed. I just haven't seen evidence that confirms this idea.

But maybe you feel differently, and your expertise is more important than my lay speculation. So yes, we'll address the recent videos and report.

I'd also like to give you time to discuss your work, and your views on how we can best approach -- or how we can scientifically approach -- finding answers to these questions.

I'll just need the best phone number to call for our producer to lock you into the show. She will call around 103pm, during the NPR newsbreak. We start at 106.

I'll also need the exact title you want me to use to introduce you.

And if there are any discussion points that I'm missing, please feel free to send them my way.

Looking forward to this! Cheers -

Evan

---

**From:** Adam Frank <(b) (6)>  
**Sent:** Friday, July 9, 2021 4:47 PM  
**To:** Kopparapu, Ravi Kumar (GSFC-6990) <ravikumar.kopparapu@nasa.gov>  
**Cc:** Evan Dawson <(b) (6)> Jacob Haqq-Misra <(b) (6)> Gran, Rani C. (GSFC-1300) <rani.c.gran@nasa.gov>; Shekhtman, Lonnie (GSFC-690.0)[ADNET SYSTEMS INC] <lonnie.shekhtman@nasa.gov>  
**Subject:** Re: [EXTERNAL] Radio interview

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

4 page(s) containing duplicate information is/are held in the file.

**From:** [Beatriz Villarroel](#)  
**To:** [Jacob Haqq Misra](#); [Haqq-Misra, Jacob D. \(GSFC-6062\)](#)[Science Collaborator]  
**Cc:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent Committee"s ONLINE MEETING to be held on Wednesday, June 23rd, 2021.  
**Date:** Thursday, July 15, 2021 12:45:53 PM

---

I am even more confused now.

Den tors 15 juli 2021 kl 00:46 skrev Jacob Haqq Misra <(b) (6)>  
No idea about the IAC. I guess we will have to wait and see, but it was indeed quite sudden.

On Wed, Jul 14, 2021 at 4:47 PM Beatriz Villarroel

<(b) (6)> wrote:

Hi Jacob,  
I'm in complete agreement with your statement that we will shift away from the previous taboo.  
We need to make collective efforts, thereafter. The UAP question won't solve itself without some coordinated strategies...

What actually happened to the Majority and the Minority report, and actually -- what happened to the IAC meeting? I never understood why it was cancelled or even why Claudio left. It all came so suddenly, and without Claudio there is no IAC.

//B.

Den mån 12 juli 2021 kl 16:10 skrev Jacob Haqq Misra <(b) (6)>

Hi Beatriz and Ravi,

Yes, I did read the report (within the hour of it being released), and I have already had a couple of media inquiries about it. Doesn't seem like any have been published yet.

I was not surprised by the lack of a data release, and the short 9 pages was disappointing but expected.

Even so, I do find the report to be a step in the right direction because it explicitly identifies UAP as an outstanding and important problem for which more data collection is needed. Yes, this is what *we* have been saying, but this is a departure from the conclusion of the Condon Report and the subsequent lack of interest by government agencies to systematically study UAP. The report also seems to me to be calling for greater coordination among federal agencies to better identify UAP. The fact that "expand collection" and "increase investment in R&D" are two conclusions of the report is telling and an important shift from previous attitudes of taboo.

We will see what comes of this next.

Jacob

On Sun, Jul 11, 2021 at 9:14 AM Beatriz Villarroel

<(b) (6)> wrote:

Hi Ravi!

I have become a member of a scientific society "per invitation".

It was a ~1.5 - 2 hours UAP session, with invited comments.

Two US militaries and myself gave comments on the report. One of them also summarized the report and brought in extra information that wasn't explicit in the public report, but that he had first hand access to.

On the first read through, I read the report as agnostic and "more data is needed".

Then I read it a second time, and unless they have actually updated the online version, I think there is more to it than what first meets the eyes.

//B.

Den sön 11 juli 2021 kl 15:01 skrev Kopparapu, Ravi Kumar (GSFC-6990)

<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>:

Hi Beatriz,

The report is as expected. Non-committal and agnostic. As we have been saying all along, the report also concludes that we need to more data collection.

What kind of an UAP session did you give your opinion? Was that a conference?

Ravi

--

Ravi kumar Kopparapu

NASA Goddard Space Flight Center

Greenbelt, MD 20771

email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

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**From:** Beatriz Villarroel <(b) (6)>  
**Date:** Saturday, July 10, 2021 at 12:40 PM  
**To:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.

Hi Jacob and Ravi!

How are you both doing? What did you think of the UAP report?

I yesterday had an opportunity to give an "expert opinion" on a UAP session. I learned quite some things I didn't know! (And don't know if they are true.)

//B.

Den tors 17 juni 2021 kl 17:50 skrev Jacob Haqq Misra <(b) (6)>

Congratulations! Yes, arxiv will probably gain some attention for this.

Has there been any media interest yet?

On Thu, Jun 17, 2021 at 7:22 AM Beatriz Villarroel <(b) (6)> wrote:

So far, nothing, but we haven't posted it on arXiv yet :)

I thought of waiting a little bit.

Den tors 17 juni 2021 kl 13:19 skrev Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>:

Thanks Beatriz. Any feedback from anyone?

---

**From:** Beatriz Villarroel <(b) (6)>  
**Date:** Thursday, June 17, 2021 at 6:37 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)"  
<ravikumar.kopparapu@nasa.gov>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]"  
<(b) (6)>  
**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI  
Permanent Committee's ONLINE MEETING to be held on Wednesday, June  
23rd, 2021.

Hi Jacob and Ravi,

Here is the published version of our paper, finally out:

<https://www.nature.com/articles/s41598-021-92162-7>

//B.

Den tis 1 juni 2021 kl 18:54 skrev Kopparapu, Ravi Kumar (GSFC-6990)  
<ravikumar.kopparapu@nasa.gov>:

Thank you!

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**From:** Beatriz Villarroel <(b) (6)>  
**Date:** Tuesday, June 1, 2021 at 12:51 PM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)"  
<ravikumar.kopparapu@nasa.gov>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]"  
<(b) (6)>  
**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI  
Permanent Committee's ONLINE MEETING to be held on Wednesday,  
June 23rd, 2021.

Thanks a lot! I'd be happy to read the paper you have in review -- and I  
shall also

read the Nitron dioxide paper the coming days.

Thanks for sending the minority and majority report -- this will be read today.

Of course, I will not share the papers with anyone. In return, I attach links to the paper

about the simultaneous transients (the files are big, and need to be downloaded):

Error! Filename not specified. **MainLetter.pdf**Error! Filename not specified.

Error! Filename not specified **SuppInfo.pdf**Error! Filename not specified.

//B.

Den tis 1 juni 2021 kl 17:37 skrev Kopparapu, Ravi Kumar (GSFC-6990)  
<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>:

Hi Beatriz,

Spectral technosignatures are those when we observe the atmosphere spectra of a planet and see if we could detect any signs of extra-terrestrial technology. Pollution caused by technological activity is one such signature. Here is a paper that we published as an illustrative example of how Nitrogen dioxide can be used as one such technosignature:

<https://ui.adsabs.harvard.edu/abs/2021ApJ...908..164K/abstract>

Jacob has a paper in review that discusses how Chloroflorocarbons (CFCs) can be used to detect ET technology. The wonderful thing about this pollutant is that JWST may be able to detect CFCs on Trappist-1e, faster than bio-signatures, if present. Jacob can send you the paper, if you want.

As for the IAA SETI UAP report, the majority report proposes to exclude UAP abstracts for consideration, and also suggests to propose criteria under which such abstracts would be acceptable to IAA SETI. I

am attaching both the majority and minority reports with this email. I request that you to limit the distribution to only the three of us for now, until the committee makes it public.

Thanks

Ravi

---

**From:** Beatriz Villarroel <(b) (6)>  
**Date:** Tuesday, June 1, 2021 at 12:06 PM  
**To:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Cc:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.

Spectral technosignatures sounds really exciting! Is it a new work or a published one already?

I'm looking very much forward to hear more.

I really hope you will have an opportunity to say something about the minority report. I share

the same sentiments as you do about UAPs. I haven't quite followed the status of the majority

report -- what is the current conclusion from Jason Wright et al.?

I haven't heard anything more from Claudio. ^^

Den tis 1 juni 2021 kl 16:35 skrev Jacob Haqq Misra <(b) (6)>

Agreed that it is worth contacting Claudio to share about some of your efforts with VASCO in Africa.

For the UAP part of the agenda, Jason is planning on leading the conversation and will talk about the majority and minority reports. We may have an opportunity to say something briefly about the minority report.

The astrobiology and SETI item on the agenda I believe is for us to talk about spectral technosignatures, including some of the work we have done and also mentioning the NExSS TS working group.

On Tue, Jun 1, 2021 at 9:47 AM Beatriz Villarroel <(b) (6)> wrote:

I hope that too! :-)

Den tis 1 juni 2021 kl 14:46 skrev Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>:

Wonderful ! I hope they will get a chance to share their work.

---

**From:** Beatriz Villarroel <(b) (6)>  
**Date:** Tuesday, June 1, 2021 at 9:43 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>  
**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>  
**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.

Hi Ravi!

Thank you so much for your kind help. I wrote a small note to Claudio about it,

and recommended him to contact either Onyeuwaoma or Khaoula regarding the citizen science efforts.

He hasn't replied yet -- let's see where it lands :)

//B.

Den tis 1 juni 2021 kl 14:33 skrev Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>:

Hi Beatriz,

I think you definitely should ask Claudio to include the African effort in the SETI. You are the PI of the project, so your initiative in highlighting the great work of your team members will go a long way in recognizing their efforts by the international SETI community. If you cannot or do not want to, I could ask Claudio.

Ravi

---

**From:** Beatriz Villarroel

<(b) (6)>

**Date:** Tuesday, June 1, 2021 at 9:29 AM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)"

<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>

**Cc:** "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>

**Subject:** Re: [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.

Hi Ravi!

I think we will get our referee reports within one or two weeks. I saw that one referee

already gave back the report within one hour of receiving the paper -- so if the second

isn't too late it might come soon... Once I have the paper accepted, I'll send it to you.

Yes, they are doing absolutely amazing efforts with the citizen science project.

Our leading figures coordinating the citizen science efforts are Khaoula Laggoune and Zeyneb Aissani

in the Sirius Astronomy Association that involved several different amateur astronomy groups in North

Africa, and Onyeuwaoma Nnaemeka Dom at the Center for Basic Space Science in Nigeria who involved many

students and scientists in Nigeria and Cameroon. In Nigeria, they struggle a lot with accessibility to basic

tools as computers -- many of the researchers and students there don't even have Internet. So I've been

applying for grants to pay their wifi connection, at least. I can't even express how valuable work

they are doing. Even if we don't find ET in the long run, I really wish the VASCO citizen science project can help to inspire

the students into astronomy in less economically privileged countries and be a helpful tool in their astronomy

education. The plan is to summarize our common efforts together into a paper after summer and submit to ApJ or AJ.

Best wishes,

B.

Den tis 1 juni 2021 kl 13:53 skrev Kopparapu, Ravi Kumar (GSFC-6990) <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>:

Hi Beatriz,

I had not realized that many African countries are part of (or leading) the VASCO citizen science. This certainly should be brought up to Claudio's attention. Otherwise, people will not know or think that there is an active SETI search is going on over there.

I am not hopeful that the UAP report will give us anything new. But we will see.

Ok, let's see what the reviewers comments are about the paper. When are you expecting them?

I think Jason is scheduled to bring up UAP. Jacob and I are scheduled for an astrobiology session time, which I am not sure what it is about. Perhaps Jacob knows.

Best

Ravi

---

**From:** Beatriz Villarroel

<(b) (6)>

**Date:** Tuesday, June 1, 2021 at 8:24 AM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)"

<[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, "Haqq-Misra, Jacob D. (GSFC-6062)[Science Collaborator]" <(b) (6)>

**Subject:** [EXTERNAL] Fwd: Tentative AGENDA for the IAA SETI Permanent Committee's ONLINE MEETING to be held on Wednesday, June 23rd, 2021.

Hi Ravi and Jacob!

I just saw on the IAA SETI program you will bring up

UAPs on the IAA SETI meeting. This is really great.

I'm looking forward. I'll join the meeting.

Claudio forgot the entire continent of Africa

for the "reports around the globe" section on the IAA SETI meeting and their leading

role in the VASCO citizen science... we crossed 110 000 classifications

yesterday!

I'm quite wondering what the famous Pentagon UFO report will show today.

I really hope whatever they bring up, won't be used as a political means to stir

up a war...

I'm waiting for the second round of referee reports for the "simultaneous transients"

paper. We included a fairly extensive discussion about the possibility of glints from

small, metallic and flat objects on the orbits around the Earth in 1950s, so I'm not sure

what the referees will say about it...

//B.

----- Forwarded message -----

Från: **Beatriz Villarroel**

<(b) (6)>

Date: tis 1 juni 2021 kl 12:17

Subject: Re: Tentative AGENDA for the IAA SETI  
Permanent Committee's ONLINE MEETING to be held on  
Wednesday, June 23rd, 2021.

To: <(b) (6)>

Hi Claudio,

You missed to include reports from Africa...

//B.

tisdag 1 juni 2021 skrev 'Claudio Maccone' via community

<(b) (6)>

Dear SETI Supporters,

Please find attached herewith the Tentative AGENDA for  
the IAA SETI Permanent Committee's ONLINE  
MEETING to be held on Wednesday, June 23rd, 2021.

Suggestions welcome: if possible, I'll be glad to take them  
into account.

Thanks for your attention and best wishes.

Claudio (Maccone)

Chair, IAA SETI Permanent Committee

--

Find the IAA SETI website at: <https://iaaseti.org>

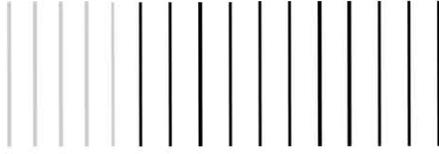
Find the upcoming SETI meeting calendar at:

<https://iaaseti.org/en/meetings/>

Code of Conduct (Interim):

<https://www.aiaa.org/about/Governance/Code-of-Ethics>

<https://www.aiaa.org/about/Governance/Anti-Harassment->



Policy

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**From:** Nijo Abraham  
**To:** Ravi Kumar (GSFC-6990) Kopparapu; Kevin Knuth; Peter Reali; Ryan Graves; Philippe Ailleris; ted roe; Kopparapu, Ravi Kumar (GSFC-6990)  
**Cc:** Vincent P. (LARC-E1A Schultz; Edward J. Stanton Jr; Schultz, Vincent P. (LARC-E1A)  
**Subject:** [EXTERNAL] Re: AIAA AVIATION UAP Session: Updates and Requests  
**Date:** Saturday, July 17, 2021 3:50:42 AM  
**Attachments:** AIAA UAP 2021 Abstracts.pdf  
AIAA AV21 Short Bio.pdf

---

Good Morning Everyone,

I hope you are doing well.

We are excited just as you are for this session and have been preparing for it in the background arduously. There have been discussions going on in our community on this topic (for and against) independent of our efforts. I hope our session will help solidify normalizing such discussions and eventually translate to the scientific study we are looking for.

Few updates:

1. The abstracts were reviewed yesterday and have been approved. Please find the attached document with all of the abstracts.
2. Also **attached is the short bio** of each of you I obtained via Google search. The moderator will be using it to introduce you before your presentation. **If any changes are needed, let me know. If not, I will assume the version is fine as is.**
3. Please note we would like to have the **presentations sent to us by Aug 2nd, Monday.**
4. We would like a short Zoom session to go through the logistics, rules of engagement, etc. prior to Aug 6th. I would like it to happen in a week or two before the 30th July. So expect another email. If you are on vacation let me know.

Thank you for bearing with me when working on your abstracts to deliver a unified message,

Nijo Abraham  
DETC, AIAA

On Tue, Jun 29, 2021 at 7:25 PM Nijo Abraham <(b) (6)>

wrote:

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

1 page(s) containing duplicate information is/are held in the file.



## **Science of UAP – Past and Present**

**Ravi Kopparapu, Ph.D.**  
Planetary Scientist, NASA Goddard Space Flight Center

The reported behavior of Unidentified Aerial Phenomena (UAP), including their rapid acceleration and maneuverability at high speeds, has generated significant discussion regarding the nature of these objects. However, understanding their behaviour needs an interdisciplinary scientific investigation and systematic collection of data that conforms to scientific method.

The talk will first summarize the findings of the preliminary assessment of Unidentified Aerial Phenomena (UAP) provided by the Office of the Director of National Intelligence (ODNI) that was recently released. The Department of Defense Unidentified Aerial Phenomena Task Force (UAPTF) considered a range of information on UAP described in U.S. military and Intelligence Community based on reports that occurred between 2004 and 2021.

The talk will then briefly mention four cases from Prof. James Mc Donald's "Science in Default" report, one of which was investigated by an AIAA Subcommittee on UFOs from 1971. The objects discussed in the document by Prof. Mc Donald seem to be exhibiting similar aerial behavior as recent Navy reports. The document also provides a template to perform a thorough scientific investigation.

The talk will also discuss a short analysis, based only on the media reports (as comprehensive hard data is unavailable), on one aspect of the recent UAP incidents where the objects apparently descended rapidly. Assuming the flight characteristics from these published accounts are valid, possible time of descent of these objects under the influence of gravity in an environment with atmospheric drag acting as resistance will be discussed. Actual radar observations that could provide size and positional accuracy will be immensely helpful in estimating the aerodynamical parameters of these objects under the assumption that these are not radar anomalies. Further analysis with any available data is very crucial in understanding the flight dynamics. No speculation on the nature of these objects will be considered.



## **The Flight Characteristics and Physics of UAP**

**Kevin Knuth, Ph.D.**  
Associate Chair of Physics, University at Albany (SUNY) NY  
Editor-in-Chief, Entropy Journal

1. Scientific Coalition for UAP Studies (SCU), 2. UAP Expeditions, Inc. (UAPx), 3. Project Starlight International, Maryland, USA

One of the useful products of the AATIP Program was the establishment of the Five Observables, which characterize the exceptional and anomalous characteristics of UAPs allowing for them to be unambiguously distinguished from conventional aircraft.

In this presentation, we describe and illustrate several physical observables which are physical effects incurred by or related to UAP that stand to shed light on the physics involved and the engineering employed in their operation. We begin by summarizing the ranges of observed speeds and accelerations and the fact that they are not hampered by traveling through air or water. Some of the other physical observables involve temperatures of the craft, high electric and magnetic fields

replete with plasma sheaths, and optical distortions in the vicinity of the UAP. These physical observables speak to some of the hypotheses involving UAP lift and propulsion. Moreover, these physical observables are useful in informing the design of UAP detection and UAP characterization hardware and software.

Since it is possible that different technologies may be involved, these physical observables could be useful in further classifying UAP. It is also expected that the delineation and demonstration of multiple physical effects of UAP will provide a new focus for scientists and engineers interested in studying UAPs.

### **Anomalous Aerodynamic Physics demonstrated by the 2004 USS Nimitz UAP Encounter**



**Peter Reali**  
Board Director, Scientific Coalition of UAP Studies

The author will present the evidence from the best modern documented UAP event, The 2004 USS Nimitz encounter. This event involving six pilots, four of them actually seeing the object up close visually and two of them seeing and recording it on an F18 FLIR [Forward looking Infrared Camera], along with two other Radar operators remotely located but recording unprecedented velocity and accelerations on the then state of the art **SPY1** radar.

The SCU had interviewed these pilots and radar operators a good year before the incident became famous by being published in the New York Times. The provenance of the video has been guaranteed by the government's statement that the videos are real and the objects reported are of an unknown nature and exhibit aerodynamic behavior far beyond the capability of the best technology available today.

The presenter will examine 3 separate analyses from this incident that calculate the velocity, acceleration, and power requirements to perform the described maneuvers. A brief mention will be made of one of the more modern videos and its anomalous behavior. The author will show that these calculations demonstrate kinematics that violate current known laws of physics and aerodynamics.

An argument will be made on why this is important for the scientific community to take these reports seriously and how it gives an existence proof of the possibility of developing ground breaking advancements in our current science and technology.

### **Eye Witness Account: Persistent Detection of Non-Participating Aircraft by USN Tactical Aircraft (2014 - present)**



**Ryan Graves**  
U.S. Navy F/A-18F Pilot (Former)  
Principal Investigator within R&D in defense industry (Current)

Navy F/A-18E/F aircraft equipped with APG-79 AESA radar have been detecting Unidentified Aerial Phenomena (UAP) regularly while operating in training ranges on the East and West Coast of the United States. As reported by the UAP Task Force (UAPTF), there have been eleven 'near-miss' reports by US Navy aircrew. While particular theories about providence may be dismissed, we cannot dismiss the safety of flight risk these unknowns represent.

This presentation will be focused on discussing areas of scientific interest and evaluative measures, with the ultimate goal of mitigating this flight safety risk and better understanding its circumstances.



## **UAP and Civil Aviation: Trends and Statistics from 20 Years of Research**

**Ted Roe**

**Director of Research, National Aviation Reporting Center on Anomalous Phenomena (NARCAP)**

For over 100yrs pilots have been reporting observations and incidents involving unusual lights and objects. Many of these reports include aviation safety factors like near midair collisions, collision headings, close pacing, loss of separation, concurrent failures of electrical systems, direct physical effects on aircrews like night blindness, intermittent radar detections, and intrusions into Class B restricted airspace.

Though there have been many of these incidents and observations, the Federal Aviation Administration (FAA) and the aviation system does not accept pilot reports of UAP and has made no effort to understand these incidents and mitigate safety factors.

The National Aviation Reporting Center on Anomalous Phenomena, NARCAP, was founded in 1999 to document and analyze these unusual reports, identify and explore trends in the data, examine and understand the sociological and psychological factors that may affect reporting and study, and promote further research and analysis by the aviation system and the science community through publication and outreach. NARCAP adopted the reporting protocols of the confidential FAA Aviation Safety Reporting System.

UAP observations and incidents involving aviation safety factors continue to be reported. Analysis of UAP reports reveals four primary UAP profiles with common characteristics and unique flight dynamics. Examinations of the sociological and psychological effects on witnesses and reporting reveal an under-reporting bias among pilot witnesses and a refusal to engage the reports by aviation authorities.

This presentation will include data and statistics that support statements, suggest trends in the data, that may indicate new avenues of inquiry.

## **Mitigating Flight Safety Hazards: Towards Better Detection and Characterization of UAP**



**Philippe Ailleris**

**Project Controller, European Space Agency\***

**Board Member, UFODATA**

*(\* The presentation is undertaken as personal work; not endorsed as research activity by ESA)*

The Aviation community is confronted by a lack of situational awareness regarding the UAP topic, potentially representing an in-flight safety hazard. Despite that for over 70 years, civilian and military aircraft's pilots have reported many encounters with « objects » or « light phenomena » which do not exhibit the appearances or flight characteristics of any known man-made or natural phenomena, no progress has been made in learning more about the nature of UAP.

Following the publication of the United States Intelligence community's UAP report, this presentation will highlight that some concrete strategies and plans of action can be envisaged for an unbiased UAP scientific research. Such an effort could contribute to increased air safety in UAP encounters with aircrafts.

A first recommended action, is to request access to databases of aviation incident reports (e.g., Aviation Safety Reporting System (ASRS) in the USA, Mandatory Occurrence Reporting (MOR) in the UK) and to extract UAP near-misses or sightings by civilian aircrafts. Such a comprehensive study would be the first of its kind to examine official databases specifically for UAP encounters.

Next, we propose to examine Earth Observation (EO) satellite databases and search for imagery data originating from the same UAP events. Retrieving such correlated data would provide important information and help to predict eventual future occurrences. A complementary strategy would be to use Artificial Intelligence techniques to analyse EO data sets in search of UAP. We will discuss a potential application, using an image product acquired by the Sentinel-2 Multi-Spectral instrument and list potential characteristics that could serve as searching criteria.

In conclusion, we will emphasize that only a systematic collection and sharing of detailed testimonies from pilots and an open research by the scientific community will permit to learn more about UAP and contribute to safer airspace.

# **AIAA AV21 UAP SESSION**

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**INTRODUCTION BIO**





# SCIENCE OF UAP – PAST AND PRESENT

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- Ravi Kopparapu, Ph.D.  
Planetary Scientist, NASA Goddard Space Flight Center
- His research interests are extrasolar planet habitability, atmosphere modeling and characterization and, identifying technosignatures
- Awards: NASA Exceptional Scientific Achievement Medal, 2020



# THE FLIGHT CHARACTERISTICS AND PHYSICS OF UAP

---

- Kevin Knuth, Ph.D.
- Associate Chair of Physics, University at Albany (SUNY) NY
- Editor-in-Chief, Entropy Journal
- His other current roles include Member of the Board of Directors of the Dudley Observatory, Editorial Board of Axioms journal, among others.
- Also served as a Research Scientist, Intelligent Systems Division, NASA Ames Research Center.
- His research Areas are Quantum Mechanics and Physics, Relevance and Maximum Entropy, and High-Quality Bayesian Data Analysis



# **ANOMALOUS AERODYNAMIC PHYSICS DEMONSTRATED BY THE 2004 USS NIMITZ UAP ENCOUNTER**

---

- Peter Reali
- Board Director, Scientific Coalition of UAP Studies (SCU)
- He is a retired electrical design engineer/manager from Silicon Valley.
- He earned his Bachelors and Masters in Electrical Engineering from University of California, Berkley.
- At Silicon Valley, his specialty was in telecommunications, information technologies, where he designed network communication systems, fiber optic ring networks and timing synchronization.



## **EYE WITNESS ACCOUNT: PERSISTENT DETECTION OF NON-PARTICIPATING AIRCRAFT BY USN TACTICAL AIRCRAFT (2014 – PRESENT)**

---

- Lt. Ryan Graves
- Former, U.S. Navy F/A-18F Pilot who served for over 10 years.
- Current, Principal Investigator within R&D in defense industry



## **UAP AND CIVIL AVIATION: TRENDS AND STATISTICS FROM 20 YEARS OF RESEARCH**

---

- Ted Roe
- Director of Research, National Aviation Reporting Center on Anomalous Phenomena (NARCAP)
- He co-founded NARCAP (National Aviation Reporting Center on Anomalous Phenomena), along with Dr. Richard Haines (a NASA Ames Senior Research Scientist) during 1999.
- NARCAP documents and analyze UAP reports from pilots, explores trends in the data, and promotes research and analysis through publication and outreach. NARCAP is a non-profit research group.



## MITIGATING FLIGHT SAFETY HAZARDS: TOWARDS BETTER DETECTION AND CHARACTERIZATION OF UAP

---

- Philippe Ailleris
- Project Controller, European Space Agency\*
- Board Member, UFODATA  
*(\*The presentation is undertaken as personal work; not endorsed as research activity by ESA)*
- UFODATA is a project advocating to utilize a large network of automated surveillance stations with sophisticated sensors to monitor the skies 24/7 looking for aerial anomalies.
- In 2009, he also founded the UAP Observations Reporting Scheme Project, that collects UAP reports from the astronomical community.

**From:** [Kevin Knuth](#)  
**To:** [Nijo Abraham](#)  
**Cc:** [Edward J. Stanton Jr](#); [Peter Reali](#); [Philippe Ailleris](#); [Ravi Kumar \(GSFC-6990\) Kopparapu](#); [Ryan Graves](#); [Vincent P. \(LARC-E1A\) Schultz](#); [ted roe](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Schultz, Vincent P. \(LARC-E1A\)](#)  
**Subject:** [EXTERNAL] Re: AIAA AVIATION UAP Session: Updates and Requests  
**Date:** Saturday, July 17, 2021 6:31:56 PM

---

Thank you Nijo!

I am very excited about this season.

I should note that my bio is mostly good. Please take out the Dudley Observatory as I am no longer on the board.

I will be away on vacation during the end of July, but it is likely that I will be able to find time to participate in the zoom meeting.

Cheers  
Kevin

On Sat, Jul 17, 2021 at 12:50 AM Nijo Abraham <(b) (6)> wrote:

Good Morning Everyone,

I hope you are doing well.

We are excited just as you are for this session and have been preparing for it in the background arduously. There have been discussions going on in our community on this topic (for and against) independent of our efforts. I hope our session will help solidify normalizing such discussions and eventually translate to the scientific study we are looking for.

Few updates:

1. The abstracts were reviewed yesterday and have been approved. Please find the attached document with all of the abstracts.
2. Also **attached is the short bio** of each of you I obtained via Google search. The moderator will be using it to introduce you before your presentation. **If any changes are needed, let me know. If not, I will assume the version is fine as is.**
3. Please note we would like to have the **presentations sent to us by Aug 2nd, Monday.**
4. We would like a short Zoom session to go through the logistics, rules of engagement, etc. prior to Aug 6th. I would like it to happen in a week or two before the 30th July. So expect another email. If you are on vacation let me know.

Thank you for bearing with me when working on your abstracts to deliver a unified message,

Nijo Abraham  
DETC, AIAA

On Tue, Jun 29, 2021 at 7:25 PM Nijo Abraham <(b) (6)> wrote:  
Hello Team,

AIAA had a meeting today to discuss this session. The following were the outcomes. Let me know if any concerns.

By **COB Friday, July 2nd**, please send: (**for advertising on program website**)

- Title of Presentation
- Job Title/Designation
- Profile picture (any format)

By **COB Wednesday, July 7th**, please send:

- Abstract (< 300 words)

By **COB Monday, Aug, 2nd**, please send:

- Slides
- **Expect attendance of greater than 100** aerospace professionals
- **Proposed schedule attached**
- **3 hours presentation + 1 hour panel session + two 10 min breaks**
- Air Traffic Management technical committee will be co-sponsoring this session with the Design Engineering technical committee. This effort will enable greater visibility and participation
- AIAA will be advertising this event for maximum participation.
- Vince Schultz (NASA Langley) and Ed Stanton (AIAA + former NASA/Lockheed) will be **co-moderators**
- We will be scheduling a **Zoom session during last week of July** with all the presenters together to ensure common message, internet connection checks, rules of engagement.

Concerns/Questions?

Nijo Abraham  
DETC, AIAA

---

Kevin H. Knuth, Ph.D.  
Editor-in-Chief of Entropy  
Associate Chair, Physics  
Associate Professor of Physics  
University at Albany (SUNY)  
Albany NY 12222  
<http://knuthlab.org>

**From:** [Naa135](#)  
**To:** [Ravi Kumar \(GSFC-6990\) Kopparapu](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**Subject:** Re: [EXTERNAL] Re: AIAA AVIATION UAP Session: Updates and Requests  
**Date:** Saturday, July 17, 2021 6:57:46 PM

---

Of course Ravi,

Nijo

On Jul 17, 2021 at 6:54 PM, <[Ravi Kumar \(GSFC-6990\) Kopparapu](#)> wrote:

Hi Nijo,

Could you add

“Lead, Sellers Exoplanet Environment Collaboration (SEEC) at NASA Goddard”

to my bio?

Thanks

Ravi

—

Ravi kumar Kopparapu

NASA Goddard Space Flight Center

[Greenbelt, MD 20771](#)

email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

---

**From:** Nijo Abraham <(b) (6)>

**Date:** Saturday, July 17, 2021 at 3:50 AM

**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <[ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)>, Kevin Knuth

<(b) (6)>, Peter Reali <(b) (6)>, Ryan Graves

<(b) (6)>, Philippe Ailleris <(b) (6)>, ted roe

**Cc:** "Schultz, Vincent P. (LARC-E1A)" <[vincent.p.schultz@nasa.gov](mailto:vincent.p.schultz@nasa.gov)>, "Edward J. Stanton Jr"

<(b) (6)>

**Subject:** [EXTERNAL] Re: AIAA AVIATION UAP Session: Updates and Requests

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

2 page(s) containing duplicate information is/are held in the file.

**From:** [Kevin Knuth](#)  
**To:** [Nijo Abraham](#)  
**Cc:** [Edward J. Stanton Jr](#); [Peter Reali](#); [Philippe Ailleris](#); [Ravi Kumar \(GSFC-6990\) Kopparapu](#); [Ryan Graves](#); [Vincent P. \(LARC-E1A\) Schultz](#); [ted roc](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Schultz, Vincent P. \(LARC-E1A\)](#)  
**Subject:** [EXTERNAL] Re: AIAA AVIATION UAP Session: Zoom Meeting Date Request  
**Date:** Tuesday, July 20, 2021 11:15:01 AM

---

Hello Nijo

I will be traveling that week, but I can probably make either time work.

Cheers  
Kevin

On Tue, Jul 20, 2021 at 8:06 AM Nijo Abraham <(b) (6)> wrote:  
Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

2 page(s) containing duplicate information is/are held in the file.

**From:** [Kopparapu, Ravi Kumar \(GSFC-6990\)](#)  
**To:** [Nijo Abraham](#); [Kevin Knuth](#); [Peter Reali](#); [Ryan Graves](#); [Philippe Ailleris](#); [ted roe](#)  
**Cc:** [Schultz, Vincent P. \(LARC-E1A\)](#); [Edward J. Stanton Jr](#)  
**Subject:** Re: [EXTERNAL] AIAA AVIATION UAP Session: Zoom Meeting Date Request  
**Date:** Tuesday, July 20, 2021 11:19:56 AM

---

Hi Nijo,  
I can do Thursday July 29, 5pm – 6pm.  
Best  
Ravi

--  
Ravi Kopparapu  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
email: [ravikumar.kopparapu@nasa.gov](mailto:ravikumar.kopparapu@nasa.gov)

---

**From:** Nijo Abraham <(b) (6)>  
**Date:** Tuesday, July 20, 2021 at 11:09 AM  
**To:** "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>, Kevin Knuth <(b) (6)>, Peter Reali <(b) (6)>, Ryan Graves <(b) (6)>, Philippe Ailleris <(b) (6)>, ted roe <(b) (6)>  
**Cc:** "Schultz, Vincent P. (LARC-E1A)" <vincent.p.schultz@nasa.gov>, "Edward J. Stanton Jr" <(b) (6)>  
**Subject:** [EXTERNAL] AIAA AVIATION UAP Session: Zoom Meeting Date Request

Duplicate email chain - already processed



## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

2 page(s) containing duplicate information is/are held in the file.

**From:** [Ryan Graves](#)  
**To:** [Nijo Abraham](#)  
**Cc:** [Ravi Kumar \(GSFC-6990\)](#); [Kevin Knuth](#); [Peter Reali](#); [Philippe Ailleris](#); [ted roe](#); [Vincent P. \(LARC-E1A Schultz\)](#); [Edward J. Stanton Jr](#); [Kopparapu, Ravi Kumar \(GSFC-6990\)](#); [Schultz, Vincent P. \(LARC-E1A\)](#)  
**Subject:** [EXTERNAL] Re: AIAA AVIATION UAP Session: Zoom Meeting Date Request  
**Date:** Tuesday, July 20, 2021 11:59:49 AM

---

I can do either time with a preference on Thursday.

Ryan

On Jul 20, 2021, at 11:58 AM, Nijo Abraham <(b) (6)> wrote:

Gentlemen,

the proposed timings below are for **EST**.

On Tue, Jul 20, 2021 at 11:06 AM Nijo Abraham <(b) (6)> wrote:

Hello Team,

As mentioned last week, we would like to have a **1-hour Zoom meeting** with everyone to discuss the rules of engagement, progression of the 4-hour session, introduce our two moderators and fellow speakers, and other logistics.

Proposed dates/times: **(in order of preference)**

- 1) Friday, 30th July, 5:00pm - 6:00pm, OR
- 2) Thursday, 29th July, 5:00pm - 6:00pm

Let me know if any conflicts by this Friday, 23rd July.

Regards,

Nijo Abraham  
DETC, AIAA

On Sat, Jul 17, 2021 at 3:49 AM Nijo Abraham <(b) (6)> wrote:

Duplicate email chain - already processed

## Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

2 page(s) containing duplicate information is/are held in the file.

**From:** [Feldstein, Karen C. \(HQ-TA000\)](#)  
**To:** [Gold, Michael N. \(HQ-AA000\)](#)  
**Subject:** Re: UFO Task Force  
**Date:** Tuesday, August 18, 2020 10:51:02 PM

---

Oh boy!

---

**From:** "Gold, Michael N. (HQ-AA000)" <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>  
**Date:** Tuesday, August 18, 2020 at 10:50 PM  
**To:** Karen Feldstein <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Subject:** UFO Task Force

<https://www.defense.gov/Newsroom/Releases/Release/Article/2314065/establishment-of-unidentified-aerial-phenomena-task-force/>

**Mike Gold**  
Acting Associate Administrator  
Office of International and Interagency Relations  
NASA Headquarters  
(Desk) – 202-358-3808  
(Cell) **b6**  
[Michael.N.Gold@nasa.gov](mailto:Michael.N.Gold@nasa.gov)

**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [Flynn, David T. \(HQ-TH000\)](#); [Meidinger, Jolene A. \(HQ-TH000\)](#)  
**Subject:** RE: OIIR Access to Systems - Week of September 14  
**Date:** Friday, September 11, 2020 5:20:50 PM

---

Copy, and that works. M

---

**From:** Flynn, David T. (HQ-TH000) <david.flynn@nasa.gov>  
**Sent:** Friday, September 11, 2020 5:19 PM  
**To:** Meidinger, Jolene A. (HQ-TH000) <jolene.meidinger@nasa.gov>; Kieffer, Margaret (HQ-TH000) <margaret.kieffer@nasa.gov>  
**Subject:** RE: OIIR Access to Systems - Week of September 14

Margaret/Jolene

I think I need to do (b) (5)

(b) (5) Although I asked for a bell ringer I don't think I can reply upon that. I see MK is in the afternoon, I'll come in around 10 am and do our Monday tagup at HQ and then leave. I'll use the 6<sup>th</sup> floor in case MK wants to use the 5<sup>th</sup> floor room in advance of her meetings.

David

---

**From:** Meidinger, Jolene A. (HQ-TH000) <jolene.meidinger@nasa.gov>  
**Sent:** Friday, September 11, 2020 5:12 PM  
**To:** Feldstein, Karen C. (HQ-TA000) <karen.c.feldstein@nasa.gov>  
**Cc:** Kieffer, Margaret (HQ-TH000) <margaret.kieffer@nasa.gov>; Flynn, David T. (HQ-TH000) <david.flynn@nasa.gov>; McKay, Meredith (HQ-TE000) <meredith.mckay@nasa.gov>; Kirkham, Gib (HQ-TG000) <gib.kirkham@nasa.gov>; Bress, Kent G. (HQ-TF000) <kent.g.bress@nasa.gov>  
**Subject:** OIIR Access to Systems - Week of September 14

Karen:

Below is a quick look at the OIIR personnel accessing systems next week. The full OIIR roster is attached for your awareness.

Have a great weekend!

**Meetings in OPS Space (CH29 or 6Q69)**

- 09/14/20: Briefing on Activities of the Unidentified Aerial Phenomena Task Force (Jim Morhard, Susan Gillen, Mike Gold, you, and Margaret Kieffer)

(b) (5)



Best regards,  
Jolene

Jolene A. Meidinger  
Interagency Liaison  
Office of International and Interagency Relations

Designated Federal Officer  
NSpC UAG National Security Subcommittee

NASA Headquarters  
Office: 202-358-3880

Cell: b6

[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)

(b) (6)

OIIR Senior Leadership activated the OIIR SOP for Access to Secure Systems to Support Stage 2-3 Mission Essential Activities on 03/18/20. The SOP was updated on 03/24/20 to address OIIR access to (b) (5) during Stage 4 (b) (5)

**NASA Response Framework Stage 2-3: OIIR Essential Personnel Rotation Roster**

Updated: 09/11/20

The following roster lists the OIIR essential personnel that will access secure systems upon activation of this plan during NASA Response Framework Stage 3. The roster will be updated to record which personnel reported to HQ and to track *proposed report dates*.

Meetings in OPS Space (CH29 or 6Q69)			
Date	Meeting Title	Room	OIIR Personnel
04/22/20	(b) (5)		
04/29/20			
05/08/20			
05/08/20			
05/12/20			
05/21/20			
06/05/20			
06/17/20			
06/19/20			
07/22/20			
07/29/20			
07/30/20			
08/18/20			
08/19/20			
08/24/20			
08/26/20			
08/27/20			
08/31/20			
09/10/20			
09/14/20	Briefing on Activities of the Unidentified Aerial Phenomena Task Force (UAPTF)	CH29	Margaret Kieffer Karen Feldstein

# Deletion Page

Requester: John Greenewald

Request #: 21-HQ-F-00603

3

Page(s) is/are being withheld in full by NASA and the following marked exemption(s) is/are being claimed.

**EXEMPTIONS CLAIMED:**

**FOIA: 5 U.S.C. § 552**

- b(1)     b(2)     b(3): \_\_\_\_\_
- b(4)     b(5)     b(6)     b(7)(A)     b(7)(C)     b(7)(D)
- b(7)(E)     b(7)(F)

**PRIVACY ACT: 5 U.S.C. § 552a**

- d(5)     j(1)     j(2)     k(1)     k(2)     k(3)
- k(4)     k(5)     k(6)     k(7)

Inter-agency document listing essential personnel and security statuses

Description of Document withheld: \_\_\_\_\_

**From:** [Gold, Michael N. \(HQ-AA000\)](#)  
**To:** [McKay, Meredith \(HQ-TE000\)](#); [Kieffer, Margaret \(HQ-TH000\)](#); [Feldstein, Karen C. \(HQ-TA000\)](#)  
**Cc:** [Flynn, David T. \(HQ-TH000\)](#); [Meidinger, Jolene A. \(HQ-TH000\)](#); [Kirkham, Gib \(HQ-TG000\)](#); [Mcsweeney, Dennis \(HQ-TG000\)](#); [Parks, Andy \(HQ-TE000\)](#); [Finley, Patrick T \(HQ-TE000\)](#)  
**Subject:** RE: UPDATE: RE: Draft OIIR Weekly Report 09-10  
**Date:** Saturday, September 12, 2020 11:17:24 AM

---

Thanks for the heads-up Meredith. As soon as we get a solid date please let me know.

- Mike

---

**From:** McKay, Meredith (HQ-TE000) <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>  
**Sent:** Friday, September 11, 2020 10:02 AM  
**To:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; Gold, Michael N. (HQ-AA000) <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Cc:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>; Kirkham, Gib (HQ-TG000) <[gib.kirkham@nasa.gov](mailto:gib.kirkham@nasa.gov)>; Mcsweeney, Dennis (HQ-TG000) <[dennis.mcsweeney@nasa.gov](mailto:dennis.mcsweeney@nasa.gov)>; Parks, Andy (HQ-TE000) <[andrew.d.parks@nasa.gov](mailto:andrew.d.parks@nasa.gov)>; Finley, Patrick T (HQ-TE000) <[patrick.t.finley@nasa.gov](mailto:patrick.t.finley@nasa.gov)>  
**Subject:** UPDATE: RE: Draft OIIR Weekly Report 09-10  
**Importance:** High

Edit to one entry—Late breaking news:

b5



Best guess, they may want to

b5



---

**From:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Sent:** Thursday, September 10, 2020 9:13 PM  
**To:** Gold, Michael N. (HQ-AA000) <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Cc:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>; McKay, Meredith (HQ-TE000) <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>; Kirkham, Gib (HQ-TG000) <[gib.kirkham@nasa.gov](mailto:gib.kirkham@nasa.gov)>; Mcsweeney, Dennis (HQ-TG000) <[dennis.mcsweeney@nasa.gov](mailto:dennis.mcsweeney@nasa.gov)>; Bress, Kent G. (HQ-TF000) <[kent.g.bress@nasa.gov](mailto:kent.g.bress@nasa.gov)>; Rausch, Diane (HQ-TD000) <[diane.rausch@nasa.gov](mailto:diane.rausch@nasa.gov)>; Fleming, Devon C. (HQ-TB000) <[devon.c.fleming@nasa.gov](mailto:devon.c.fleming@nasa.gov)>  
**Subject:** Draft OIIR Weekly Report 09-10

Mike/Karen:

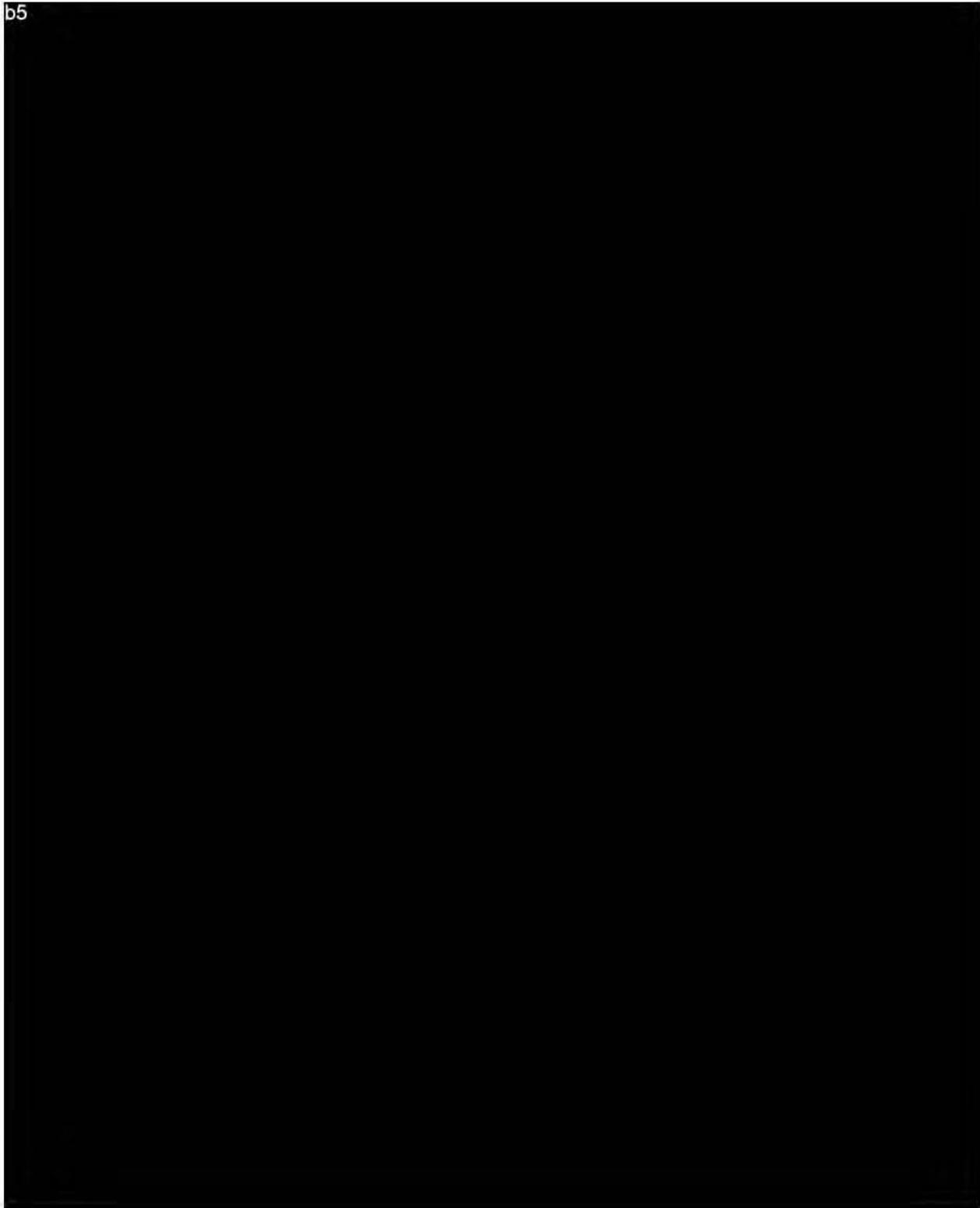
Courtesy of Jolene, below is the draft OIIR weekly report for your review.

M

---

Jim:

b5





**From:** [Gold, Michael N. \(HQ-AA000\)](#)  
**To:** [Bridenstine, James F. \(HQ-AA000\)](#)  
**Cc:** [Morhard, James W. \(HQ-AB000\)](#); [Sherman, Gabriel J. \(HQ-AH000\)](#); [Jurczyk, Stephen G. \(HQ-AI000\)](#); [Saunders, Melanie \(HQ-AA000\)](#); [Cremins, Tom \(HQ-AH000\)](#); [Cruz, Randy C. \(HQ-AA000\)\[Affiliate\]](#); [Gillen, Suzanne M. \(HQ-VA000\)](#); [Flaherty, Christopher J. \(HQ-VA030\)](#); [Kerwin, Mary D. \(HQ-IA000\)](#); [Inclan, Bettina \(HQ-NA000\)](#); [Jacobs, Bob \(HQ-NA000\)](#); [Zurbuchen, Thomas H. \(HQ-DA000\)](#); [Bowersox, Kenneth D. \(HQ-CA000\)](#); [Feldstein, Karen C. \(HQ-TA000\)](#); [Thomas, Camden D. \(HQ-AA000\)](#); [Mangum, Cathy H. \(LARC-A\)](#); [Yunaska, Kyle R. \(HQ-AH000\)](#); [Lueders, Kathryn L. \(KSC-CA000\)](#); [Kieffer, Margaret \(HQ-TH000\)](#)  
**Subject:** OIIR Weekly Update  
**Date:** Sunday, September 13, 2020 1:02:27 PM  
**Attachments:** [Draft Strengthening Implementation of China Restrictions Clean 9.13.20.docx](#)

---

Jim, good afternoon to you and the rest of the crew. Below is the top-level weekly OIIR update. As always, I'll provide additional context and information at our various gaggles over the course of the coming week.

Best,

- Mike

## **International**

**Telecon with the United Nations Office for Outer Space Affairs (UNOOSA):** On Wednesday, September 16, I will speak with the Director of UNOOSA, Simonetta Di Pippo, to discuss the draft Memorandum of Understanding between NASA and UNOOSA for cooperation in a variety of areas including UNOOSA's "Access to Space for All" initiative.

**Bolstering the Implementation of China Restrictions:** Last week the informal China restrictions Tiger Team met for a second time to review proposed actions and assign responsibility for each task. Attached is a summary of both what is currently being done regarding China restrictions for research funded by NASA along with a series of holistic recommendations (divided into the categories of: identify, inform, prevent, and enforce) to further strengthen our efforts.

**UAE Training Agreement Public Announcement Postponed:** At the request of the Mohamad bin Rashid Space Center, the public announcement regarding the reimbursable agreement to train Emirati astronauts at JSC has been postponed until next week to avoid conflicting with the signing of the Abraham Accord on September 15<sup>th</sup>.

**Marshall Association Artemis Accords Briefing:** On Thursday, September 17, I'm speaking at a meeting of the Marshall Association (a professional, employee service organization at NASA's Marshall Space Flight Center) to discuss the importance of the Artemis Accords and international relations.

**HEOMD AA Meeting with European Space Agency (ESA):** On Tuesday, September 15, HEOMD AA Lueders will hold a telecon with Dr. David Parker, ESA Director of Human Spaceflight and Robotic Exploration, to discuss the International Space Station, Gateway, and potential future exploration cooperation.

-  
**Interagency**

**Sub-Interagency Working Group (IWG) Forward Harmful Biological Contamination:** On Tuesday, September 15, NASA (OSMA and SMD) will lead a Sub-IWG virtual meeting on forward harmful contamination that will consider gaps and suggest inputs to the OSTP and NSpC-led IWG on planetary protection. OIIR will participate.

**NASA-Department of Energy (DOE) Teleconference:** On Wednesday, September 16, AA for Strategy and Plans Cremins and Deputy Chief of Staff Yunaska will participate in a weekly teleconference with DOE senior policy advisors regarding potential future activities. OIIR will participate.

**Briefing on Activities of the Unidentified Aerial Phenomena Task Force (UAPTF):** At the request of the UAPTF, Joel Montalbano, Margaret Kiefer, Suzanne Gillen, and I will receive a briefing on activities of the Task Force via secure VTC. Per a public announcement, on August 4, 2020, Deputy Secretary of Defense David L. Norquist approved the establishment the UAPTF. The Department of the Navy, under the cognizance of the Office of the Under Secretary of Defense for Intelligence and Security, leads the UAPTF. Additional information can be provided on the appropriate system.

**Mike Gold**

Acting Associate Administrator  
Office of International and Interagency Relations  
NASA Headquarters  
(Desk) – 202-358-3808  
(Cell) – b6  
[Michael.N.Gold@nasa.gov](mailto:Michael.N.Gold@nasa.gov)

September 2020

## Recommendations for Strengthening Implementation of China Restrictions

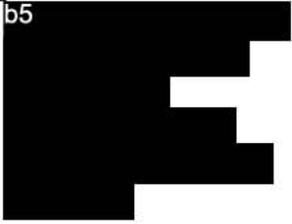
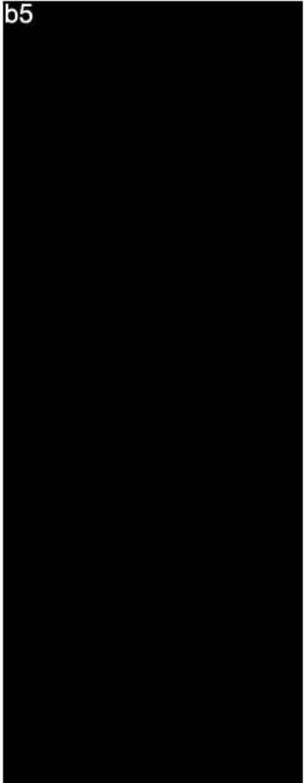
(SBU/FOUO) b5 [Redacted]

b5 [Redacted]

b5 [Redacted]

Issue Response Type	Current Actions	Proposed Additional Actions
Identify	<ul style="list-style-type: none"><li>• b5</li></ul>	<ul style="list-style-type: none"><li>• b5</li></ul>
Inform	<ul style="list-style-type: none"><li>• b5</li></ul>	<ul style="list-style-type: none"><li>• b5</li></ul>

	<ul style="list-style-type: none"><li>• b5</li><li>•</li><li>•</li></ul>	<ul style="list-style-type: none"><li>• b5</li><li>•</li><li>•</li><li>•</li><li>•</li></ul>
Prevent	<ul style="list-style-type: none"><li>• b5</li><li>•</li><li>•</li></ul>	<ul style="list-style-type: none"><li>• b5</li><li>•</li></ul>

	<p>b5</p> 	
Enforce	<ul style="list-style-type: none"><li>• b5</li><li>•</li><li>•</li></ul> 	<ul style="list-style-type: none"><li>• b5</li><li>•</li></ul> 

**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [Feldstein, Karen C. \(HQ-TA000\)](#)  
**Cc:** [Gold, Michael N. \(HQ-AA000\)](#)  
**Subject:** Re: UAP briefing - no KCF  
**Date:** Monday, September 14, 2020 1:05:37 PM

---

Copy. Absolutely not worth your time or attention. Hopefully there is nothing to report out other than Suzanne Mike and Jim enjoyed the information.

---

On: 14 September 2020 12:48, "Feldstein, Karen C. (HQ-TA000)"  
<[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)> wrote:

Hey Margaret, I didn't realize I had a (b) (5) the calendar for today and needless to say I'm not in the office.

I'll have to catch up another time in appropriate facilities.

K.

**From:** [Feldstein, Karen C. \(HQ-TA000\)](#)  
**Subject:** <no subject>  
**Date:** Friday, September 25, 2020 4:41:52 PM

---

Ask Sherice to coordinate with Jay Stratton – for the boss.

Tasker from boss

Gabe and Randy

UFO brief find time 29-30 half day 1<sup>st</sup>

Outside briefer would be part of it, make the request and avail, if not Mike Gold and discuss with team briefed.

**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [Meidinger, Jolene A. \(HQ-TH000\)](#)  
**Cc:** [Flynn, David T. \(HQ-TH000\)](#)  
**Subject:** RE: Round 2 - UAP Briefing  
**Date:** Monday, September 28, 2020 1:07:13 PM

---

Interesting. Support funding/support going the wrong way, but ok.

---

**From:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Sent:** Monday, September 28, 2020 12:45 PM  
**To:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Cc:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Subject:** FW: Round 2 - UAP Briefing

FYI. I will work this again. We no longer have Robert Kaufman onsite.

---

**From:** STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Sent:** Monday, September 28, 2020 12:43 PM  
**To:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Subject:** Round 2 - UAP Briefing

Hi Jolene,

Mike is setting up a second UAP briefing this Thursday, 10-11 am. It's the same briefing as the last one, but the attendees are: John Stratton, Jim Bridenstine, Gabe Sherman, Randy Cruz and either Mike Gold or Karen Feldstein.

DOD POC: **b6**

Am I missing anything?

*Sherice L. Stovall*

Office of International & Interagency Relations (OIIR)

NASA HQ – Washington D.C.

Email: [sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)

Phone: (202) 549-9188

**Teleworking M-F, 8 AM – 5 PM EDT**

**Offline daily 12 – 1 PM EDT**



"The single biggest problem in communication is the illusion that it has taken place." - George Bernard Shaw

**From:** [STOVALL, SHERICE L. \(HQ-TA000\)](#)  
**To:** [Feldstein, Karen C. \(HQ-TA000\)](#)  
**Subject:** RE: AEB meeting on September 29th at 3pm  
**Date:** Tuesday, September 29, 2020 11:33:33 AM  
**Attachments:** [image001.png](#)

---

Will do. Thursday's 10 am hold for the Administrator's UAP briefing is just an FYI for Mike. He's not attending.

Sherice

---

**From:** Feldstein, Karen C. (HQ-TA000) <karen.c.feldstein@nasa.gov>  
**Sent:** Tuesday, September 29, 2020 11:29 AM  
**To:** STOVALL, SHERICE L. (HQ-TA000) <sherice.l.stovall@nasa.gov>  
**Subject:** Re: AEB meeting on September 29th at 3pm

Thanks! PLEASE protect that Exec performance meeting on Thurs., it's must do. Have a great day!

---

**From:** "STOVALL, SHERICE L. (HQ-TA000)" <sherice.l.stovall@nasa.gov>  
**Date:** Tuesday, September 29, 2020 at 10:32 AM  
**To:** "MCMAHON-BOGNAR, CHRISTINE (HQ-TG000)" <christine.mcmahonbognar@nasa.gov>, Gib Kirkham <gib.kirkham@nasa.gov>  
**Cc:** Karen Feldstein <karen.c.feldstein@nasa.gov>  
**Subject:** FW: AEB meeting on September 29th at 3pm

FYI

---

**From:** STOVALL, SHERICE L. (HQ-TA000)  
**Sent:** Tuesday, September 29, 2020 10:31 AM  
**To:** b6  
**Subject:** RE: AEB meeting on September 29th at 3pm

Hi b6

Mike is available on Thursday, October 1 at 3 pm EDT. Will you be sending out the meeting invitation or shall I?

Sherice

---

**From:** b6  
**Sent:** Monday, September 28, 2020 5:38 PM  
**To:** STOVALL, SHERICE L. (HQ-TA000) <sherice.l.stovall@nasa.gov>; Gold, Michael N. (HQ-AA000) <michael.n.gold@nasa.gov>

**Subject:** [EXTERNAL] AEB meeting on September 29th at 3pm

Dear Mrs. Stovall,

On behalf of the Director of Strategic Intelligence and New Business, Paulo Eduardo Vasconcellos would like to request the possibility of scheduling a meeting tomorrow September **29<sup>th</sup> at 3pm** (Washington DC time) or **October 1<sup>st</sup>** same time.

Don't hesitate to contact us if you need more information.

Sincerely,

b6

Administrative Assistant  
Brazilian Space Agency  
Phone: b6



--

Esta mensagem foi verificada pelo sistema de antiv??rus e acredita-se estar livre de perigo.

**From:** Kieffer, Margaret (HQ-TH000)  
**To:** Bress, Kent G. (HQ-TF000); Gold, Michael N. (HQ-AA000); Feldstein, Karen C. (HQ-TA000); Kirkham, Gib (HQ-TG000); Fleming, Devon C. (HQ-TB000); Flynn, David T. (HQ-TH000); McKay, Meredith (HQ-TF000); Finley, Patrick T. (HQ-TF000); Deihl, Jessica A. (HQ-VA000); Newman, Neal R. (HQ-TF000); Troxell, Jennifer L. (HQ-TH000); Rausch, Diane (HQ-TD000); Mcsweeney, Dennis (HQ-TG000); Hamilton, Carol J. (HQ-TD000)  
**Date:** Tuesday, September 29, 2020 2:58:43 PM

---

Copy on UAP rev 2 brief for JB; ECILD will cover if it proceeds.

**From:** [Flynn, David T. \(HQ-TH000\)](#)  
**To:** [Feldstein, Karen C. \(HO-TA000\)](#)  
**Cc:** [Kieffer, Margaret \(HQ-TH000\)](#); [Meidinger, Jolene A. \(HQ-TH000\)](#)  
**Subject:** FW: POC for Pentagon VTC  
**Date:** Wednesday, September 30, 2020 4:42:57 PM  
**Attachments:** [RE Round 2 - UAP Briefing \(22.2 KB\).msg](#)

---

Karen

(b) (5)

David

---

**From:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Sent:** Wednesday, September 30, 2020 4:38 PM  
**To:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>; Drew, Benjamin A. (HQ-TH000) <[b.a.drew@nasa.gov](mailto:b.a.drew@nasa.gov)>  
**Cc:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Subject:** RE: POC for Pentagon VTC

David:

This is the meeting we cancelled at (b) (6), (b) (5)

(b) (6), (b) (5)

I was informed by Sherice that

they were pursuing an unclassified meeting next week (see Sherice's email attached). I made absolutely sure this was the path forward before I canceled the meeting.

Regards,  
Jolene

---

**From:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Sent:** Wednesday, September 30, 2020 3:53 PM  
**To:** Drew, Benjamin A. (HQ-TH000) <[b.a.drew@nasa.gov](mailto:b.a.drew@nasa.gov)>  
**Cc:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Subject:** FW: POC for Pentagon VTC

Alvin

The Administrator and Mike Gold are trying to set up (b) (5) with Jay Stratton (b) (5) for tomorrow at 10:00 am. Mike G has asked if there is any way (b) (6), (b) (5)

(b) (6), (b) (5)

David

---

**From:** Feldstein, Karen C. (HQ-TA000) <karen.c.feldstein@nasa.gov>

**Sent:** Wednesday, September 30, 2020 3:44 PM

**To:** Flynn, David T. (HQ-TH000) <david.flynn@nasa.gov>

**Subject:** POC for Pentagon VTC

Jay Stratton, 10:00 tomorrow a.m.

Cell **b6**

**From:** [STOVALL, SHERICE L. \(HQ-TA000\)](#)  
**To:** [Meidinger, Jolene A. \(HQ-TH000\)](#)  
**Subject:** RE: Round 2 - UAP Briefing  
**Date:** Wednesday, September 30, 2020 10:53:56 AM  
**Attachments:** [image001.jpg](#)

---

My plan is to update the invitation with the new meeting info, but if we don't nail down a date/time by lunch I'll send out a cancellation.

Sherice

---

**From:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Sent:** Wednesday, September 30, 2020 10:36 AM  
**To:** STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Subject:** RE: Round 2 - UAP Briefing

Sherice: Understood. I will cancel the reservation for the secure room. Will you be sending a meeting cancelation for the hold?

Thanks/Jolene

---

**From:** STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Sent:** Wednesday, September 30, 2020 8:17 AM  
**To:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Subject:** RE: Round 2 - UAP Briefing

Good Morning!

The briefer is unable to accommodate the Administrator's schedule this week, so we are going to schedule a unclassified briefing for him next week via MS Teams.

Thanks for everything, Jolene!

Sherice

---

**From:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Sent:** Tuesday, September 29, 2020 11:08 AM  
**To:** STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Subject:** RE: Round 2 - UAP Briefing

Sure. I am open 12-1 or after 1.

---

**From:** STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>

**Sent:** Tuesday, September 29, 2020 11:03 AM  
**To:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Subject:** RE: Round 2 - UAP Briefing

Are you available to chat today?

---

**From:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Sent:** Tuesday, September 29, 2020 10:49 AM  
**To:** STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Subject:** RE: Round 2 - UAP Briefing

Thank you Sherice. I will set the level of the meeting the day of based on the attendees. If Mike is interested, (b) (6), (b) (5)

(b) (6), (b) (5)

Also, I have confirmation from OPS, the room will be CH 29 (same as last time).

We are good to go on our end for planning the support of this meeting. I will again be onsite to handle any last minute issues (they definitely cropped up last time).

All the best,  
Jolene

---

**From:** STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Sent:** Monday, September 28, 2020 1:36 PM  
**To:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Subject:** RE: Round 2 - UAP Briefing

Mike (b) (6) and says he won't be attending (b) (6). He says since he's unable to attend, the briefing could take place at (b) (5) (assuming (b) (6)

(b) (6), (b) (5) I told him I'd leave that up to the experts.

---

**From:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Sent:** Monday, September 28, 2020 12:47 PM  
**To:** STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Subject:** RE: Round 2 - UAP Briefing

Copy. I will start working.

---

**From:** STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Sent:** Monday, September 28, 2020 12:43 PM  
**To:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>

**Subject:** Round 2 - UAP Briefing

Duplicate email(s) already processed



**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [Meidinger, Jolene A. \(HQ-TH000\)](#); [Flynn, David T. \(HQ-TH000\)](#)  
**Subject:** ECILD only UAP  
**Date:** Thursday, October 1, 2020 8:48:30 AM

---

Jolene: Am hoping that OPS has the slides as well so this is not a heavy lift. Not sure about this video, or who has. Please confirm you are working this and how David can assist.

M

---

**From:** Kieffer, Margaret (HQ-TH000)  
**Sent:** Thursday, October 1, 2020 8:46 AM  
**To:** Gold, Michael N. (HQ-AA000) <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>; Cruz, Randy C. (HQ-AA000)[Affiliate] <[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>; STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Cc:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Subject:** RE: UAP brief

Pardon, reading further down, yes, we have the slide deck from the prior briefing. It is the video that may require more coord and for Jay to send something.

---

**From:** Kieffer, Margaret (HQ-TH000)  
**Sent:** Thursday, October 1, 2020 8:44 AM  
**To:** Gold, Michael N. (HQ-AA000) <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>; Cruz, Randy C. (HQ-AA000)[Affiliate] <[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>; STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Cc:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Subject:** RE: UAP brief

Copy. David is on-site at HQ today and can support on that end, if needed, although Jolene may be able to coord receipt via OPS.

---

**From:** Gold, Michael N. (HQ-AA000) <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 8:35 AM  
**To:** Cruz, Randy C. (HQ-AA000)[Affiliate] <[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>; Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Subject:** RE: UAP brief

I traded texts with Jay Stratton yesterday and he also didn't think an unclassified brief would be helpful. Margaret/Jolene/Sherice, if you all could see if we can get a hold of the video (perhaps reach out to Jay over e-mail) and coordinate with Randy I would be grateful.

Thanks!

- Mike

---

**From:** Cruz, Randy C. (HQ-AA000)[Affiliate] <[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)>

**Sent:** Thursday, October 1, 2020 8:32 AM

**To:** Gold, Michael N. (HQ-AA000) <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>; Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>

**Subject:** Re: UAP brief

If we have the materials, would like to share with Jim before he leaves for OK Today. Not sure an unclassified version is scratching his itch. Let's see what's in the realmnifboissinle for today please.

Thanks!

Vr,  
Randy

Randy Cruz

Senior Advisor to the Administrator

NASA Headquarters

[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)

Office: (202) 358-1445

Cell: b6

---

On: 01 October 2020 08:29, "Gold, Michael N. (HQ-AA000)" <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)> wrote:

Hey Randy, I'm sorry that we couldn't get schedules to work with the head of the UAP Task Force, Jay Stratton, for today. He is wrapped up in meetings at the Pentagon. Margaret/Jolene, do we have the slide deck that Jay used when we got the brief previously? Jay says there is a video version of the brief that is available on SIPRNET or JWICS. Sherice has Jay's e-mail (he is not available by phone today) and can reach out to him.

Thanks,

- Mike

**From:** Cruz, Randy C. (HQ-AA000)[Affiliate] <[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 8:07 AM  
**To:** Gold, Michael N. (HQ-AA000) <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Subject:** UAP brief

Mike,

Was looking forward to the classified version of this brief. Is it possible to get the slide deck sent to me this morning so I can review with Jim?

Sipr: b6 [REDACTED]

Jwics: b6 [REDACTED]

Randy

Randy Cruz

Senior Advisor to the Administrator

NASA Headquarters

[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)

Office: (202) 358-1445

Cell: b6 [REDACTED]

**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [Cruz, Randy C. \(HQ-AA000\)\[Affiliate\]](#)  
**Cc:** [Flynn, David T. \(HQ-TH000\)](#); [Meidinger, Jolene A. \(HQ-TH000\)](#)  
**Subject:** RE: UAP brief  
**Date:** Thursday, October 1, 2020 9:02:17 AM

---

It may be on SIPR. Am hoping OPS also has and can (easily) forward w/o us being in the middle, but need Jolene to confirm if they have the set.

M

---

**From:** Cruz, Randy C. (HQ-AA000)[Affiliate] <[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 8:55 AM  
**To:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Subject:** Re: UAP brief

Margaret,

He departs around 2:30.  
If emailed to me, I can pull it up on the 9th floor acid.

Vr,  
Randy

Randy Cruz  
Senior Advisor to the Administrator  
NASA Headquarters

[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)

Office: [\(202\) 358-1445](tel:(202)358-1445)

Cell: **b6**

---

On: 01 October 2020 08:52, "Kieffer, Margaret (HQ-TH000)" <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)> wrote:

Randy: What is the departure time today?

**From:** Gold, Michael N. (HQ-AA000) <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 8:49 AM  
**To:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; Cruz, Randy

C. (HQ-AA000)[Affiliate] <[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>; STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Cc:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Subject:** RE: UAP brief

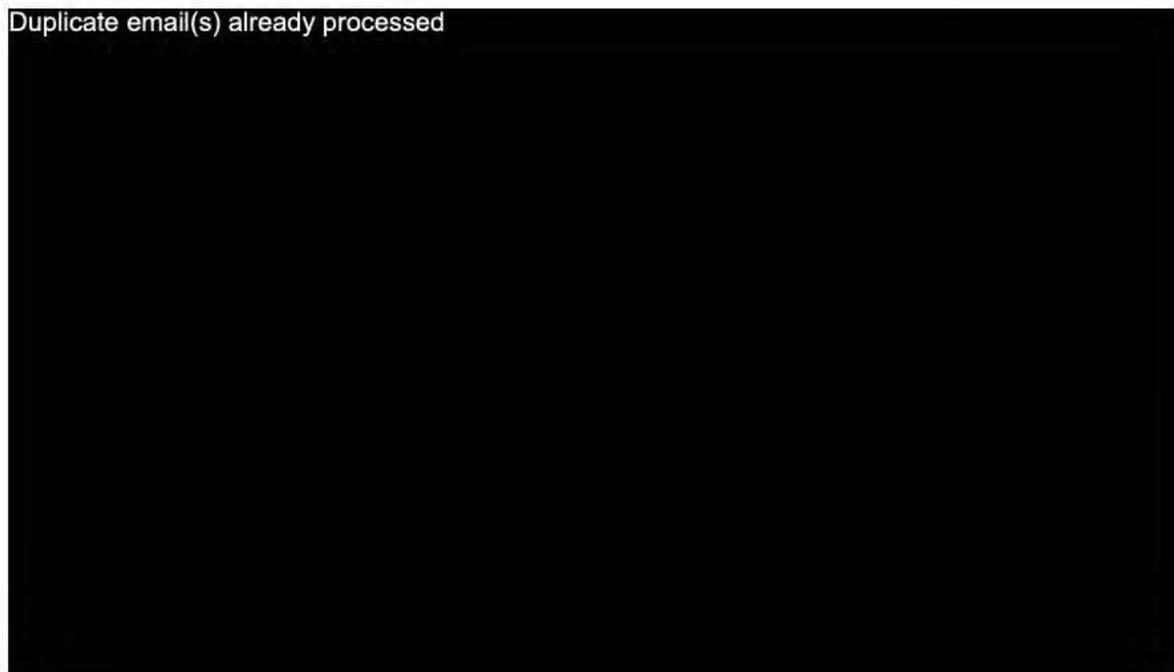
Great. Please coordinate with Randy to get him the slide deck to review with the boss. At a minimum we can do that. Additionally, please work with Sherice to reach out to Jay and see if you can get the video brief in time.

Thanks!

- Mike

**From:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 8:46 AM  
**To:** Gold, Michael N. (HQ-AA000) <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>; Cruz, Randy C. (HQ-AA000)[Affiliate] <[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>; STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Cc:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Subject:** RE: UAP brief

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## **Deletion Page**

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**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [STOVALL, SHERICE L. \(HQ-TA000\)](#); [Meidinger, Jolene A. \(HQ-TH000\)](#)  
**Cc:** [Flynn, David T. \(HQ-TH000\)](#)  
**Subject:** RE: UAP brief  
**Date:** Thursday, October 1, 2020 9:04:53 AM

---

JB departs at 2:30, so we would need it in hand by noonish.

---

**From:** STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 9:00 AM  
**To:** [Kieffer, Margaret \(HQ-TH000\) <margaret.kieffer@nasa.gov>](#); [Meidinger, Jolene A. \(HQ-TH000\) <jolene.meidinger@nasa.gov>](#)  
**Cc:** [Flynn, David T. \(HQ-TH000\) <david.flynn@nasa.gov>](#)  
**Subject:** RE: UAP brief

I'll let you know as soon as I hear back from Jay regarding the video.

---

**From:** [Kieffer, Margaret \(HQ-TH000\) <margaret.kieffer@nasa.gov>](#)  
**Sent:** Thursday, October 1, 2020 8:53 AM  
**To:** [Cruz, Randy C. \(HQ-AA000\)\[Affiliate\] <randy.c.cruz@nasa.gov>](#); [Meidinger, Jolene A. \(HQ-TH000\) <jolene.meidinger@nasa.gov>](#); [STOVALL, SHERICE L. \(HQ-TA000\) <sherice.l.stovall@nasa.gov>](#)  
**Cc:** [Flynn, David T. \(HQ-TH000\) <david.flynn@nasa.gov>](#)  
**Subject:** RE: UAP brief

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**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [Flynn, David T. \(HQ-TH000\)](#); [Meidinger, Jolene A. \(HQ-TH000\)](#)  
**Subject:** RE: ONI Rep Mr. Stratton <Urgent>  
**Date:** Thursday, October 1, 2020 9:30:16 AM

---

Please send briefing to Randy on jwics, (b) (5)  
(b) (5)

---

**From:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 9:28 AM  
**To:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Cc:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Subject:** RE: ONI Rep Mr. Stratton <Urgent>

Can we make some time available for Randy to show the slides with the Administrator this morning in the appropriate space? (b) (5)

See note from Mr. Stratton via Sherise

(b) (5)

V/r, Jay"

---

**From:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 9:24 AM  
**To:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>; Hiles, Robert M. (HQ-LP022) <[robert.m.hiles@nasa.gov](mailto:robert.m.hiles@nasa.gov)>; Holman, Joshua F. (HQ-LP022)[Federal Government Detailee] <[joshua.f.holman@nasa.gov](mailto:joshua.f.holman@nasa.gov)>  
**Cc:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Subject:** RE: ONI Rep Mr. Stratton <Urgent>

Good morning: I have the presentation. It is classified.

Regards,  
Jolene

---

**From:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 9:21 AM  
**To:** Hiles, Robert M. (HQ-LP022) <[robert.m.hiles@nasa.gov](mailto:robert.m.hiles@nasa.gov)>; Holman, Joshua F. (HQ-LP022)[Federal Government Detailee] <[joshua.f.holman@nasa.gov](mailto:joshua.f.holman@nasa.gov)>  
**Cc:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>; Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Subject:** ONI Rep Mr. Stratton <Urgent>

**Importance:** High

Bob/Josh

Last week, Mr. Jay Stratton from ONI gave a briefing on "UAP" in CH29 last week. I was told that OPS has the slide deck and possibly the video that was displayed. Can you confirm that you have the slides? I believe they are unclassified. If so please forward to Randy Cruz in the Administrator's Office ASAP as he would like to share with the Administrator before he leaves the building. Please let me know if you have the video as well as the Administrator might want to stop by to view that as well.

Thank you for your attention on this.

David

David T. Flynn

Deputy Director (SES)

Export Control and Interagency Liaison Division

Office of International and Interagency Relations

NASA-HQ

(mobile) b6 [REDACTED]

(sipr) b6 [REDACTED]

(jwics) b6 [REDACTED]

**From:** [Cruz, Randy C. \(HQ-AA000\)\[Affiliate\]](#)  
**To:** [Meidinger, Jolene A. \(HQ-TH000\)](#); [Gold, Michael N. \(HQ-AA000\)](#); [Feldstein, Karen C. \(HQ-TA000\)](#); [Kieffer, Margaret \(HQ-TH000\)](#); [STOVALL, SHERICE L. \(HQ-TA000\)](#)  
**Subject:** RE: UAP brief  
**Date:** Thursday, October 1, 2020 9:58:16 AM

---

Hi Jolene,

I just pulled up the slides. Thank you for emailing. I think this will suffice.  
Got time for a quick phone call?

V/r,  
Randy

---

**From:** Cruz, Randy C. (HQ-AA000)[Affiliate]  
**Sent:** Thursday, October 1, 2020 9:45 AM  
**To:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>; Gold, Michael N. (HQ-AA000) <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Subject:** RE: UAP brief

Hi Jolene,

Let's target this afternoon around 1:30. This will give us time to try and get it together.

V/r,  
Randy

---

**From:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 9:41 AM  
**To:** Cruz, Randy C. (HQ-AA000)[Affiliate] <[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)>; Gold, Michael N. (HQ-AA000) <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Subject:** RE: UAP brief

Good morning Randy:

I have a copy of the classified briefing and will provide it to you on JWICS. I am not familiar with the iVideo, so I have reached out to OPS. What time are you targeting today?

Thank you,  
Jolene

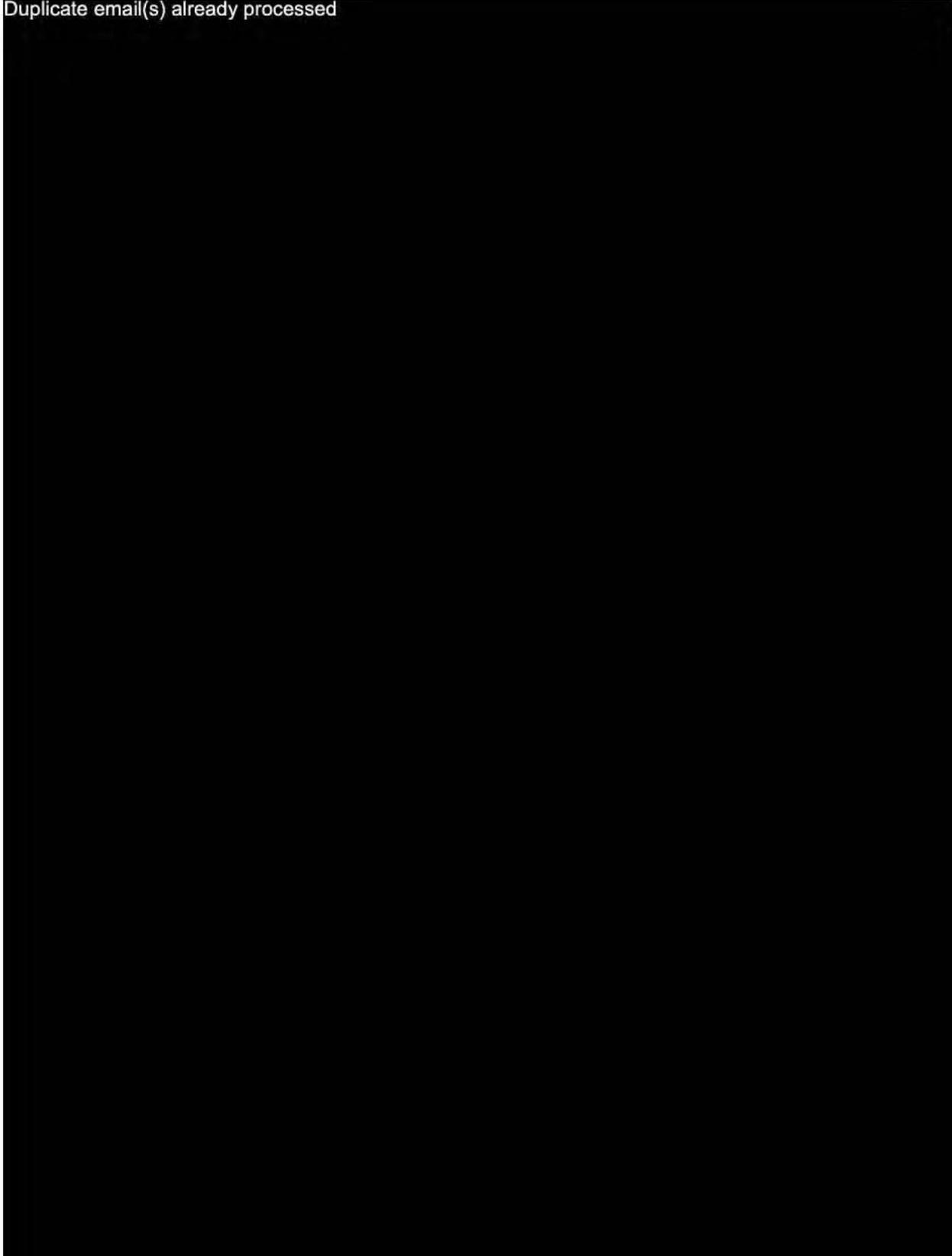
---

**From:** Cruz, Randy C. (HQ-AA000)[Affiliate] <[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 8:32 AM

**To:** Gold, Michael N. (HQ-AA000) <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>; Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>

**Subject:** Re: UAP brief

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**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [Meidinger, Jolene A. \(HQ-TH000\)](#)  
**Cc:** [Flynn, David T. \(HQ-TH000\)](#)  
**Subject:** RE: ONI Rep Mr. Stratton <Urgent>  
**Date:** Thursday, October 1, 2020 9:59:16 AM

---

And another "pardon" needed...looks like outcome is well in hand. THANK YOU.

---

**From:** Kieffer, Margaret (HQ-TH000)  
**Sent:** Thursday, October 1, 2020 9:58 AM  
**To:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Cc:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Subject:** RE: ONI Rep Mr. Stratton <Urgent>

Pardon. Unclass...the narrowed down email that we and Randy are on.

---

**From:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 9:54 AM  
**To:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Cc:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Subject:** RE: ONI Rep Mr. Stratton <Urgent>

I do not understand what you mean by NIN email.

---

**From:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 9:41 AM  
**To:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Cc:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Subject:** RE: ONI Rep Mr. Stratton <Urgent>

When it is sent, pls move back to the NIN email the 4 of us are on and let Randy know it is available for his use with JB whenever they are ready. Also let him know the video is 300mgs, not emailable, but OPS may be able to pull, and you are happy to make that connection for him with the right OPS POCs for that potential, if of interest.

---

**From:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 9:34 AM  
**To:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Cc:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Subject:** RE: ONI Rep Mr. Stratton <Urgent>

Okay, I will send Randy the presentation. I have not been able to get a hold of OPS yet. Still working that request...

---

**From:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>

**Sent:** Thursday, October 1, 2020 9:32 AM

**To:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>; Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>

**Subject:** RE: ONI Rep Mr. Stratton <Urgent>

Please leverage Randy, he is offering to make it simple and use the 9<sup>th</sup> floor space (OPS will still need to support but we would be out of the scheduling),

---

**From:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>

**Sent:** Thursday, October 1, 2020 9:30 AM

**To:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>

**Cc:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>

**Subject:** RE: ONI Rep Mr. Stratton <Urgent>

I will reach out to OPS to see who is in and what rooms are available. I have no idea what ivideo is...I will ask OPS.

---

**From:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>

**Sent:** Thursday, October 1, 2020 9:28 AM

**To:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>

**Cc:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>

**Subject:** RE: ONI Rep Mr. Stratton <Urgent>

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**From:** [Meidinger, Jolene A. \(HQ-TH000\)](#)  
**To:** [Kieffer, Margaret \(HQ-TH000\)](#); [Flynn, David T. \(HQ-TH000\)](#)  
**Subject:** RE: ONI Rep Mr. Stratton <Urgent>  
**Date:** Thursday, October 1, 2020 10:01:32 AM

---

Randy just asked me to come up to discuss the slides. I got a hold of Bob Hiles and he is also enroute to figure out the video (FYI its his last day)

J

---

**From:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 10:01 AM  
**To:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Subject:** RE: ONI Rep Mr. Stratton <Urgent>

Think we are good. Email sent/responded to. Sorry, Jolene, we are in AA staff and multi-tasking (not very effectively, as you note).

---

**From:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 9:59 AM  
**To:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>; Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Subject:** RE: ONI Rep Mr. Stratton <Urgent>

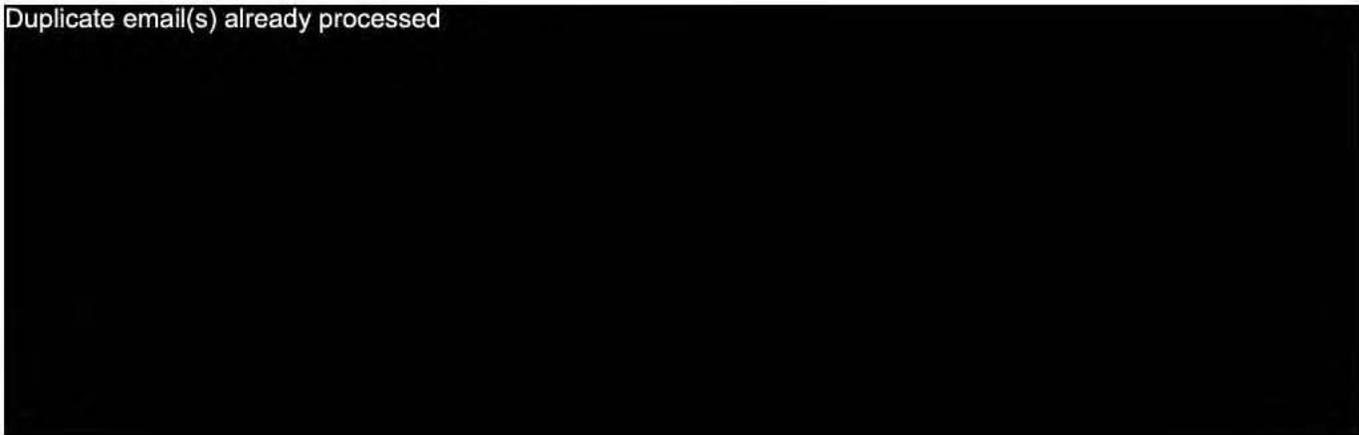
NIN = NASA unclassified system.

The attached is the email she was referring to. Reply all to that email and add Randy Cruz saying the slide is available in his JWICS email.

---

**From:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 9:54 AM  
**To:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Cc:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Subject:** RE: ONI Rep Mr. Stratton <Urgent>

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**From:** [Meidinger, Jolene A. \(HQ-TH000\)](#)  
**To:** [Kieffer, Margaret \(HQ-TH000\)](#); [Flynn, David T. \(HQ-TH000\)](#)  
**Subject:** RE: ONI Rep Mr. Stratton <Urgent>  
**Date:** Thursday, October 1, 2020 11:06:58 AM

---

Bob and I met with Randy Cruz and Gabe Sherman. I provided additional insight into the briefing. Randy was focused on any actions coming out of the meeting (requests for support). I reiterated our commitment to provide scientific expertise in regards to environmental phenomenon. Bob was able to bring up the videos. We have covered all of the short turn asks for the ASuite review of this information today at 1:30 PM.

Best/Jolene

---

**From:** Kieffer, Margaret (HQ-TH000) <margaret.kieffer@nasa.gov>  
**Sent:** Thursday, October 1, 2020 10:01 AM  
**To:** Flynn, David T. (HQ-TH000) <david.flynn@nasa.gov>; Meidinger, Jolene A. (HQ-TH000) <jolene.meidinger@nasa.gov>  
**Subject:** RE: ONI Rep Mr. Stratton <Urgent>

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**From:** [Gold, Michael N. \(HQ-AA000\)](#)  
**To:** [Meidinger, Jolene A. \(HQ-TH000\)](#); [Kieffer, Margaret \(HQ-TH000\)](#); [Feldstein, Karen C. \(HQ-TA000\)](#); [STOVALL, SHERICE L. \(HQ-TA000\)](#)  
**Cc:** [Flynn, David T. \(HQ-TH000\)](#)  
**Subject:** RE: UAP brief  
**Date:** Thursday, October 1, 2020 11:50:12 AM

---

Excellent! Great work Jolene! It's much appreciated.

- Mike

---

**From:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 11:12 AM  
**To:** Gold, Michael N. (HQ-AA000) <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>; Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Cc:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Subject:** RE: UAP brief

Good morning:

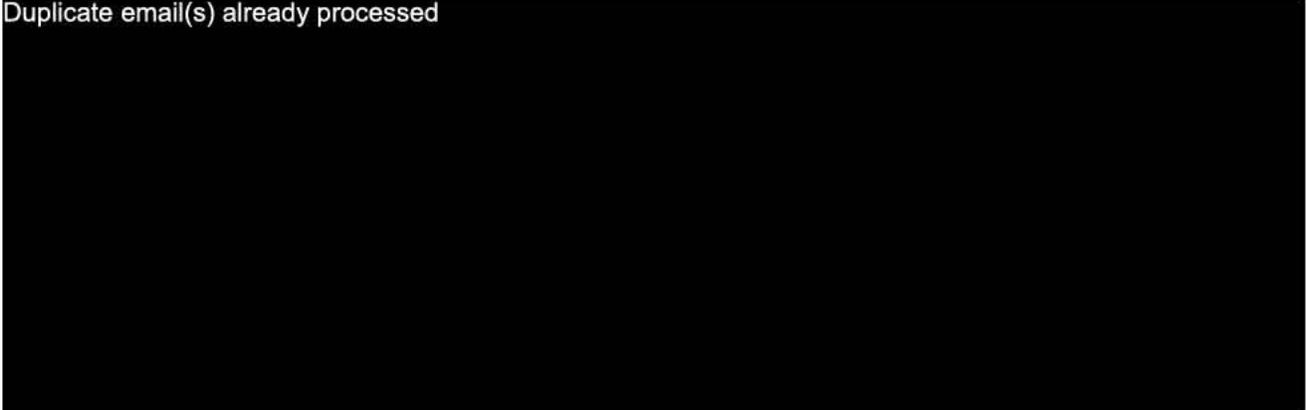
I provided Randy with the slides and, at his request, briefed him and Gabe Sherman on the additional information provided during the September 14 meeting. I gave him additional context on the slides and the conversation concerning NASA support. Bob Hiles was able to access the videos and provided those to Randy as well. Randy is all set for his 1:30 with the Administrator.

Best regards,  
Jolene

---

**From:** Gold, Michael N. (HQ-AA000) <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>  
**Sent:** Thursday, October 1, 2020 8:49 AM  
**To:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; Cruz, Randy C. (HQ-AA000) [Affiliate] <[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>; STOVALL, SHERICE L. (HQ-TA000) <[sherice.l.stovall@nasa.gov](mailto:sherice.l.stovall@nasa.gov)>  
**Cc:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Subject:** RE: UAP brief

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## **Deletion Page**

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**From:** Feldstein, Karen C. (HQ-TA000)  
**Subject:** FW: [EXTERNAL] RE: UAPA Virtual Event with b6, "Extreme Acceleration by UAPs", introduction by b6, Tue, Oct 6, 3-4pm EST  
**Date:** Monday, January 4, 2021 2:28:00 PM

---

**From:** b6  
**Date:** Tuesday, October 6, 2020 at 3:02 PM  
**To:** Karen Feldstein <karen.c.feldstein@nasa.gov>  
**Subject:** [EXTERNAL] RE: UAPA Virtual Event with b6 "Extreme Acceleration by UAPs", introduction by b6, Tue, Oct 6, 3-4pm EST

**Hi Karen,**  
**Glad to have you join us for this telecon!**  
**Looking forward to it,**

b6

We have confirmed your registration for UAPA's telecon with b6. Your RSVP information is below:

Event: 10/06 b6  
Attendee: Karen Feldstein  
Company: NASA

Please let us know if you have any questions or changes prior to the meeting.

Event ID: 353

---

**From:** b6  
**Sent:** Tuesday, October 6, 2020 2:27 PM  
**To:** Gold, Michael N. (HQ-AA000) <michael.n.gold@nasa.gov>; Gold Mike (b) (6)  
**Subject:** [EXTERNAL] UAPA Virtual Event with b6 "Extreme Acceleration by UAPs", introduction by b6, Tue, Oct 6, 3-4pm EST

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**From:** [Gold, Michael N. \(HQ-AA000\)](#)  
**To:** [Feldstein, Karen C. \(HQ-TA000\)](#)  
**Subject:** RE: GOLD REVIEW FW: Draft FAA Press Release  
**Date:** Wednesday, January 6, 2021 11:23:08 AM

---

What do you think of this?

Thanks!

- Mike

b5  
[REDACTED]  
[REDACTED] ! (LINK to  
Release)

---

**From:** Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Sent:** Monday, January 4, 2021 7:54 PM  
**To:** Gold, Michael N. (HQ-AA000) <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>  
**Subject:** Re: GOLD REVIEW FW: Draft FAA Press Release

Thanks Mike! And yes it seems it's UFO's all over the place... I think this dude's book is generating some new buzz.

---

**From:** "Gold, Michael N. (HQ-AA000)" <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>  
**Date:** Monday, January 4, 2021 at 5:56 PM  
**To:** Karen Feldstein <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Subject:** RE: GOLD REVIEW FW: Draft FAA Press Release

I took a look at the Press Release and my edits are included in the attached redlined copy. I'll work on the Tweet tomorrow.

Below is the latest on the UFO front. Is it just me or are we discussing UFOs more than even I would have expected lately? Not that I'm complaining!

[A Harvard professor has claimed in his new book that alien debris passed near Earth in 2017. It has attracted both skepticism and intrigue. | Business Insider India](#)

---

**From:** Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Sent:** Monday, January 4, 2021 3:30 PM  
**To:** Gold, Michael N. (HQ-AA000) <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>  
**Subject:** GOLD REVIEW FW: Draft FAA Press Release

Hi Mike,

OComm is standing by for feedback to the draft FAA press release, attached with a few comments from me.

The proposed tweet is as follows:

b5 [REDACTED]  
[REDACTED]  
[REDACTED] (LINK to Release)

My proposed rewrite (269 characters):

b5 [REDACTED]  
[REDACTED]  
[REDACTED] (LINK to Release)

Welcome your further improvements!

Thanks,  
Karen

---

**From:** Karen Feldstein <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Date:** Thursday, December 31, 2020 at 11:40 AM  
**To:** "Gold, Michael N. (HQ-AA000)" <[michael.n.gold@nasa.gov](mailto:michael.n.gold@nasa.gov)>  
**Subject:** Draft FAA Press Release

Hey Mike, attached is the latest FAA press release though I understand it's still being worked. I don't think I've seen a tweet yet. I wanted you to have this as a companion to the briefer, but I expect we'll get another rev. next week.

Wishing you a happy, healthy 2021!

Karen

# Deletion Page

2 Pages are withheld in full and the following marked exemption(s) is/are claimed.

**EXEMPTIONS CLAIMED:**

**FOIA: 5 U.S.C. § 552**

b(1)     b(2)     b(3): \_\_\_\_\_  
 b(4)     b(5)     b(6)     b(7)A     b(8)     b(9)

**PRIVACY ACT: 5 U.S.C. § 552a**

d(5)     j(1)     j(2)     k(1)     k(2)     k(3)  
 k(4)     k(5)     k(6)     k(7)

Description of withholding: Draft press release, the final version of which is available online at: <https://www.nasa.gov/press-release/nasa-faa-partnership-bolsters-american-commercial-space-activities>.

**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [Cruz, Randy C. \(HO-AA000\)\[Affiliate\]](#)  
**Date:** Wednesday, January 13, 2021 1:49:11 PM

---

Believe it or not, I have a quick UAP question, if you have 30 seconds.

**From:** [REDACTED] - UAPA  
**To:** karen.c.feldstein@nasa.gov; Feldstein, Karen C. (HO-TA000)  
**Subject:** [EXTERNAL] REMINDER: UAP Assn mtg w [REDACTED] "Possible Communications at X-Ray and other high frequencies with UAPs?", Mon, May 24, 3pm-4pm EDT  
**Date:** Tuesday, May 18, 2021 11:33:31 AM

---

**Dear UAP Association Colleagues:**

Please join us for "Possible Communications at X-Ray and other high frequencies with UAPs?", a discussion lead by [REDACTED].

[REDACTED] is [REDACTED]. His impressive bio may be found below.



*Please click on the link below to register, this is our new process. After registering you will receive an email with the Teams link you can use to access the meeting. If you have any problems, such as firewalls blocking clicking on the link, simply register using the email on your phone, or a home computer. Or just email us and we'll get your registered.*

**Registration link**

**Looking forward to it!**

[REDACTED]

[REDACTED]

**President  
UAP Association**

**Email:** [REDACTED]

**Phone:** [REDACTED]

[REDACTED]

**Event ID: 428**

**Biographies:**

[REDACTED]

b6



Update email communications



**From:** [Feldstein, Karen C. \(HQ-TA000\)](#)  
**To:** [Lal, Bhavya \(HQ-IA000\)](#); [Kieffer, Margaret \(HQ-TH000\)](#)  
**Subject:** Re: Pentagon UFO report  
**Date:** Wednesday, May 19, 2021 7:31:12 AM

---

Sorry, I don't know. Margaret do you?

---

On: 19 May 2021 07:25, "Lal, Bhavya (HQ-IA000)" <[bhavya.lal@nasa.gov](mailto:bhavya.lal@nasa.gov)> wrote:

Copy. And you don't think we reviewed it either?

Bhavya Lal, Ph.D.

b6

---

On: 19 May 2021 07:22, "Feldstein, Karen C. (HQ-TA000)" <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)> wrote:

I don't have and haven't seen the report.

---

On: 19 May 2021 07:14, "Lal, Bhavya (HQ-IA000)" <[bhavya.lal@nasa.gov](mailto:bhavya.lal@nasa.gov)> wrote:

Did we help write it, or at least review it? Do you have a copy? I can try to get it.

Thanks,  
Bhavya

Bhavya Lal, Ph.D.

b6

**From:** [Lal, Bhavya \(HQ-IA000\)](#)  
**To:** [Matheny, Jason G. EOP/OSTP](#)  
**Subject:** Re: [EXTERNAL] RE: UFO report copy or PoC. Ty xo  
**Date:** Wednesday, May 19, 2021 8:55:29 AM

---

I will also use my NASA POC to get it if yours fail. Xo

Bhavya Lal, Ph.D.

(b6 [REDACTED])

---

On: 19 May 2021 08:42, "Matheny, Jason G. EOP/OSTP" (b6 [REDACTED]) >  
wrote:

Working on it. xo

---

**From:** Lal, Bhavya (HQ-IA000) <[bhavya.lal@nasa.gov](mailto:bhavya.lal@nasa.gov)>  
**Sent:** Wednesday, May 19, 2021 7:15 AM  
**To:** Matheny, Jason G. EOP/OSTP (b6 [REDACTED]) >  
**Subject:** UFO report copy or PoC. Ty xo

Bhavya Lal, Ph.D.

(b6 [REDACTED])

**From:** [Lal, Bhavya \(HQ-IA000\)](#)  
**To:** [Matheny, Jason G. EOP/OSTP](#)  
**Subject:** Re: [EXTERNAL] RE: Unidentified Aerial Phenomenon  
**Date:** Wednesday, May 19, 2021 1:53:30 PM

---

I'll share what I get. Same team!

Bhavya Lal, Ph.D.

b6

---

On: 19 May 2021 13:40, "Matheny, Jason G. EOP/OSTP" <b6 >  
wrote:

Yes. I'll follow-up.

(b) (5)

---

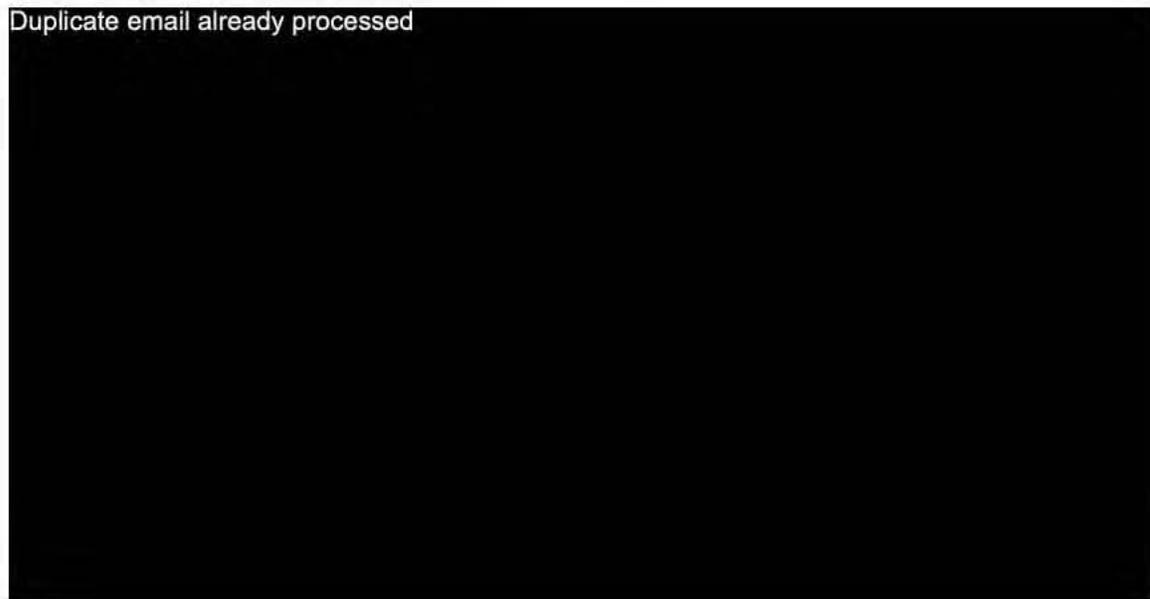
**From:** Lal, Bhavya (HQ-IA000) <[bhavya.lal@nasa.gov](mailto:bhavya.lal@nasa.gov)>  
**Sent:** Wednesday, May 19, 2021 12:32 PM  
**To:** Matheny, Jason G. EOP/OSTP <b6 >  
**Subject:** FW: Unidentified Aerial Phenomenon

Does this make sense?

---

**From:** Cruz, Randy C. (HQ-AA000)[Affiliate] <[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)>  
**Sent:** Wednesday, May 19, 2021 12:31 PM  
**To:** Lal, Bhavya (HQ-IA000) <[bhavya.lal@nasa.gov](mailto:bhavya.lal@nasa.gov)>  
**Subject:** Unidentified Aerial Phenomenon

Duplicate email already processed



**From:** Lal, Bhavya (HQ-IA000)  
**To:** Matheny, Jason G. EOP/OSTP  
**Subject:** No dice  
**Date:** Thursday, May 20, 2021 8:27:11 PM

---

I couldn't get the UFO report. Were you able to get a hold of it?

Bhavya Lal, Ph.D.

b6  
b7C  
b7D

**From:** [Meidinger, Jolene A. \(HQ-TH000\)](#)  
**To:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**Date:** Wednesday, May 26, 2021 9:56:24 AM

---

FYI. I sent the updated UAPTF draft report this AM to your distro with a request for comments by noon Tuesday June 1.

**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [Lal, Bhavya \(HQ-AA000\)](#)  
**Date:** Tuesday, June 1, 2021 12:32:40 PM

---

Pardon, wanted to remind you that any comments on UAP task force report are due today.

**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [Meidinger, Jolene A. \(HQ-TH000\)](#)  
**Cc:** [Flynn, David T. \(HQ-TH000\)](#)  
**Subject:** Re: Not Reporting Onsite  
**Date:** Tuesday, June 8, 2021 7:39:11 AM

---

Will validate (b) (5)  
(b) (5)

---

On: 08 June 2021 07:32, "Meidinger, Jolene A. (HQ-TH000)" <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)> wrote:

I think (b) (5) The previous version was reviewed by Karen St. Germain (with Jay Pittman, Lawrence Friedl, and Christa Peters-lidard).

Best/Jolene

---

**From:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Sent:** Tuesday, June 8, 2021 7:28 AM  
**To:** Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Cc:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Subject:** Re: Not Reporting Onsite

Copy. Very sorry to hear that. FYI, We got the UAP report yesterday eve (saw it late, as I was closing) for final, exsec review. (b) (5)

(b) (5) I will look at more closely today.

---

On: 08 June 2021 07:14, "Meidinger, Jolene A. (HQ-TH000)" <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)> wrote:

b6. I am not going to report onsite today. I don't have any meetings onsite, it was just a work day.

Thank you,  
Jolene

**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [Kenyon, James A. \(HQ-EM000\)](#)  
**Date:** Tuesday, June 8, 2021 2:15:21 PM

---

Calling about two items. You were identified by ODNI as a NASA SME on the UAPTF report. And, did you ever talk to the (b) (5) .lost the bubble.

**From:** [McKay, Meredith \(HQ-TA000\)](#)  
**To:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**Subject:** RE: UAP messaging  
**Date:** Tuesday, June 8, 2021 4:29:03 PM

---

Copy. T hx!

---

**From:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Sent:** Tuesday, June 8, 2021 4:27 PM  
**To:** McKay, Meredith (HQ-TA000) <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>  
**Subject:** RE: UAP messaging

Spoke to Mark, circling to close shortly. He does want TPs this week. We will figure it out.

---

**From:** McKay, Meredith (HQ-TA000) <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>  
**Sent:** Tuesday, June 8, 2021 4:19 PM  
**To:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Subject:** FW: UAP messaging

Was thinking you'd point to Jolene in this trail? If you want to funnel through her v Randy?

---

**From:** Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Sent:** Tuesday, June 8, 2021 3:39 PM  
**To:** Cruz, Randy C. (HQ-AA000)[Affiliate] <[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)>; Etkind, Marc R. (HQ-NA000) <[marc.r.etkind@nasa.gov](mailto:marc.r.etkind@nasa.gov)>  
**Cc:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; McKay, Meredith (HQ-TA000) <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>  
**Subject:** Re: UAP messaging

Hi Randy, I'm out this afternoon but am looping in Margaret and Meredith.

Best,  
Karen

---

On: 08 June 2021 13:29, "Cruz, Randy C. (HQ-AA000)[Affiliate]" <[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)> wrote:

Karen/Marc,

I understand that you two are working closely on the UAP messaging efforts and I don't want to stifle or confuse anything. I was preparing share an initial classified brief from the UAP Task Force that is dated from August 2020 with Marc. It might be OBE at the this point, but wanted to let you know that we can still do that if you desire. Let me know how I can help.

V/r,  
Randy

Randy Cruz  
Senior Advisor to the Administrator  
NASA Headquarters  
Office: (202) 358-1445  
Cell **b6**

**From:** [Lal, Bhavya \(HQ-AA000\)](#)  
**To:** [Etkind, Marc R. \(HQ-NA000\)](#); [McGuinness, Jackie \(HQ-NA000\)](#)  
**Subject:** Fwd: [EXTERNAL] RE: Talking points for UAP report  
**Date:** Tuesday, June 8, 2021 5:36:49 PM  
**Attachments:** [2021\\_0603\\_Unidentified\\_Aerial\\_Phomena.docx](#)

---

Bhavya Lal, Ph.D.

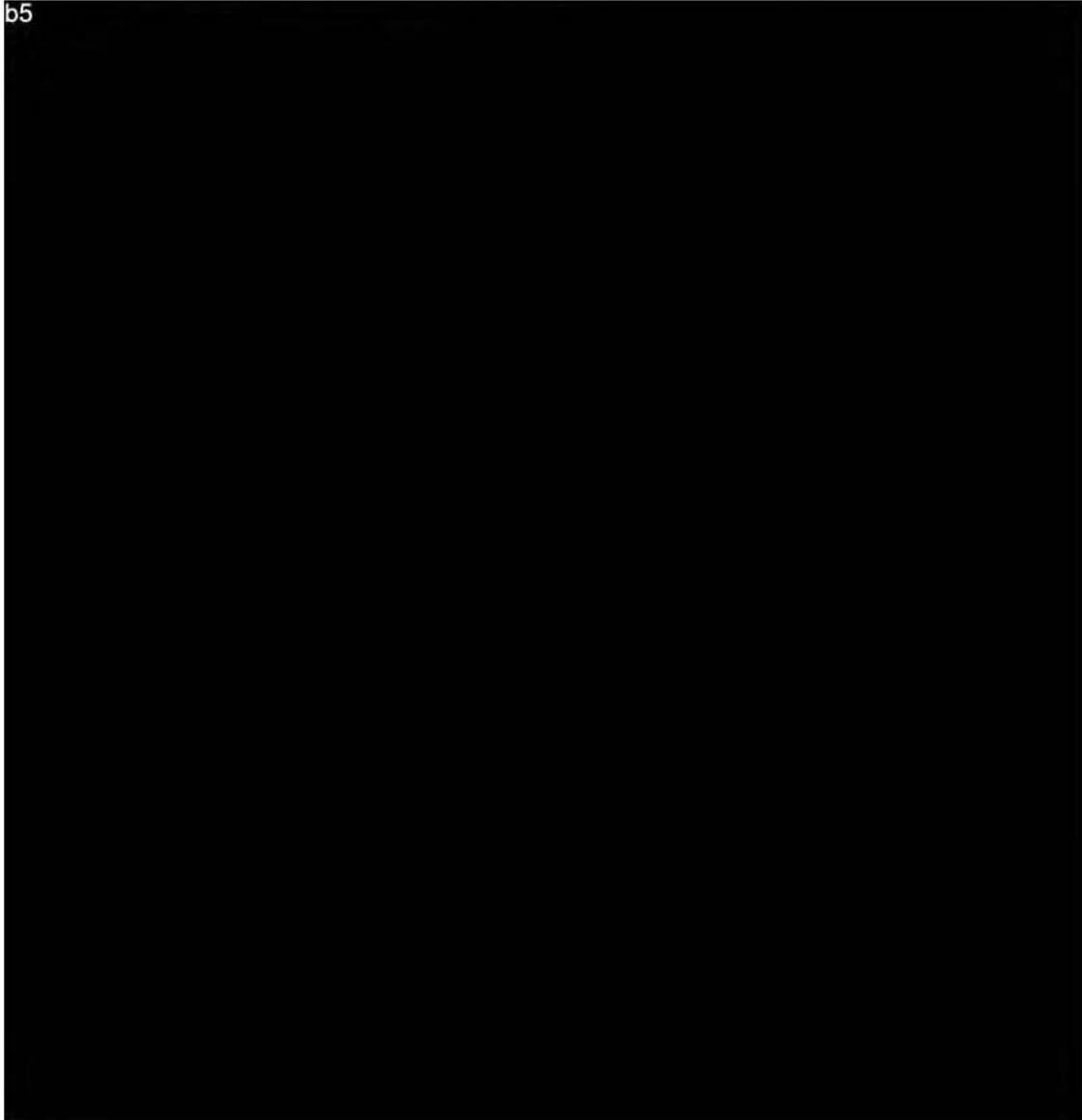
b6

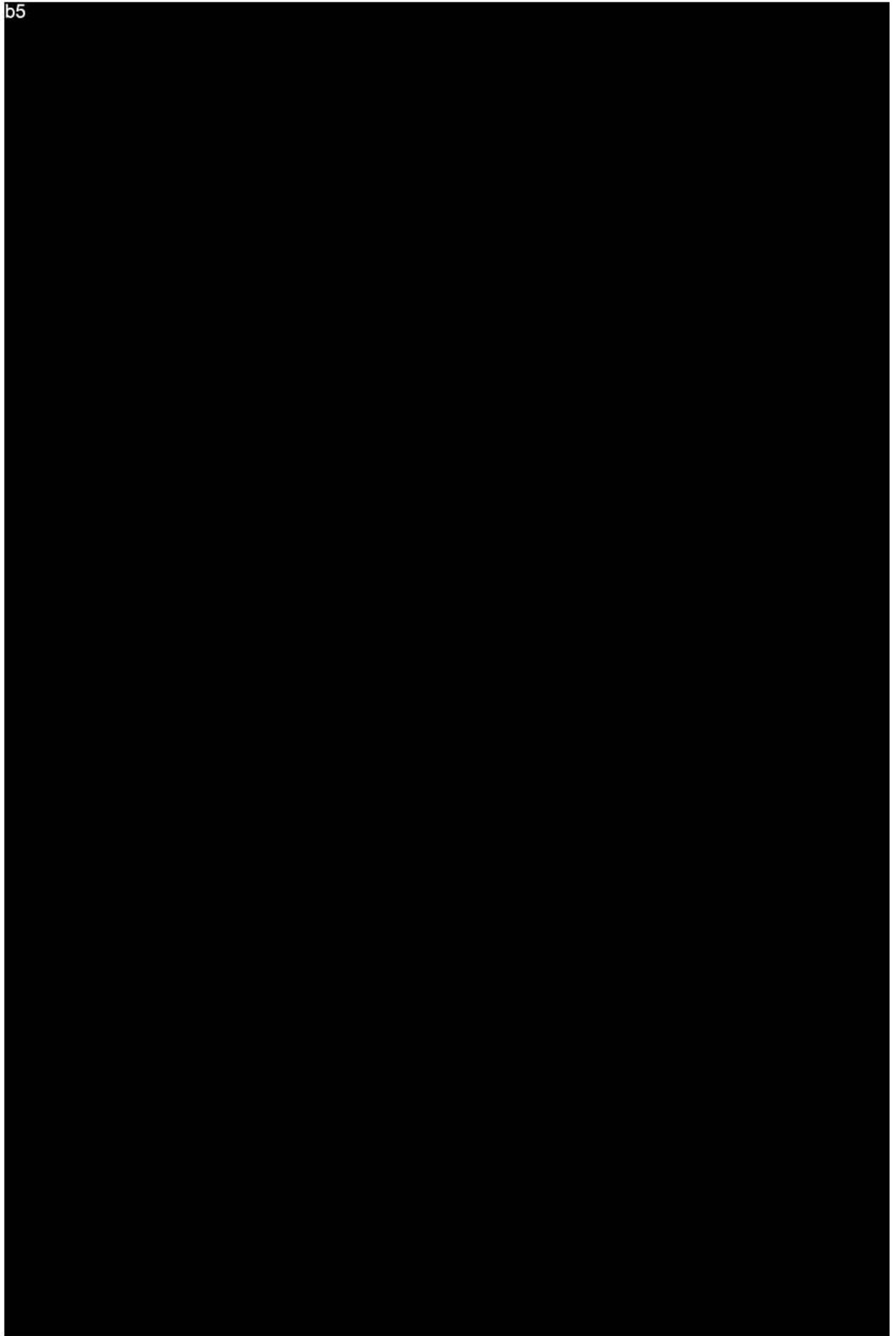
Begin Forwarded Message:

**From:** "Evans, Patrick L. EOP/NSC" b6 >  
**Subject:** RE: [EXTERNAL] RE: Talking points for UAP report  
**Date:** 08 June 2021 17:32  
**To:** "Lal, Bhavya (HQ-AA000)" <[bhavya.lal@nasa.gov](mailto:bhavya.lal@nasa.gov)>

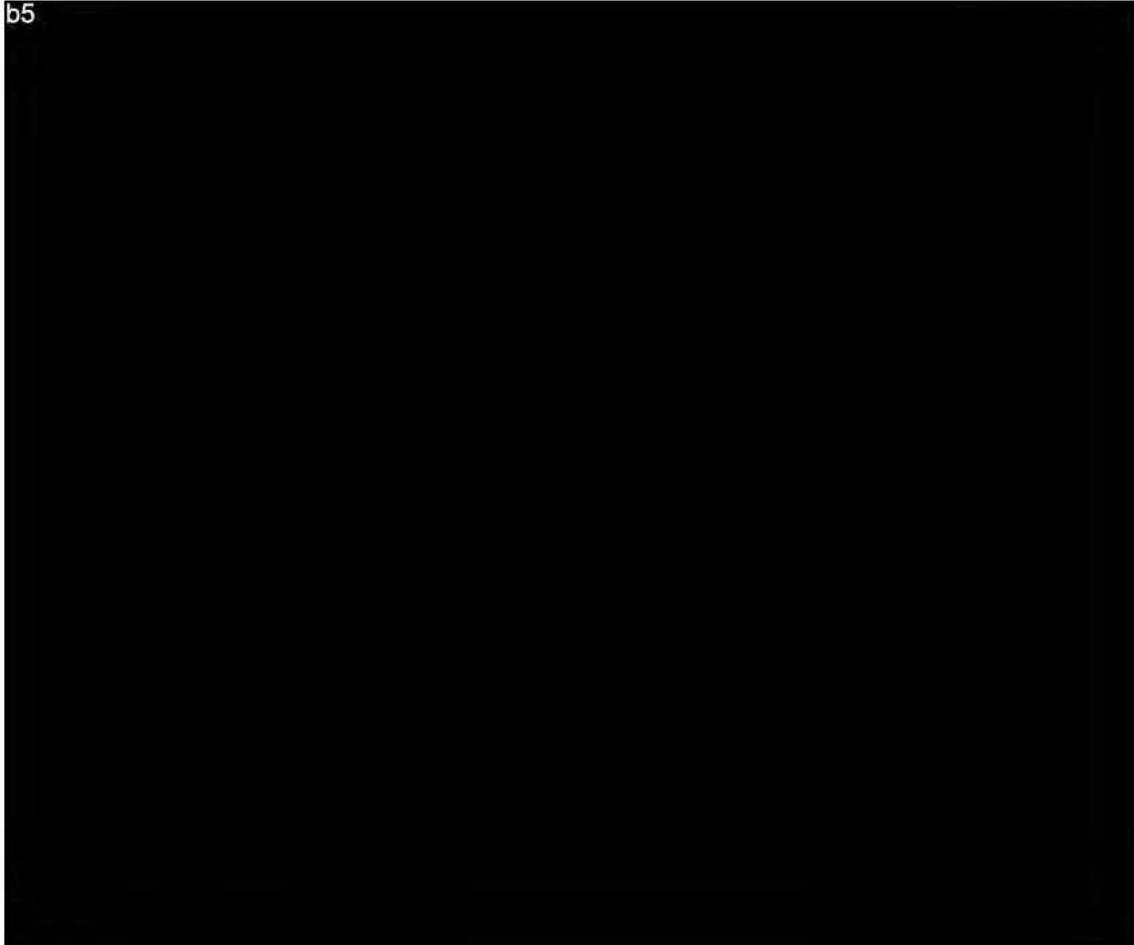
Resending with attachment and text below.

b5





b5



Very Respectfully,

Patrick Evans, APR  
Director for Strategic Communications and Assistant Press Secretary  
National Security Council

E: b6 [redacted]

Office: b6 [redacted]

Mobile: b6 [redacted]

---

**From:** Lal, Bhavya (HQ-AA000) <[bhavya.lal@nasa.gov](mailto:bhavya.lal@nasa.gov)>

**Sent:** Tuesday, June 8, 2021 5:07 PM

**To:** Evans, Patrick L. EOP/NSC b6 [redacted]

**Subject:** Re: [EXTERNAL] RE: Talking points for UAP report

Thanks Patrick. Can't open the first attachment. Can you pls try again?

Bhavya Lal, Ph.D.

b6 [redacted]

---

On: 08 June 2021 17:02, "Evans, Patrick L. EOP/NSC"

b6 [REDACTED] > wrote:

Good afternoon Bhavya –

Attached are two docs:

- 1) NSC Press Guidance for UAPs
- 2) OSD Briefing Card for UAPs

Also Here is the email address for ODNI public affairs: b6 [REDACTED]

b6 [REDACTED] /ODNI has the press and can speak to ODNI's talking points and the eventual rollout.

b6 [REDACTED] – is the lead at OSD Press Operations.

Please let me know if this is what you need. Thanks!

Patrick

Very Respectfully,

Patrick Evans, APR  
Director for Strategic Communications and Assistant Press Secretary  
National Security Council  
E: b6 [REDACTED]  
Office b6 [REDACTED]  
Mobile: b6 [REDACTED]

---

**From:** Schaffer, Audrey M. EOP/NSC <b6 [REDACTED]>  
**Sent:** Tuesday, June 8, 2021 4:37 PM  
**To:** Lal, Bhavya (HQ-AA000) <[bhavya.lal@nasa.gov](mailto:bhavya.lal@nasa.gov)>  
**Cc:** Forrest, Christopher D. EOP/NSC  
b6 [REDACTED]; Evans, Patrick L. EOP/NSC  
b6 [REDACTED]  
**Subject:** RE: [EXTERNAL] RE: Talking points for UAP report

Bhavya,

I'm looping in Patrick Evans from NSC Press. In talking with Chris Forrest, it sounds like Patrick can both send you the current EOP press guidance on UAPs and connect you with PA folks from DOD and DNI PA who would have more detailed guidance that you can pull from.

Audrey

---

**From:** Lal, Bhavya (HQ-AA000) <bhavya.lal@nasa.gov>  
**Sent:** Tuesday, June 8, 2021 2:33 PM  
**To:** Schaffer, Audrey M. EOP/NSC <b6 [REDACTED]>  
**Cc:** Forrest, Christopher D. EOP/NSC  
b6 [REDACTED]  
**Subject:** Re: [EXTERNAL] RE: Talking points for UAP report

Thanks Audrey! Hello Chris - Standing by for any guidance. Our administrator is getting lots of media questions (plus questions from the Hill too) and we'd like to stay coordinated if possible. Thx!  
Bhavya

Bhavya Lal, Ph.D.  
b6 [REDACTED]

---

**On:** 08 June 2021 14:16, "Schaffer, Audrey M. EOP/NSC"  
<b6 [REDACTED]> wrote:

Bhavya

Thanks for the follow-up – great to see you as well!

I'm looping in my colleague Chris Forrest. He is our lead for the UAP report and should be able to share what we have and/or point you to PA colleagues in DOD and DNI to work directly with.

Audrey

---

**From:** Lal, Bhavya (HQ-AA000) <bhavya.lal@nasa.gov>  
**Sent:** Tuesday, June 8, 2021 2:07 PM  
**To:** Schaffer, Audrey M. EOP/NSC  
b6 [REDACTED]  
**Subject:** Talking points for UAP report

Hi Audrey. Great seeing you today. Wanted to coordinate NASA talking points on the UAP report with those of NSC to the extent possible. Any thoughts on that front would be most welcome! Best and come visit us at NASA! Bhavya

Bhavya Lal, Ph.D.  
b6 [REDACTED]

## **Deletion Page**

3 pages originating with or of interest to the Office of the Secretary of Defense (OSD) were referred to that entity for review and direct response to you.

## **Deletion Page**

2 pages containing duplicate information are held in the file. The pages consist of an attachment NASA already processed.

**From:** /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=669BFCF20DF54DF495F8E2337EA4E19C-KIEFFER, MA  
**To:** McKay, Meredith (HQ-TA000); Feldstein, Karen C. (HQ-TA000)  
**Cc:** Flynn, David T. (HQ-TH000); Meidinger, Jolene A. (HQ-TH000); Kirkham, Gib (HQ-TG000)  
**Subject:** RE: SHORT TURN REVIEW -- RE: Upcoming UAP task force report  
**Date:** Tuesday, June 8, 2021 5:56:39 PM

---

Small road bump to the plan. Spoke to Jimmy, and he was contacted but never actually did any analysis/consult **b6**. So we are down to a convo(s) several years ago w/ Shireman, no ARMD consult, no SMD ask. We will reach out to Dr. Denny tomorrow and gauge his role, but seems that the NASA touch was even smaller than previously thought.

Spoke to Etkind briefly, and separately at more length, to Bob.

---

**From:** McKay, Meredith (HQ-TA000) <meredith.mckay@nasa.gov>  
**Sent:** Tuesday, June 8, 2021 4:06 PM  
**To:** Kieffer, Margaret (HQ-TH000) <margaret.kieffer@nasa.gov>; Feldstein, Karen C. (HQ-TA000) <karen.c.feldstein@nasa.gov>  
**Cc:** Flynn, David T. (HQ-TH000) <david.flynn@nasa.gov>; Meidinger, Jolene A. (HQ-TH000) <jolene.meidinger@nasa.gov>; Kirkham, Gib (HQ-TG000) <gib.kirkham@nasa.gov>  
**Subject:** RE: SHORT TURN REVIEW -- RE: Upcoming UAP task force report

Support your recommendation—suggest we grab Karen on this tomorrow in the office?

---

**From:** Kieffer, Margaret (HQ-TH000) <margaret.kieffer@nasa.gov>  
**Sent:** Tuesday, June 8, 2021 3:53 PM  
**To:** Feldstein, Karen C. (HQ-TA000) <karen.c.feldstein@nasa.gov>; McKay, Meredith (HQ-TA000) <meredith.mckay@nasa.gov>  
**Cc:** Flynn, David T. (HQ-TH000) <david.flynn@nasa.gov>; Meidinger, Jolene A. (HQ-TH000) <jolene.meidinger@nasa.gov>; Kirkham, Gib (HQ-TG000) <gib.kirkham@nasa.gov>  
**Subject:** SHORT TURN REVIEW -- RE: Upcoming UAP task force report

Karen:

The final iteration of the classified UAP Task Force report was circulated to the interagency by ODNI for one last, short-turn review, responses due Thurs, June 10. As before, there is no NASA-specific content. We are simply listed in a few places, along with other departments/agencies, as having provided “outside subject matter expertise.”

The NASA individuals that provided this ad hoc SME consulting support were: former JSC/Kirk Shiremen, ARMD/Jimmy Kenyon, and GRC/Dhanireddy Reddy (Dpty Chief, Propulsion Div). No one from SMD was consulted, apparently.

ODNI is seeking an SES/Flag-level review/concurrence, or a no comment due to no equities.

Given the lack of specific NASA content, I would recommend we concur w/o comment and seek ARMD AA final review as the most current/relevant SME. But defer to your, BL and/or TZ views.

M

---

**From:** Kieffer, Margaret (HQ-TH000)  
**Sent:** Tuesday, June 8, 2021 9:11 AM  
**To:** Etkind, Marc R. (HQ-NA000) <[marc.r.etkind@nasa.gov](mailto:marc.r.etkind@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; Kirkham, Gib (HQ-TG000) <[gib.kirkham@nasa.gov](mailto:gib.kirkham@nasa.gov)>; Fox, Karen C. (GSFC-1300) <[karen.c.fox@nasa.gov](mailto:karen.c.fox@nasa.gov)>  
**Cc:** McKay, Meredith (HQ-TA000) <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Subject:** RE: Upcoming UAP/UFO interagency document?

Copy. Note the current iteration of the report is highly classified, have not seen the unclass version yet, which may influence what ODNI feels is appropriate to say officially at this juncture (despite the informal chatter). We will ask ODNI about timing of the public report.

---

**From:** Etkind, Marc R. (HQ-NA000) <[marc.r.etkind@nasa.gov](mailto:marc.r.etkind@nasa.gov)>  
**Sent:** Tuesday, June 8, 2021 8:03 AM  
**To:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; Kirkham, Gib (HQ-TG000) <[gib.kirkham@nasa.gov](mailto:gib.kirkham@nasa.gov)>; Fox, Karen C. (GSFC-1300) <[karen.c.fox@nasa.gov](mailto:karen.c.fox@nasa.gov)>  
**Cc:** McKay, Meredith (HQ-TA000) <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Subject:** Re: Upcoming UAP/UFO interagency document?

Thanks Margaret. We do have a few weeks before the report is released, but the questions are already coming fast and furious so would be great to get our statement together this week. Much appreciated.

---

**From:** "Kieffer, Margaret (HQ-TH000)" <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Date:** Monday, June 7, 2021 at 2:48 PM  
**To:** "Feldstein, Karen C. (HQ-TA000)" <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>, "Kirkham, Gib (HQ-TG000)" <[gib.kirkham@nasa.gov](mailto:gib.kirkham@nasa.gov)>, "Fox, Karen C. (GSFC-1300)" <[karen.c.fox@nasa.gov](mailto:karen.c.fox@nasa.gov)>  
**Cc:** "Etkind, Marc R. (HQ-NA000)" <[marc.r.etkind@nasa.gov](mailto:marc.r.etkind@nasa.gov)>, "McKay, Meredith (HQ-TA000)" <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>, "Meidinger, Jolene A. (HQ-TH000)" <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Subject:** RE: Upcoming UAP/UFO interagency document?

Karen:

We have some time before the report is released, but very much agree a TP or two for public use is warranted. FYSA, we have let ODNI know we will be coordinating a short statement with them. Folks seem to be interested in a NASA nexus, despite the fact that our role on this matter was minuscule.

Jolene Meidinger will reach out to you shortly to coordinate.

M

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Margaret Kieffer  
Director, Export Control and Interagency Liaison Division  
Office of International and Interagency Relations  
NASA Headquarters  
Room 5X53  
Office phone (202)358-1905  
Secure: b6  
[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)  
SIPR: b6  
JWICS: b6

---

**From:** Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Sent:** Monday, June 7, 2021 2:42 PM  
**To:** Kirkham, Gib (HQ-TG000) <[gib.kirkham@nasa.gov](mailto:gib.kirkham@nasa.gov)>; Fox, Karen C. (GSFC-1300) <[karen.c.fox@nasa.gov](mailto:karen.c.fox@nasa.gov)>  
**Cc:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; Etkind, Marc R. (HQ-NA000) <[marc.r.etkind@nasa.gov](mailto:marc.r.etkind@nasa.gov)>; McKay, Meredith (HQ-TA000) <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>  
**Subject:** Re: Upcoming UAP/UFO interagency document?

Thanks, Gib! Hi Karen, I was also going to connect you with Margaret, Director of OIIR's Export Control and Interagency Liaison Division. I appreciate that the Administrator made some comments on this topic and it was a subject of discussion at our senior tag this a.m. Margaret can help advise on preparing for the report's release.

Best,  
Karen

---

**From:** Gib Kirkham <[gib.kirkham@nasa.gov](mailto:gib.kirkham@nasa.gov)>  
**Date:** Monday, June 7, 2021 at 1:53 PM  
**To:** "Fox, Karen C. (GSFC-1300)" <[karen.c.fox@nasa.gov](mailto:karen.c.fox@nasa.gov)>, Karen Feldstein <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Cc:** Margaret Kieffer <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>

**Subject:** RE: Upcoming UAP/UFO interagency document?

Hi Karen,

Copying Margaret Kieffer, who's responsible for interagency collaboration in OIIR.

---

**From:** Fox, Karen C. (GSFC-1300) <[karen.c.fox@nasa.gov](mailto:karen.c.fox@nasa.gov)>  
**Sent:** Monday, June 7, 2021 1:09 PM  
**To:** Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Cc:** Kirkham, Gib (HQ-TG000) <[gib.kirkham@nasa.gov](mailto:gib.kirkham@nasa.gov)>  
**Subject:** Upcoming UAP/UFO interagency document?

Cheers, Karen –

Thomas Zurbuchen let me know that as OIIR helps organize interagency collaboration, and that you might be the best person to ask about the upcoming Unidentified Aerial Phenomena document that is supposed to be released later this month.

Understood that it is confidential and that you can share no details about it. . . But I'm trying to be prepared for when it is released. If you are able to share any information about whether NASA participated and – even better -- in what capacity (provided technical expertise? Discussed science research? Policy conversations?) that could help me be prepared for the day of the release.

Anything you are legally allowed to tell me would be very helpful! (We also have several people with top security clearance within the comms office, and so another alternative would be to have them take a look at the document. . . )

The administrator has been actively discussing UFOs with the media, as you are probably aware, and so I'd like to be able to react as quickly as possible to share information on the day of the release about how we participated and who helped provide information.

Thanks so much!  
--Karen

--

Karen C. Fox  
Senior Science Communications Officer  
Office of Communications  
NASA Headquarters  
[karen.fox@nasa.gov](mailto:karen.fox@nasa.gov)

**From:** [Etkind, Marc R. \(HQ-NA000\)](#)  
**To:** [Brown, Alicia N. \(HQ-VA000\)](#); [Lal, Bhavya \(HQ-AA000\)](#); [Dalton, Bale \(HQ-AH000\)](#); [Quinn, Susie Perez \(HQ-AH000\)](#); [McGuinness, Jackie \(HQ-NA000\)](#)  
**Subject:** Re: Talking points for UAP report  
**Date:** Wednesday, June 9, 2021 1:07:42 PM

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All good guidance and appreciated!

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On: 09 June 2021 12:00, "Brown, Alicia N. (HQ-VA000)" <[alicia.n.brown@nasa.gov](mailto:alicia.n.brown@nasa.gov)> wrote:

And the search for life was added to NASA's charter in the 2017 auth bill, that Nelson helped author.

---

**From:** Lal, Bhavya (HQ-AA000) <[bhavya.lal@nasa.gov](mailto:bhavya.lal@nasa.gov)>  
**Sent:** Wednesday, June 9, 2021 11:55 AM  
**To:** Dalton, Bale (HQ-AH000) <[bale.dalton@nasa.gov](mailto:bale.dalton@nasa.gov)>; Etkind, Marc R. (HQ-NA000) <[marc.r.etkind@nasa.gov](mailto:marc.r.etkind@nasa.gov)>; Brown, Alicia N. (HQ-VA000) <[alicia.n.brown@nasa.gov](mailto:alicia.n.brown@nasa.gov)>; Quinn, Susie Perez (HQ-AH000) <[susie.p.quinn@nasa.gov](mailto:susie.p.quinn@nasa.gov)>; McGuinness, Jackie (HQ-NA000) <[jackie.mcguinness@nasa.gov](mailto:jackie.mcguinness@nasa.gov)>  
**Subject:** RE: Talking points for UAP report

Agree 100%. We don't have to repeat what they are saying (b5 [REDACTED] b5 [REDACTED]). NASA's charter is to discover life in the universe, and we are working hard to do that. b5 [REDACTED] ean b5 [REDACTED]

B

---

**From:** Dalton, Bale (HQ-AH000) <[bale.dalton@nasa.gov](mailto:bale.dalton@nasa.gov)>  
**Sent:** Wednesday, June 9, 2021 11:52 AM  
**To:** Lal, Bhavya (HQ-AA000) <[bhavya.lal@nasa.gov](mailto:bhavya.lal@nasa.gov)>; Etkind, Marc R. (HQ-NA000) <[marc.r.etkind@nasa.gov](mailto:marc.r.etkind@nasa.gov)>; Brown, Alicia N. (HQ-VA000) <[alicia.n.brown@nasa.gov](mailto:alicia.n.brown@nasa.gov)>; Quinn, Susie Perez (HQ-AH000) <[susie.p.quinn@nasa.gov](mailto:susie.p.quinn@nasa.gov)>; McGuinness, Jackie (HQ-NA000) <[jackie.mcguinness@nasa.gov](mailto:jackie.mcguinness@nasa.gov)>  
**Subject:** RE: Talking points for UAP report

Marc, Team,

On initial read I find the guidance Bhavya was able to retrieve to be (b5 [REDACTED] b5 [REDACTED] that I think (b5 [REDACTED] b5 [REDACTED])  
"we are a scientific discovery agency and we will continue to fulfill all parts of our charter. Bottom line, we want to know!"

My two cents.

Thanks,

RBD

---

**From:** Lal, Bhavya (HQ-AA000) <[bhavya.lal@nasa.gov](mailto:bhavya.lal@nasa.gov)>  
**Sent:** Tuesday, June 8, 2021 5:09 PM  
**To:** Etkind, Marc R. (HQ-NA000) <[marc.r.etkind@nasa.gov](mailto:marc.r.etkind@nasa.gov)>; Brown, Alicia N. (HQ-VA000) <[alicia.n.brown@nasa.gov](mailto:alicia.n.brown@nasa.gov)>; Quinn, Susie Perez (HQ-AH000) <[susie.p.quinn@nasa.gov](mailto:susie.p.quinn@nasa.gov)>; Dalton, Bale (HQ-AH000) <[bale.dalton@nasa.gov](mailto:bale.dalton@nasa.gov)>; McGuinness, Jackie (HQ-NA000) <[jackie.mcguinness@nasa.gov](mailto:jackie.mcguinness@nasa.gov)>  
**Subject:** Talking points for UAP report

See attached.

Marc - you know Patrick. Right? Feel free to follow up.

I'll read the final clearance draft first thing tomorrow.

Bhavya Lal, Ph.D.

b6  
[REDACTED]

---

Begin Forwarded Message:

**From:** "Evans, Patrick L. EOP/NSC"  
b6 [REDACTED] >  
**Subject:** RE: [EXTERNAL] RE: Talking points for UAP report  
**Date:** 08 June 2021 17:02  
**To:** "Schaffer, Audrey M. EOP/NSC"  
b6 [REDACTED], "Lal, Bhavya (HQ-AA000)"  
<[bhavya.lal@nasa.gov](mailto:bhavya.lal@nasa.gov)>  
**Cc:** "Forrest, Christopher D. EOP/NSC"  
b6 [REDACTED] >

Duplicate emails already processed



## Deletion Page

2 pages containing duplicate information is held in the file. The pages consist of emails NASA already processed.

**From:** Lal, Bhavya (HQ-AA000)  
**To:** Quinn, Susie Perez (HQ-AH000); Brown, Alicia N. (HQ-VA000); Dalton, Bale (HQ-AH000); Etkind, Marc R. (HQ-NA000); McGuinness, Jackie (HQ-NA000)  
**Subject:** RE: Talking points for UAP report  
**Date:** Wednesday, June 9, 2021 3:11:55 PM

---

Ya'll need to watch the movie Europa Report (2018 I think) this weekend. It's free on the interwebs:  
<https://www.youtube.com/watch?v=MLBxd2xxnZ4>

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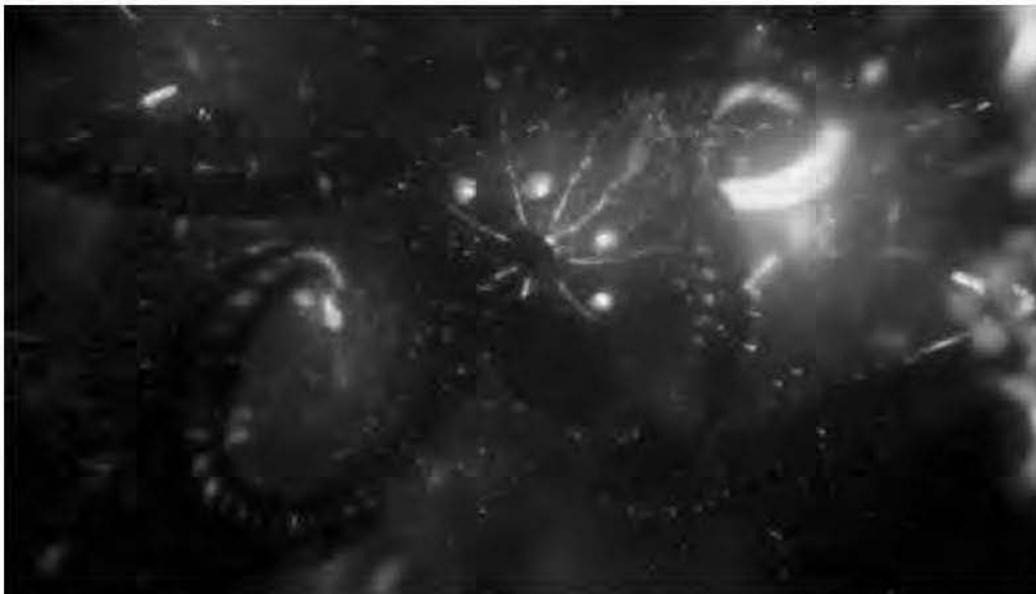
**From:** Quinn, Susie Perez (HQ-AH000) <susie.p.quinn@nasa.gov>  
**Sent:** Wednesday, June 9, 2021 1:51 PM  
**To:** Lal, Bhavya (HQ-AA000) <bhavya.lal@nasa.gov>; Brown, Alicia N. (HQ-VA000) <alicia.n.brown@nasa.gov>; Dalton, Bale (HQ-AH000) <bale.dalton@nasa.gov>; Etkind, Marc R. (HQ-NA000) <marc.r.etkind@nasa.gov>; McGuinness, Jackie (HQ-NA000) <jackie.mcguinness@nasa.gov>  
**Subject:** RE: Talking points for UAP report

WOW

---

**From:** Lal, Bhavya (HQ-AA000) <bhavya.lal@nasa.gov>  
**Sent:** Wednesday, June 9, 2021 1:09 PM  
**To:** Brown, Alicia N. (HQ-VA000) <alicia.n.brown@nasa.gov>; Dalton, Bale (HQ-AH000) <bale.dalton@nasa.gov>; Etkind, Marc R. (HQ-NA000) <marc.r.etkind@nasa.gov>; Quinn, Susie Perez (HQ-AH000) <susie.p.quinn@nasa.gov>; McGuinness, Jackie (HQ-NA000) <jackie.mcguinness@nasa.gov>  
**Subject:** RE: Talking points for UAP report

Mark my words. This is what Europa's oceans would look like when we get there with our submarine:



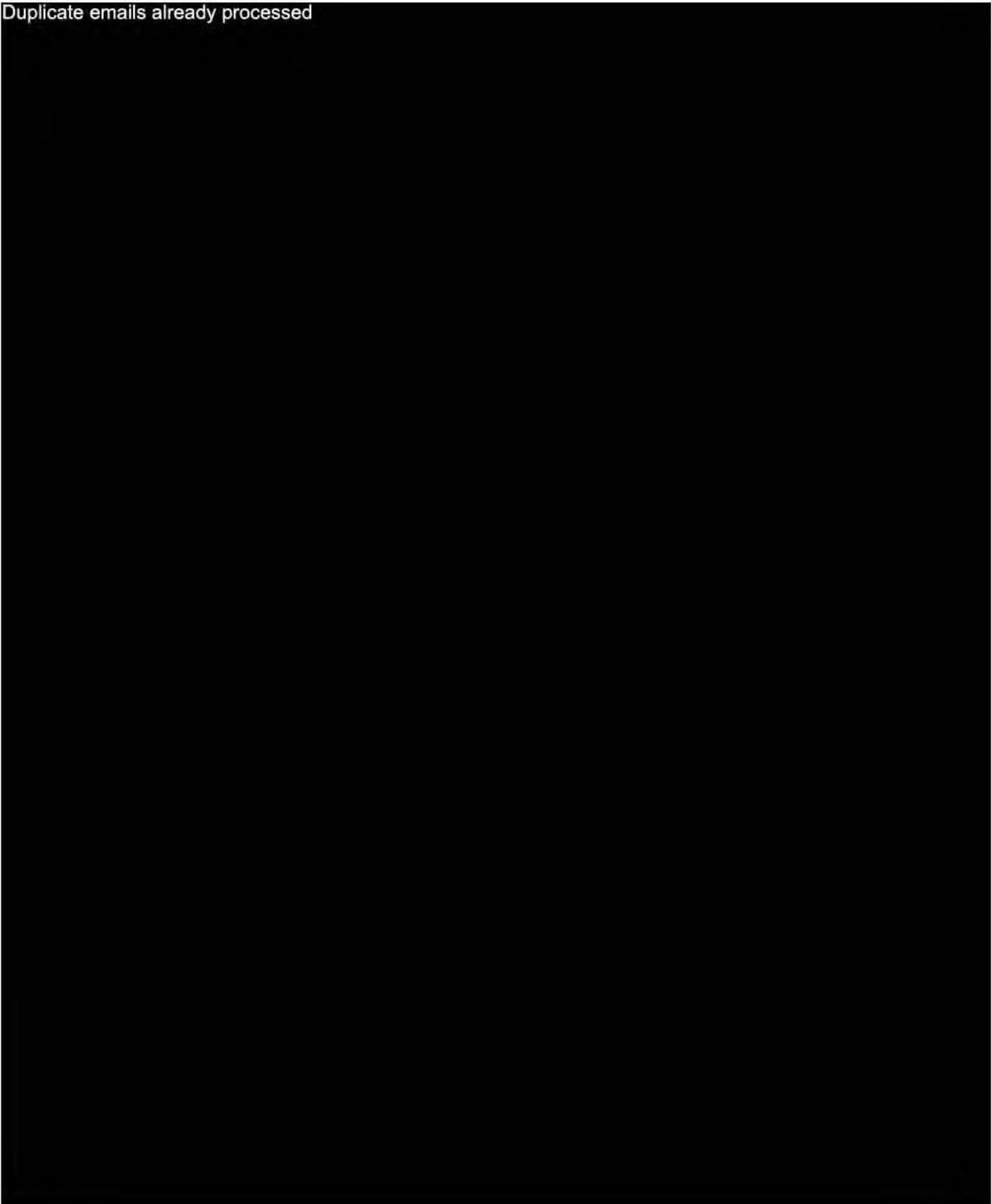
---

**From:** Brown, Alicia N. (HQ-VA000) <alicia.n.brown@nasa.gov>  
**Sent:** Wednesday, June 9, 2021 12:01 PM

**To:** Lal, Bhavya (HQ-AA000) <[bhavya.lal@nasa.gov](mailto:bhavya.lal@nasa.gov)>; Dalton, Bale (HQ-AH000) <[bale.dalton@nasa.gov](mailto:bale.dalton@nasa.gov)>; Etkind, Marc R. (HQ-NA000) <[marc.r.etkind@nasa.gov](mailto:marc.r.etkind@nasa.gov)>; Quinn, Susie Perez (HQ-AH000) <[susie.p.quinn@nasa.gov](mailto:susie.p.quinn@nasa.gov)>; McGuinness, Jackie (HQ-NA000) <[jackie.mcguinness@nasa.gov](mailto:jackie.mcguinness@nasa.gov)>

**Subject:** RE: Talking points for UAP report

Duplicate emails already processed



## **Deletion Page**

2 pages containing duplicate information are held in the file. The pages consist of emails NASA already processed.

**From:** [Bhavya Lal](#)  
**To:** [Lal, Bhavya \(HQ-IA000\)](#); [Lal, Bhavya \(HQ-AA000\)](#)  
**Subject:** [EXTERNAL] Fwd: National Academy study  
**Date:** Wednesday, June 9, 2021 4:16:08 PM

---

----- Forwarded message -----

**From:** Turner, Ron [b6 \[REDACTED\]](#) >  
**Date:** Wed, Jun 9, 2021 at 3:09 PM  
**Subject:** National Academy study  
**To:** [b6 \[REDACTED\].com](#) <[b6 \[REDACTED\].com](#)>

Bhavya, I trust things are going well with you.

I'm in a JANNAF workshop right now talking about how the represented agencies should approach research into advanced/breakthrough propulsion. A side discussion that came up referred to possible fallout/actions that may come up and get directed at Air Force and or NASA after the UAP/UFO report is released.

One possibility (that could involve NIAC) would be to start a review of whether these UAP could be providing hints of breakthrough propulsion. It was suggested that this could be a topic for a National Academy study. If you think there could be merit in that, I would be happy to help formulate a work statement that maintained a healthy dose of skepticism while hearing from the more eager advocates.

Hope to see you some time!

Ron T.

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Business Sensitive Communication: The contents of this communication and any attachments hereto are intended solely for the addressee(s) and may contain ANSER proprietary and/or business sensitive information. It is strictly forbidden to use, copy, or share any part of this communication or the attachments other than for the intended business purpose or with the express consent of the sender. If you have received this communication in error, please notify the sender and delete all copies of this communication and any attachments.

**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [Meidinger, Jolene A. \(HQ-TH000\)](#)  
**Date:** Thursday, June 10, 2021 4:17:23 PM

---

copy, thank you! Closed out UAPTF...ended up removing 2 of the 4 NASA references.

## Daily Report for Friday, June 18 to Monday, June 21

---

**From:** Margetta, Robert J. (HQ-NA020) <robert.j.margetta@nasa.gov>  
**To:** HQ-DL-OCOMM-Daily <hq-dl-ocomm-daily@mail.nasa.gov>, code-p@lists.hq.nasa.gov, nasa@bulletinintelligence.com  
**Sent:** June 18, 2021 7:53:32 AM EDT  
**Received:** June 18, 2021 7:53:50 AM EDT  
**Attachments:** DAILY REPORT 06-18-2021.docx

Good morning.

Attached and below is the Communications Daily Report for products and activities Friday through Monday.

Thank you,

Rob Margetta

NASA Communications Daily Report

Friday, June 18 – Monday, June 21

FRIDAY, June 18

Activities

·Astronaut Drew Feustel for Rosedale School/Calgary Board of Education.

·Astronaut Victor Glover for Amazon Global Air.

·Anniversary: LRO/LCROSS launch

Social Media Activity

Humans in Space

·A new episode of the Houston We Have a Podcast episode entitled "200 Episodes" will be amplified on flagship social media.

Solar System and Beyond

·A new episode of the Gravity Assist Podcast entitled "Climate Change" with Gavin Schmidt will be amplified on flagship social media accounts

·A Tumblr post showcasing the new Sun Science stamps released by the United States Postal Service will be amplified by flagship accounts. Additionally, a story will be shared on the @NASA Instagram account, and an Instagram engagement will occur between NASA and the USPS accounts.

NASA tv

·11 am – SpaceCast Weekly – Johnson Space Center (All Channels)

## HQ Products

### Podcast

·10 am – Gravity Assist Podcast - Climate with Gavin Schmidt.

## Center Products

### Podcast

·Houston We Have a Podcast “Liftoff Live” episode 200 / Johnson

## Image/Video

·10 am – Image feature- Summer Solstice in the Northern Hemisphere / Goddard

oJune 20 marks the summer solstice in the Northern Hemisphere. A solstice is the point in Earth’s orbit where one half of the planet is receiving the most daylight and the other the least.

·10 am – Hubble Friday image and caption / Goddard

## Blog Post

·Artemis I LVSA Foaming and Integration / Kennedy

oBlog post on Artemis I Launch Vehicle Stage Adapter (LVSA) will be mated atop the core stage upon completion of thermal protection system (TPS) foaming.

## Web Articles

·Sun Science Stamps Highlight a Decade of Sun-Watching from Space / Goddard

·10 am – 2021 RASC-AL Forum Winning Teams Announced / Langley

## Saturday, June 19

### Activities

·Anniversary: Viking 1 Mars Orbit Insertion

### Social Media Activity

### Agency

·In celebration of Juneteenth an image feature will be shared on nasa.gov with original posts on flagship social media accounts.

## SUNDAY, June 20

### Activities

·8 am – U.S. EVA 75 (Kimbrough and Pesquet) IROSA

oU.S. EVA 75 (Kimbrough and Pesquet) to install 4B channel IROSA solar panels, EVA start 8 a.m., live on NASA TV.

·Ingenuity Flight 8

oIf the flight takes place, data will be down to Earth Monday evening.

·Anniversary: OSTM/JASON 2 Launch (2008)

#### Social Media Activity

#### Humans in Space

·Live coverage of Expedition 65 spacewalk with NASA astronaut Shane Kimbrough and ESA astronaut Thomas Pesquet beginning at 6:30 am EDT on NASA TV, the NASA App, the agency website, and flagship social media channels.

#### Solar System and Beyond

·To highlight the beginning of Summer Solstice flagship accounts will share original posts.

#### MONDAY, June 21

#### Activities

·10:50 am – Megan McArthur w/ Bloomberg New Catalyst.

oISS Downlink: Megan McArthur and Mark Vande Hei with Bloomberg New Catalyst economic forum and deferred release July 4 message.

· [TENTATIVE]White Sands' Julio Padilla with HBO docuseries "How To with John Wilson."

oJulio Padilla with HBO docuseries "How To with John Wilson," filming at White Sands Test Facility lab about tastes and smells and his work on the Materials and Components team testing for odors inside a spacecraft, and why it's vital that astronauts aren't exposed to malodors or toxic odors in space.

·Space.com interview with Webb's Lee Feinberg.

oPhone Media Interview: Chelsea Hohd, a reporter with Space.com, interviews Lee Feinberg, Webb's optical telescope element.

·Interview: Science Channel with Ravi Kumar Kopparapu (moved from June 15).

oScience Channel interview with Ravi Kumar Kopparapu, Research AST, Planetary Studies about biosignatures (based on the upcoming report on UFO/UAPS).

·Astronaut Jessica Meir for Raising A Reader Massachusetts, Boston.

#### Social Media Activity

## Moon to Mars

·Flagship social media accounts will engage with and amplify posts published by LEGO in support of the LEGO Education Artemis I lessons announcement.

## HQ Products

### Release

·Mechanical Integration Services and Technologies (MIST) II.

## Web Article

·3 pm – OSTEM MUREP OCEAN Award Announcement

oSTEM awards institutions through MUREP's Ocean Biology and Biogeochemistry (OCEAN) solicitation to Minority Serving Institutions (MSIs).

## Center Products

### Blog Post

·2 pm – Boeing CFT Atlas V Rocket Arrives at KSC / Kennedy

oBlog post highlighting the arrival of the Atlas V rocket at the Florida spaceport.

## Web Articles

·NASA Releases DRAFT RFP for xEVA spacesuits and services / Johnson

oNASA recently shifted its strategy for xEVA Artemis spacesuits to an industry-centered approach. One or more commercial partners, in collaboration with NASA, will design, develop, build, assemble, test, and maintain a fleet of flight and training xEVA equipment.

·10 am – Looking to the Clouds to Improve Climate Models / Armstrong

oA web feature about the Nephelometer Experiment, or NephEx, scheduled to launch aboard a high-altitude balloon (A nephelometer measures aerosol concentrations through photometry).

·11:30 am – Sentinel-6 Michael Freilich First Data / JPL

oThe first low-resolution data products are in on Sentinel-6 Michael Freilich since its November 2020 launch.

·2 pm – Prototype Venus Balloon Detects Quake on Earth / JPL

oIn a new study, a team developing a balloon prototype that would float above Venus, safe from its scorching temperatures and crushing atmosphere, document how they were able to use a seismometer aboard the balloon to detect 4.2 magnitude temblor 16,000 feet below in Richmond, California.

## Attachment

### 1. DAILY REPORT 06-18-2021.docx

Type: application/vnd.openxmlformats-officedocument.wordprocessingml.document  
Size: 43 KB (44,485 bytes)

**Attachment #1**

**DAILY REPORT 06-18-2021.docx**

**Original view**

4 pages (displayed on pages 7 to 10)

# NASA Communications Daily Report

Friday, June 18 – Monday, June 21

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## **FRIDAY, JUNE 18**

### **ACTIVITIES**

- Astronaut Drew Feustel for Rosedale School/Calgary Board of Education.
- Astronaut Victor Glover for Amazon Global Air.
- Anniversary: LRO/LCROSS launch

### **SOCIAL MEDIA ACTIVITY**

#### **Humans in Space**

- A new episode of the Houston We Have a Podcast episode entitled “200 Episodes” will be amplified on flagship social media.

#### **Solar System and Beyond**

- A new episode of the Gravity Assist Podcast entitled “Climate Change” with Gavin Schmidt will be amplified on flagship social media accounts
- A Tumblr post showcasing the new Sun Science stamps released by the United States Postal Service will be amplified by flagship accounts. Additionally, a story will be shared on the @NASA Instagram account, and an Instagram engagement will occur between NASA and the USPS accounts.

### **NASA TV**

- 11 am – SpaceCast Weekly – Johnson Space Center (All Channels)

### **HQ PRODUCTS**

#### **Podcast**

- 10 am – Gravity Assist Podcast - Climate with Gavin Schmidt.

### **CENTER PRODUCTS**

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- 10 am – Image feature- Summer Solstice in the Northern Hemisphere / Goddard
  - June 20 marks the summer solstice in the Northern Hemisphere. A solstice is the point in Earth’s orbit where one half of the planet is receiving the most daylight and the other the least.
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  - ISS Downlink: Megan McArthur and Mark Vande Hei with Bloomberg New Catalyst economic forum and deferred release July 4 message.
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  - Julio Padilla with HBO docuseries "How To with John Wilson," filming at White Sands Test Facility lab about tastes and smells and his work on the Materials

and Components team testing for odors inside a spacecraft, and why it's vital that astronauts aren't exposed to malodors or toxic odors in space.

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  - Phone Media Interview: Chelsea Hohd, a reporter with Space.com, interviews Lee Feinberg, Webb's optical telescope element.
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  - Science Channel interview with Ravi Kumar Kopparapu, Research AST, Planetary Studies about biosignatures (based on the upcoming report on UFO/UAPS).
- Astronaut Jessica Meir for Raising A Reader Massachusetts, Boston.

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### **Moon to Mars**

- Flagship social media accounts will engage with and amplify posts published by LEGO in support of the LEGO Education Artemis I lessons announcement.

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### **Release**

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- 3 pm – OSTEM MUREP OCEAN Award Announcement
  - OSTEM awards institutions through MUREP's Ocean Biology and Biogeochemistry (OCEAN) solicitation to Minority Serving Institutions (MSIs).

## **CENTER PRODUCTS**

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  - Blog post highlighting the arrival of the Atlas V rocket at the Florida spaceport.

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- In a new study, a team developing a balloon prototype that would float above Venus, safe from its scorching temperatures and crushing atmosphere, document how they were able to use a seismometer aboard the balloon to detect 4.2 magnitude temblor 16,000 feet below in Richmond, California.

**From:** [Meidinger, Jolene A. \(HQ-TH000\)](#)  
**To:** [Kieffer, Margaret \(HQ-TH000\)](#); [Brown, Alicia N. \(HQ-VA000\)](#); [Irving, Richard R. \(HQ-VA030\)](#); [Flaherty, Christopher J. \(HQ-VA030\)](#); [Drew, Benjamin A. \(HQ-TH000\)](#)  
**Cc:** [Grove, Jennifer \(HQ-VA030\)](#)  
**Subject:** RE: [EXTERNAL] Fwd: Congressional UAP Update  
**Date:** Monday, June 21, 2021 3:32:54 PM

---

Good afternoon – I would recommend reaching out to **b6** I spoke to her this afternoon and she is happy to assist.

Best/Jolene

**Jolene A. Meidinger**

Interagency Liaison  
Office of International and Interagency Relations  
NASA Headquarters (5Y41)  
Office: 202-358-3880  
Cell: **b6**  
[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)  
SIPR: **b6**  
JWICS: **b6**

---

**From:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Sent:** Monday, June 21, 2021 10:10 AM  
**To:** Brown, Alicia N. (HQ-VA000) <[alicia.n.brown@nasa.gov](mailto:alicia.n.brown@nasa.gov)>; Irving, Richard R. (HQ-VA030) <[richard.r.irving@nasa.gov](mailto:richard.r.irving@nasa.gov)>; Flaherty, Christopher J. (HQ-VA030) <[christopher.j.flaherty@nasa.gov](mailto:christopher.j.flaherty@nasa.gov)>; Drew, Benjamin A. (HQ-TH000) <[b.a.drew@nasa.gov](mailto:b.a.drew@nasa.gov)>  
**Cc:** Grove, Jennifer (HQ-VA030) <[jennifer.grove@nasa.gov](mailto:jennifer.grove@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Subject:** RE: [EXTERNAL] Fwd: Congressional UAP Update

Ah, copy. Added Jolene in the event she has a better POC given ODNI ran the pre-OMB report vetting.

---

**From:** Brown, Alicia N. (HQ-VA000) <[alicia.n.brown@nasa.gov](mailto:alicia.n.brown@nasa.gov)>  
**Sent:** Monday, June 21, 2021 10:06 AM  
**To:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; Irving, Richard R. (HQ-VA030) <[richard.r.irving@nasa.gov](mailto:richard.r.irving@nasa.gov)>; Flaherty, Christopher J. (HQ-VA030) <[christopher.j.flaherty@nasa.gov](mailto:christopher.j.flaherty@nasa.gov)>; Drew, Benjamin A. (HQ-TH000) <[b.a.drew@nasa.gov](mailto:b.a.drew@nasa.gov)>  
**Cc:** Grove, Jennifer (HQ-VA030) <[jennifer.grove@nasa.gov](mailto:jennifer.grove@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Subject:** RE: [EXTERNAL] Fwd: Congressional UAP Update

House science understands we didn't have a role. They just want us to get them a briefing bc otherwise **(b) (5)** Thanks for the POC!

---

**From:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Sent:** Monday, June 21, 2021 10:05 AM  
**To:** Irving, Richard R. (HQ-VA030) <[richard.r.irving@nasa.gov](mailto:richard.r.irving@nasa.gov)>; Flaherty, Christopher J. (HQ-VA030) <[christopher.j.flaherty@nasa.gov](mailto:christopher.j.flaherty@nasa.gov)>; Drew, Benjamin A. (HQ-TH000) <[b.a.drew@nasa.gov](mailto:b.a.drew@nasa.gov)>  
**Cc:** Brown, Alicia N. (HQ-VA000) <[alicia.n.brown@nasa.gov](mailto:alicia.n.brown@nasa.gov)>; Grove, Jennifer (HQ-VA030) <[jennifer.grove@nasa.gov](mailto:jennifer.grove@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Subject:** RE: [EXTERNAL] Fwd: Congressional UAP Update

Goodness, our role in this assessment was almost non-existent. Suggest we defer/refer to Mr. Jay Stratton from ONI, if possible. Separate from the POCs at the bottom of the trail, below is the POC who arranged last year's (NASA requested) brief by Jay Stratton on UAP report process.

DOD POC: LCDR b6

M

---

**From:** Irving, Richard R. (HQ-VA030) <[richard.r.irving@nasa.gov](mailto:richard.r.irving@nasa.gov)>  
**Sent:** Monday, June 21, 2021 9:20 AM  
**To:** Flaherty, Christopher J. (HQ-VA030) <[christopher.j.flaherty@nasa.gov](mailto:christopher.j.flaherty@nasa.gov)>; Drew, Benjamin A. (HQ-TH000) <[b.a.drew@nasa.gov](mailto:b.a.drew@nasa.gov)>  
**Cc:** Brown, Alicia N. (HQ-VA000) <[alicia.n.brown@nasa.gov](mailto:alicia.n.brown@nasa.gov)>; Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; Grove, Jennifer (HQ-VA030) <[jennifer.grove@nasa.gov](mailto:jennifer.grove@nasa.gov)>  
**Subject:** RE: [EXTERNAL] Fwd: Congressional UAP Update

I do not.

Regards,  
--R

Richard R. Irving  
Office of Legislative and Intergovernmental Affairs  
National Aeronautics and Space Administration  
(202) 358-0084  
[richard.r.irving@nasa.gov](mailto:richard.r.irving@nasa.gov)

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**From:** Flaherty, Christopher J. (HQ-VA030) <[christopher.j.flaherty@nasa.gov](mailto:christopher.j.flaherty@nasa.gov)>  
**Sent:** Monday, June 21, 2021 9:12 AM  
**To:** Drew, Benjamin A. (HQ-TH000) <[b.a.drew@nasa.gov](mailto:b.a.drew@nasa.gov)>; Irving, Richard R. (HQ-VA030) <[richard.r.irving@nasa.gov](mailto:richard.r.irving@nasa.gov)>  
**Cc:** Brown, Alicia N. (HQ-VA000) <[alicia.n.brown@nasa.gov](mailto:alicia.n.brown@nasa.gov)>; Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; Grove, Jennifer (HQ-VA030) <[jennifer.grove@nasa.gov](mailto:jennifer.grove@nasa.gov)>  
**Subject:** FW: [EXTERNAL] Fwd: Congressional UAP Update

Alvin and Rick

So, it looks like back in 2019 NASA facilitated a briefing for House Science on Unexplained Aerial Phenomena.

Do you know of a POC at DOD that we can reach out to on this?

---

**From:** Hammond, Tom <b6 [REDACTED].house.gov>  
**Sent:** Sunday, June 6, 2021 8:59 PM  
**To:** Brown, Alicia N. (HQ-VA000) <[alicia.n.brown@nasa.gov](mailto:alicia.n.brown@nasa.gov)>  
**Subject:** [EXTERNAL] Fwd: Congressional UAP Update

Its that time again. Can you arrange for a classified briefing by NASA and Navy/DoD/IC on this topic?

We got the last one, but given the recent report release and this article referencing NASA, we'd like everyone in one room for a classified Member brief.

Happy to work together on an agreeable time that works for everyone, but given the release if the report, sooner is better than later.

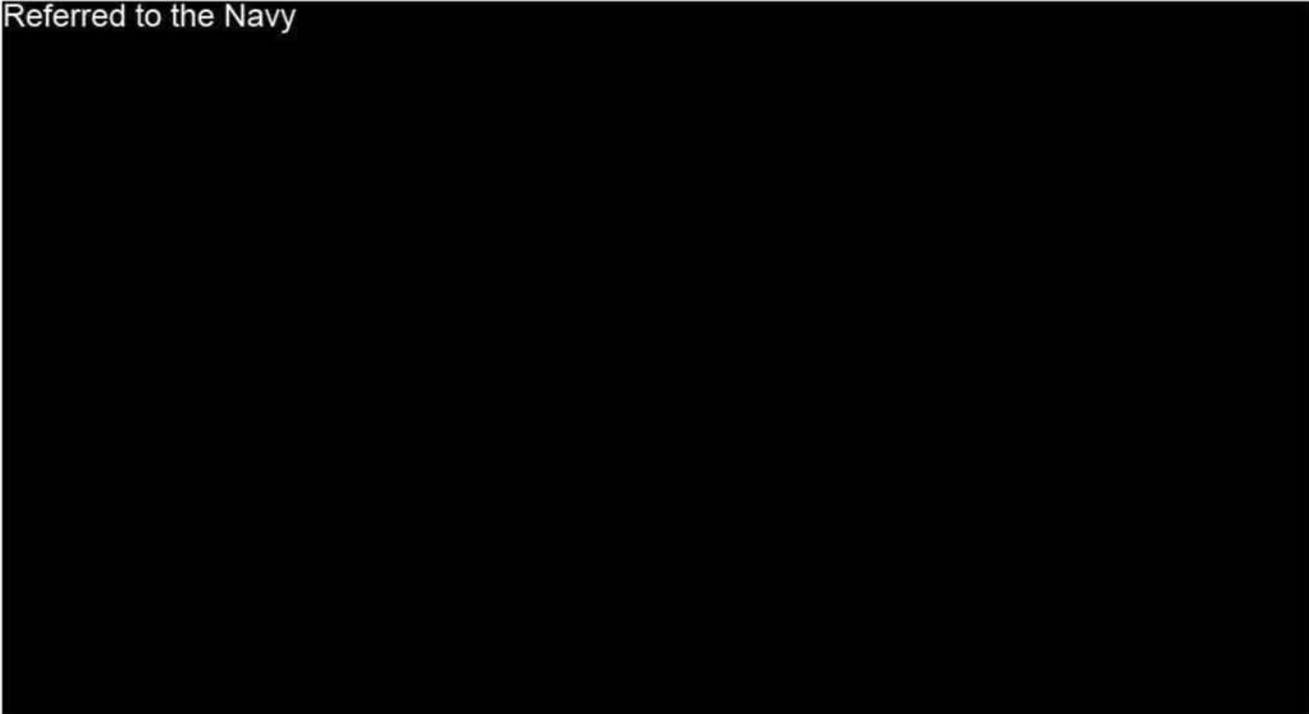
Hope all is well.

Thanks.

Tom

Begin forwarded message:

Referred to the Navy



## Deletion Page

Requester: John Greenwald

Request #: 21-HQ-F-00603

3 page(s) originating with or of interest to the US Navy are being referred to that agency for review and direct response to you.

## Re: UAP Report

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**From:** Lal, Bhavya (HQ-AA000) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8F41245EAB914300A3D5B858A7F1720C-LAL, BHAVYA>  
**To:** Etkind, Marc R. (HQ-NA000) <marc.r.etkind@nasa.gov>, Cruz, Randy C. (HQ-AA000)[Affiliate] <randy.c.cruz@nasa.gov>  
**Cc:** McGuinness, Jackie (HQ-NA000) <jackie.mcguinness@nasa.gov>  
**Sent:** June 25, 2021 3:57:06 PM EDT  
**Received:** June 25, 2021 3:57:07 PM EDT

Ok. Using the time to reread the report.

Bhavya Lal, Ph.D.

(703)-203-9804

On: 25 June 2021 15:33, "Etkind, Marc R. (HQ-NA000)" <marc.r.etkind@nasa.gov> wrote:

And looking like 430.

On: 25 June 2021 12:32, "Etkind, Marc R. (HQ-NA000)" <marc.r.etkind@nasa.gov> wrote:

Thanks Randy. Adding Bhavya to see if she can join.

On: 25 June 2021 12:21, "Cruz, Randy C. (HQ-AA000)[Affiliate]" <randy.c.cruz@nasa.gov> wrote:

Scheduled the 6th floor SCIF at 4:15 with the Administrator and Margaret Kieffer to answer any questions he has.

Randy

**From:** Etkind, Marc R. (HQ-NA000) <marc.r.etkind@nasa.gov>  
**Sent:** Friday, June 25, 2021 10:30 AM  
**To:** McGuinness, Jackie (HQ-NA000) <jackie.mcguinness@nasa.gov>; Cruz, Randy C. (HQ-AA000)[Affiliate] <randy.c.cruz@nasa.gov>  
**Subject:** Re: UAP Report

Will find a time to call you. In the next hour.

On: 25 June 2021 10:21, "McGuinness, Jackie (HQ-NA000)" <jackie.mcguinness@nasa.gov> wrote:

Hey Randy - if possible, would you mind providing some details before 11:30am? Nelson is doing a Washington Post interview at noon and it would be helpful for him to have a clearer understanding ahead of that.

Thank you!

Get Outlook for iOS

<<https://gcc02.safelinks.protection.outlook.com/?url=https://aka.ms/o0ukef&data=04|01|bhavya.lal@nasa.gov|365c7c4a8a474f82ccb608d9381017a4|7005d45845be48ae8140d43da96dd17b|0|0|637602464037148911|Unknown|TWfPbGZsb3d8eyJWljoIMC4wLjAwMDAilCJQljoIV2luMzliLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=ZV7S2dj9m9Vhl2+Ho6l4gnh5GtQHVF8ZzBN+Q35+zfU=&reserved=0>>

From: Etkind, Marc R. (HQ-NA000) <[marc.r.etkind@nasa.gov](mailto:marc.r.etkind@nasa.gov)>  
Sent: Friday, June 25, 2021 10:09:18 AM  
To: Cruz, Randy C. (HQ-AA000)[Affiliate] <[randy.c.cruz@nasa.gov](mailto:randy.c.cruz@nasa.gov)>  
Cc: McGuinness, Jackie (HQ-NA000) <[jackie.mcguinness@nasa.gov](mailto:jackie.mcguinness@nasa.gov)>  
Subject: UAP Report

Hi Randy. With the UAP report coming out today, the Administrator would like some background on NASA involvement in the report. I understand our involvement was minimal and that this is a DOD report. That said. Any chance I can get some quick facts we can give him, including timing of our input and areas of discussion. Lmk if phone is easier.

Thanks.

**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [Cruz, Randy C. \(HO-AA000\)\[Affiliate\]](#)  
**Date:** Friday, July 2, 2021 11:18:02 AM

---

Have the UAP POC and am sending to Natalie to schedule.

Referred to the Navy

**From:** Kieffer, Margaret (HQ-TH000) <margaret.kieffer@nasa.gov>

**Sent:** Friday, July 2, 2021 1:18 PM

**To:** b6 [REDACTED] CIV USN DCNO N2N6 (USA) <b6 [REDACTED]>;  
Massey, Natalie (HQ-AB000) <natalie.massey@nasa.gov>; Miller, Helen G. (HQ-AA000)  
<helen.g.miller@nasa.gov>

**Cc:** Bray, Scott W SES USN DCNO N2N6 (USA) b6 [REDACTED]  
b6 [REDACTED] Tipton, Neill T SES OSD OUSD INTEL & SEC  
(USA) b6 [REDACTED] SES OSD OUSD INTEL (USA)  
b6 [REDACTED] SES USN NIA WASHINGTON DC (USA)  
b6 [REDACTED]; Feldstein, Karen C. (HQ-TA000)  
<karen.c.feldstein@nasa.gov>; McKay, Meredith (HQ-TA000) <meredith.mckay@nasa.gov>;  
Meidinger, Jolene A. (HQ-TH000) <jolene.meidinger@nasa.gov>

**Subject:** [Non-DoD Source] RE: [EXTERNAL] briefing request for NASA Administrator and Deputy Administrator on UAPTF report

b6

Please reach out to Natalie Massey (cc:'d above, and at 202.358.1020) to secure time on Administrator Nelson's calendar for a briefing on the UAPTF report, including the classified annex. The Administrator has requested two other NASA leaders participate in the briefing: NASA Deputy Administrator Pam Melroy, and the Associate Administrator for Science, Thomas Zurbuchen. Bios below.

<https://www.nasa.gov/press-release/pam-melroy-sworn-in-as-nasa-deputy-administrator>  
<https://science.nasa.gov/about-us/leadership/Thomas-Zurbuchen>

Thank you again for responding so quickly to the Administrator's request.

Hope all have a restful and enjoyable holiday weekend,

M

---

Margaret Kieffer  
Director, Export Control and Interagency Liaison Division  
Office of International and Interagency Relations  
NASA Headquarters  
Room 5X53  
Office phone (202)358-1905  
Secure: b6  
[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)  
SIPR: b6  
JWICS: b6

---

**From:** Kieffer, Margaret (HQ-TH000)  
**Sent:** Wednesday, June 30, 2021 6:26 PM  
**To:** b6 CIV USN DCNO N2N6 (USA) b6  
**Cc:** Bray, Scott W SES USN DCNO N2N6 (USA) b6;  
b6 Tipton, Neill T SES OSD OUSD INTEL & SEC  
(USA) b6 SES OSD OUSD INTEL (USA)  
b6 b6  
b6; Feldstein, Karen C. (HQ-TA000)  
<karen.c.feldstein@nasa.gov>; Meidinger, Jolene A. (HQ-TH000) <jolene.meidinger@nasa.gov>  
**Subject:** RE: [EXTERNAL] briefing request

b6

Wonderful, appreciate your rounding back so quickly. We will consult with Administrator Nelson's EA, and see if they want to proffer some options, or work scheduling with you directly.

Regards,

M

---

Margaret Kieffer  
Director, Export Control and Interagency Liaison Division  
Office of International and Interagency Relations  
NASA Headquarters  
Room 5X53  
Office phone (202)358-1905  
Secure: b6  
[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)  
SIPR: b6  
JWICS: b6

Referred to the Navy



**RE: [EXTERNAL] RE: Talking points for UAP report**

---

To: Schaffer, Audrey M. EOP/NSC <b6 [REDACTED]>  
Sent: July 6, 2021 5:06:21 PM EDT  
Received: July 6, 2021 5:06:19 PM EDT

H Audrey – Hope all is well. Quick question – do you know who was in the room with

Bhavya Lal, Ph.D.

(703)-203-9804

**From:** Meidinger, Jolene A. (HQ-TH000)  
**To:** Kieffer, Margaret (HQ-TH000); Potter, Sean (HQ-NA020)  
**Cc:** Feldstein, Karen C. (HQ-TA000); McKay, Meredith (HQ-TA000)  
**Subject:** RE: [EXTERNAL] UAPTF and NASA - Request for Comment  
**Date:** Monday, July 19, 2021 2:41:13 PM  
**Attachments:** Talking Points Search for Life UAPs v 2[7].docx  
image001.png

Good afternoon,

Attached are the final talking points prepared by OCOMM (Karen Fox) for the UAPTF report.

Best/Jolene

**Jolene A. Meidinger**

Interagency Liaison  
Office of International and Interagency Relations  
NASA Headquarters (5Y41)  
Office: 202-358-3880

Cell: [b6]  
jolene.meidinger@nasa.gov

SIPR: [b6]  
JWICS: [b6]

---

**From:** Kieffer, Margaret (HQ-TH000) <margaret.kieffer@nasa.gov>  
**Sent:** Monday, July 19, 2021 12:13 PM  
**To:** Potter, Sean (HQ-NA020) <sean.potter@nasa.gov>; Meidinger, Jolene A. (HQ-TH000) <jolene.meidinger@nasa.gov>  
**Cc:** Feldstein, Karen C. (HQ-TA000) <karen.c.feldstein@nasa.gov>; McKay, Meredith (HQ-TA000) <meredith.mckay@nasa.gov>  
**Subject:** RE: [EXTERNAL] UAPTF and NASA - Request for Comment

Sean:

Sure, no prob. Pls keep Jolene on distro as well. Hopefully we can pivot to the interesting and relevant NASA/SMD work in the search for life given the minimal NASA role in the TF report. Note Karen Fox coordinated RTQs for the UAPTF release which may have helpful content. Jolene can send a copy of final to all on distro.

M

---

**From:** Potter, Sean (HQ-NA020) <sean.potter@nasa.gov>  
**Sent:** Monday, July 19, 2021 9:51 AM  
**To:** Kieffer, Margaret (HQ-TH000) <margaret.kieffer@nasa.gov>  
**Subject:** FW: [EXTERNAL] UAPTF and NASA - Request for Comment

Hi, Margaret – Please see below...

We're going to need to work a response to this and Stephanie Schierholz is coordinating with the ISS Program, but I'm hoping you can help from an OIIR perspective.

Thanks,

Sean

Begin Forwarded Message:

**From:** [b6]  
**Subject:** [EXTERNAL] UAPTF and NASA - Request for Comment  
**Date:** 19 July 2021 07:45  
**To:** [b6] CIV OSD PA (USA)" [b6] "Harrington, J D (HQ-NA020)" <j.d.harrington@nasa.gov>, "Skelly, Clare A. (HQ-NA020)" <clare.a.skelly@nasa.gov>, "Hambleton, Kathryn A. (HQ-NA020)" <kathryn.hambleton@nasa.gov>, "Witt, Monica J. (HQ-NA020)" <monica.j.witt@nasa.gov>, "Schierholz, Stephanie (HQ-NA020)" <stephanie.schierholz@nasa.gov>, "FINCH, JOSHUA A. (HQ-NA020)" <joshua.a.finch@nasa.gov>, [b6] LT USN CHINFO WASHINGTON DC (USA)" [b6] "Chinfo Duty Officer" (b) (6) [b6] LT USN CHINFO WASHINGTON DC (USA)" [b6]

Hello everyone,

I am writing to you all regarding a story I am publishing, which is under a strict deadline this week. I am writing about a new document obtained by me from NASA via Freedom of Information Act (FOIA) case 21-HQ-F-00507 (see relevant portion pasted below).

This release revealed that the UAP Task Force (UAPTF) contacted NASA, and requested that they be briefed on the UAP topic shortly after the UAPTF was announced as being established. I am hoping to get some comment(s) regarding this.

My specific questions would be:

1. Why did the UAPTF seek out to brief NASA?
2. The brief was via secure video teleconference; accurate to say this was a "classified briefing"?
3. Why did NASA include, and/or the UAPTF request, the presence of the ISS Program Manager? It's been long said the UAP Task Force primarily focused on incursions of military training ranges and bases, so this seems to be a bit out of the purview of the task force's objectives.
4. Is there anything that can be said about the contents of the briefing?
5. Despite the UAPTF contacting NASA to brief them on the matter; NASA was not part of the list of agencies consulted for the recent report published by ODNI regarding UAPs. Was there a reason they were not included or consulted, given NASA's recent admission they'd be looking into the matter?

Thank you so much for your time and consideration. Again this is a very tight deadline, so I hope someone can add comment to the above questions.

---

**This is the highlighted portion of the document received via FOIA:**

Briefing on Activities of the Unidentified Aerial Phenomena Task Force (UAPTF): At the request of the UAPTF, Joel Montalbano, Margaret Kiefer, Suzanne Gillen, and I will receive a briefing on activities of the Task Force via secure VTC. Per a public announcement, on August 4, 2020, Deputy Secretary of Defense David L. Norquist approved the establishment the UAPTF. The Department of the Navy, under the cognizance of the Office of the Under Secretary of Defense for Intelligence and Security, leads the UAPTF. Additional information can be provided on the appropriate system.

Mike Gold

Acting Associate Administrator

Office of International and Interagency Relations

NASA Headquarters

(b) (6)

(b) (6)

(b) (6) @nasa.gov

Sincerely,

**John Greenewald, Jr.**

**CEO - The Black Vault, Inc.**

<https://www.theblackvault.com>

**Toll Free:** (800) 456-2228

**International:** 1 (818) 655-0474

**Fax:** (818) 659-7688

**Mailing Address:**

The Black Vault

27305 W. Live Oak Rd., Suite 1203

Castaic, CA 91384-4520

**SUBJECT: NASA's Interest in UAP/UFOs**

**BACKGROUND**

Public and media interest in the topic of UAP/UFOs has seen an uptick in recent weeks following reports related to the Department of Defense's release of three unclassified U.S. Navy videos as well as an upcoming Congressional report led by Naval Intelligence on UAPs. The unclassified report is expected to be shared with Congress by Friday, June 25.

**STATEMENT**

One of NASA's key goals is the search for life in the universe. To date, NASA has yet to find any credible evidence of extraterrestrial life; however, NASA is exploring the solar system and beyond to help us answer fundamental questions, including whether we are alone in the universe. We lead the U.S. government's search for extraterrestrial life, be it close to home, on the planets or moons of our Solar System, or deeper into space. NASA does not actively search for UAPs and the lack of robust data is the central problem for scientific study of UAPs and to determine whether they are natural or human-made phenomena – there is no current data to support that UAPs or UFOs are evidence of alien technologies.

**KEY POINTS**

- Most UAP sightings result in very limited data, usually video recordings from a single angle that can only be cross-validated with eyewitness testimony.
- The language of scientists is data. Without access to an extensive set of data, it is nearly impossible to verify or explain any observation. The lack of robust data, including the lack of access to some existing data, is the central problem for scientific study of UAPs.
- Exploring the unknown in space is at the heart of who we are. The nature of science is to better understand the unknown. Through our Earth-observing satellites, NASA collects extensive data about Earth's atmosphere, often in collaboration with the other space agencies of the world. While these data are not specifically collected to identify UAPs, they are publicly available and could be used by anyone to search our atmosphere.
- One of NASA's key goals is the search for life in the universe. Although we have yet to find signs of extraterrestrial life, NASA is exploring the solar system and beyond to help us answer fundamental questions, including whether we are alone in the universe.
- From studying water on Mars, probing promising "oceans worlds," such as Titan and Europa, to looking for biosignatures in the atmospheres of planets outside our solar system, NASA's science missions are working together with a goal to

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find unmistakable signs of life beyond Earth. We look for life in any form, not just intelligent life.

- We lead the U.S. government's search for extraterrestrial life, be it close to home, on the planets or moons of our Solar System, or deeper into space. To date, NASA has yet to find any credible evidence of extraterrestrial life.
- NASA efforts include search for biosignatures (signs of biology) and technosignatures (signs of technology). Given that a planet might support life for billions of years before intelligent life evolves to create technology that can be spotted from other solar systems – our own planet has only been creating detectable technosignatures for a little over a century, for example – we have a much better chance of finding life by looking at a broad spectrum of biosignatures.

### QUESTIONS AND ANSWERS

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b5

A large rectangular area of the document is completely redacted with black ink. The redaction covers approximately 80% of the page width and 15% of the page height.

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A large rectangular area of the document is completely redacted with black ink. The redaction covers approximately 85% of the page width and 15% of the page height.

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## ADDITIONAL INFORMATION

### Exoplanet background

- An exoplanet is a planet outside our solar system. Exoplanets are too far away to visit but can be studied with space telescopes.
- So far, we've confirmed more than 4,300 exoplanets in our galaxy, which probably holds trillions. Thousands more are likely to be confirmed in the years ahead.
- About a fifth of the planets confirmed so far are in Earth's size range, some in the "habitable zone," the distance from the star that could allow liquid water on the planet's surface.
- We also know that the building blocks of life are present throughout the solar system and the cosmos, including water.
- Despite these encouraging signs, we have yet to find evidence of life anywhere but planet Earth, in our solar system or beyond. We also haven't yet found a planet like Earth orbiting a star like the Sun, with a "year" comparable to our own.
- We're now on the cusp of a potential revolution in the study of exoplanets: detecting their atmospheres and searching for chemical signatures that could indicate the presence of both microbial and more advanced or even intelligent life.
- In the near-term, the James Webb Space Telescope, and the next generation of ground-based telescopes, will be able to spread the light from a small sample of Earth-sized exoplanets into a spectrum, potentially revealing the presence of atmospheric gases.
- We'll probably begin with large, gaseous worlds unlikely to be habitable, but that will pave the way for future instruments that could look in on a small, rocky world – perhaps even one similar to our own.
- We might see signs of oxygen, methane and carbon dioxide in such a planet's atmosphere – in other words, an atmosphere that reminds us of home.

### Past Missions

#### ***Viking Project: 1 & 2***

- *NASA's Viking Project was the first mission to reach the martian surface and the first to search for evidence of life on Mars. Viking was NASA's first attempt to*

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*search for life on another planet, and was thereby the **first** mission dedicated to astrobiology. The project found a place in history when it became the first U.S. mission to land a spacecraft safely on the surface of Mars and return images of the surface.*

- Two identical spacecraft, each consisting of a lander and an orbiter, were built. Each orbiter-lander pair flew together and entered Mars orbit; the landers then separated and descended to the planet's surface.
- The landers conducted three biology experiments designed to look for possible signs of life.
  - These experiments:
    - Discovered unexpected and enigmatic chemical activity in the Martian soil, but provided no clear evidence for the presence of living microorganisms in soil near the landing sites.
    - Taught scientists a great deal about how little we knew about life on Earth and how to detect it.
    - Continue to shape the development of life detection strategies and equipment at NASA and other international agencies.
- NASA's Viking Project took place before NASA's Astrobiology Program was founded, but many scientists from its precursor, NASA's Exobiology Program, participated in the mission.

### **Kepler and K2 Mission**

- *Kepler was a space observatory designed to survey a specific portion of our region of the Milky Way galaxy. An important part of Kepler's work was the identification of Earth-size planets that orbit in the habitable zone of their host star. Such observations are directly relevant to the study of life's potential in the Universe, and the search for life beyond Earth. Kepler discovered more than 2,600 exoplanets!*
- *Kepler's observations suggest that there may be nearly 2 billion potentially habitable planets in our galaxy around Sun-like stars. Not all of them may be habitable, or inhabited, but the sheer number of them makes it likely that there could be life on worlds.*
  - Amongst the Kepler discoveries is Kepler-186f, the first validated Earth-size planet in the habitable zone of a star other than the Sun. The vast amount of data collected by Kepler will continued to be analyzed and used to help to guide the future direction of astrobiology science.
  - Astrobiologists use this data to:

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- Develop new techniques for studying exoplanets in greater and greater detail.
- Help inform future missions to characterize exoplanets and exomoons, and possibly identify signs of life by analyzing attributes of these distant worlds, such as atmospheric composition.

### Current Missions

#### **MAVEN**

- *Data from MAVEN provides insight into the history of Mars' atmosphere, climate, liquid water, and planetary habitability. An important aspect of the MAVEN mission is studying how early Mars lost much of its atmosphere.*
- *This atmospheric loss may have been partially responsible for Mars' transition from a planet capable of supporting liquid surface water to the dry, desert world we know today.*
  - Astrobiologists are working with data from the MAVEN mission in order to understand how atmospheric loss led to the loss of liquid water on the surface of the planet.
  - This work is important in constraining how and when Mars lost its water and identifying periods in Mars' history when habitable environments were most likely to exist at the planet's surface.

#### **Mars Odyssey**

- *Mars Odyssey provides detailed maps of Mars that are used to determine the evolution of the Mars environment and its potential for life.*
  - Astrobiologists were directly involved in the development of the Thermal Emission Imaging System (THEMIS) instrument onboard Mars Odyssey. Visible and infrared observations by THEMIS are used to identify the distribution of minerals on Mars, allowing astrobiologists to study how the mineralogy of the planet relates to the landforms.
  - Astrobiologists also use data from Mars Odyssey to study the geochemical makeup of Mars. This information is useful for:
    - Studying the evolution of Mars' environment
    - Identifying locations that may have been habitable for life in the past
    - Finding astrobiology-relevant landing sites for future Mars missions.

#### **Mars Reconnaissance Orbiter**

- *While other Mars missions have shown that water flowed across the surface in Mars' history, it remains a mystery whether water was ever around long enough to provide a habitat for life.*

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- Data from MRO:
  - Is essential to astrobiologists studying the potential for habitable environments on past and present Mars.
  - Provides invaluable data used in selecting landing sites for future Mars missions.
  - Is important in building climate models for Mars, and for use in comparative planetology studies performed by astrobiologists who study the potential habitability of exoplanets that orbit distant stars.

### ***Mars Exploration Rovers (MER) Spirit & Opportunity***

- *NASA's twin Mars Exploration Rovers, Spirit and Opportunity, were designed to last for 90 martian days, however both robotic explorers far outlasted their original missions and spent years collecting data at the surface of Mars. Spirit's sent data back for over six years, while Opportunity returned data for an incredible fifteen years.*
  - MER mission was to search for and characterize a wide range of rocks and soils that hold clues to past water activity on Mars. Studying the history of water on Mars is essential in determining whether or not the planet once supported environments that could have been habitable for life as we know it.
  - MER data has been used to identify environments that may have supported conditions suitable for life in Mars' past and will guide the future of Mars exploration for decades to come.

### ***Mars Science Laboratory (Curiosity Rover)***

- *MSL's Curiosity rover is studying whether or not Mars ever had environments capable of supporting microbial life. Data from MSL will be used to develop future missions to collect samples of the martian surface in the hopes of identifying signs of past or present life.*
  - The Curiosity rover is advancing the field of astrobiology by investigating Mars' habitability, studying its climate and geology.
  - Curiosity has provided evidence that liquid water once flowed at the surface of Mars in Gale Crater.
  - The rover also discovered a site dubbed 'Yellowknife bay,' which once supported an environment that was habitable for microbial life.

### ***Mars 2020 Mission to Mars: Perseverance Rover***

- *Mars 2020 is the next step in NASA's robotic exploration of Mars, a primary target of astrobiology research in the Solar System, and will build on the accomplishments of MSL. Many researchers supported by elements of the Astrobiology Program are involved in the design and development of the Mars 2020 mission and its scientific goals.*

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- The rover Perseverance is providing important data relevant to astrobiology research, along with a vast amount of geological information about the landing site and the planet at large that will help put the astrobiological data into context.
- One of the missions primary goal is to explore the geology of Jezero Crater in order to assess past habitability.
  - Jezero Crater is a geologically rich terrain, with many features and minerals formed by water that may date back as far as 3.6 billion years ago.
  - Studying the geology and mineralogy of this site will provide a window into the planet's climate history, and allows astrobiologists to determine if sites like these were persistent habitable environments that could have supported life in the past.
- Perseverance will not be looking for organisms living on Mars today. However, the rover is collecting data that could be used to identify biosignatures of ancient microbial life.
  - Previous missions, from Pathfinder to Curiosity, have helped astrobiologists determine that habitable environments were present on Mars in the planet's ancient past.
  - While these environments may have been habitable, we do not know if they were inhabited (i.e. if life was ever present).
- Perseverance will be collecting a suite of samples to be returned to Earth via a Mars Sample Return mission. The return samples from another planet will allow our researchers to interrogate them with all of the sophistication and thoroughness of Earth-based instrumentation, and will provide an immense opportunity to dramatically advance our scientific understanding of Mars.
- Many of the goals for the Mars 2020 mission are directly relevant to Astrobiology. These include:
  - Determine whether life ever arose on Mars
  - Seeking signs of past life (biosignatures) in the geological record
  - Characterize the climate of Mars
  - Characterize the geology of Mars

### ***TESS Mission***

- NASA's Transiting Exoplanet Survey Satellite is an all-sky survey mission that will discover thousands of exoplanets around nearby bright stars.
- TESS launched April 18, 2018 aboard a SpaceX Falcon 9 rocket.
- To date, TESS has discovered more than 120 confirmed exoplanets and more than 2,600 planet candidates

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- TESS has identified, and will continue to find, exoplanets targets that Webb will study in further detail

### Upcoming Missions

#### ***Dragonfly Mission to Titan***

- *This revolutionary mission concept includes the capability to explore diverse locations to look for prebiotic chemical processes common on both Titan and Earth. Titan is an analog to the very early Earth, and can provide clues to how prebiotic chemistry under these conditions may have progressed.*
- *The NASA Astrobiology Program supports scientists involved at all stages of the mission. Projects supported by the program have helped to define Titan as prime target for astrobiology research in the Solar System.*
  - Analog research on Earth and comparative planetology studies in order to better understand the environment of Titan and to identify sites of astrobiological interest.
  - Development of instrumentation that can be used to perform scientific investigations at Titan.
  - Research in areas of prebiotic chemistry that inform our knowledge of organic chemistry on the moon.

#### ***Europa Clipper Mission to Europa***

- *The Europa Clipper mission will place a spacecraft in orbit around Jupiter in order to perform a detailed investigation of the giant planet's moon Europa.*
  - Europa shows strong evidence for an ocean of liquid water beneath its icy crust and some astrobiologists believe that it could host conditions favorable for life.
  - Astrobiologists are involved in the definition of science goals for Europa Clipper and the design of scientific instruments for the mission.

#### ***James Webb Space Telescope (Webb)***

- *Webb will be the premier space-based observatory of the next decade. Webb is a large infrared telescope with a 6.5-meter primary mirror. Data from Webb will be used to study the formation and evolution of habitable worlds, and will be invaluable in understanding processes that have shaped habitability in our own Solar System.*
- *Webb will be capable of making detailed observations that might allow astrobiologists to identify some potential signatures of life on Earth-like planets beyond our Solar System.*
  - Webb observations will be used to study:
    - Every phase in the history of the Universe, including the evolution of the Solar System
    - The formation of distant solar systems capable of supporting life on Earth-like exoplanets.

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- Observe the formation of stars from the first stages to the formation of planetary systems
- Measure the physical and chemical properties of planetary systems and investigate the potential for life in those systems

### **PAOs:**

- HQ: Alana Johnson, [alana.r.johnson@nasa.gov](mailto:alana.r.johnson@nasa.gov) / 202-358-1501
- HQ: Karen Fox, [karen.fox@nasa.gov](mailto:karen.fox@nasa.gov)/301-286-6284
- HQ: Liz Landau, [elizabeth.r.landau@nasa.gov](mailto:elizabeth.r.landau@nasa.gov)

### **Concurrences:**

- HQ: Mary Voytek, Senior Scientist for NASA Astrobiology
- HQ: Lori Glaze, Planetary Science Division director
- HQ: Michael New, Deputy AA for Research, Science Mission Directorate
- HQ: Eric Smith, JWST Program Scientist

**From:** Meidinger, Jolene A. (HQ-TH000)  
**To:** Kieffer, Margaret (HQ-TH000)  
**Cc:** Feldstein, Karen C. (HQ-TA000); McKay, Meredith (HQ-TA000); Flynn, David T. (HQ-TH000); Drew, Benjamin A. (HQ-TH000)  
**Subject:** Re: invite to NASA for UAPTF follow on convo  
**Date:** Monday, July 19, 2021 8:11:10 PM  
**Attachments:** image001.png

---

Copy I am onsite tomorrow and will attend

----- Original Message -----

**From:** "Kieffer, Margaret (HQ-TH000)" <margaret.kieffer@nasa.gov>  
**Date:** Mon, July 19, 2021 7:21 PM -0400  
**To:** "Meidinger, Jolene A. (HQ-TH000)" <jolene.meidinger@nasa.gov>  
**CC:** "Feldstein, Karen C. (HQ-TA000)" <karen.c.feldstein@nasa.gov>, "McKay, Meredith (HQ-TA000)" <meredith.mckay@nasa.gov>, "Flynn, David T. (HQ-TH000)" <david.flynn@nasa.gov>, "Drew, Benjamin A. (HQ-TH000)" <b.a.drew@nasa.gov>  
**Subject:** invite to NASA for UAPTF follow on convo

Jolene:

(b) (5) invited NASA to participate in (b) discussion about the follow on UAP activity, via secure phone. It is tomorrow/Tues, 10:30-noon. I forwarded the info/invite to you and let folks know I had a conflict, but we (you, Alvin?) would try to attend, if possible.

Likely we can get a read out as well.

M

---

Margaret Kieffer  
Director, Export Control and Interagency Liaison Division  
Office of International and Interagency Relations  
NASA Headquarters  
Room 5X53  
Office phone (202)358-1905  
Secure: (b)6  
margaret.kieffer@nasa.gov  
SIPR: (b)6  
JWICS: (b)6

---

**From:** Meidinger, Jolene A. (HQ-TH000) <jolene.meidinger@nasa.gov>  
**Sent:** Monday, July 19, 2021 2:41 PM  
**To:** Kieffer, Margaret (HQ-TH000) <margaret.kieffer@nasa.gov>; Potter, Sean (HQ-NA020) <sean.potter@nasa.gov>  
**Cc:** Feldstein, Karen C. (HQ-TA000) <karen.c.feldstein@nasa.gov>; McKay, Meredith (HQ-TA000) <meredith.mckay@nasa.gov>  
**Subject:** RE: [EXTERNAL] UAPTF and NASA - Request for Comment

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**From:** [Feldstein, Karen C. \(HQ-TA000\)](#)  
**To:** [McKay, Meredith \(HQ-TA000\)](#)  
**Subject:** Re: DID YOU ANSWER KAYLA ON THIS ONE? FW: [EXTERNAL] RE: UAPTF Report for NASA Administrator and Deputy Administrator Mtg. Request  
**Date:** Monday, July 19, 2021 10:02:07 PM  
**Attachments:** [image001.png](#)

---

I sent MK a note and told Kayla we'd let her know. Mtg isn't until August 17<sup>th</sup>.

---

**From:** Meredith McKay <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>  
**Date:** Monday, July 19, 2021 at 7:31 PM  
**To:** Karen Feldstein <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Subject:** DID YOU ANSWER KAYLA ON THIS ONE? FW: [EXTERNAL] RE: UAPTF Report for NASA Administrator and Deputy Administrator Mtg. Request

---

**From:** Ratnasamy, Kayla R. (HQ-AA000) <[kayla.r.ratnasamy@nasa.gov](mailto:kayla.r.ratnasamy@nasa.gov)>  
**Sent:** Monday, July 19, 2021 9:45 AM  
**To:** Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Cc:** McKay, Meredith (HQ-TA000) <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>  
**Subject:** FW: [EXTERNAL] RE: UAPTF Report for NASA Administrator and Deputy Administrator Mtg. Request

Hi Karen and Meredith,

Hope you both had a wonderful weekend. Does the UAPTF report meeting need to be in a secure room or will this happen in the Administrator's office?

Sincerely,

**Kayla R. Ratnasamy** (she/her)  
Special Assistant to Administrator Bill Nelson  
Office of the Administrator  
Mary W. Jackson NASA Headquarters Building  
300 Hidden Figures Way, SW  
Washington, DC 20546-0001  
E-mail: [kayla.r.ratnasamy@nasa.gov](mailto:kayla.r.ratnasamy@nasa.gov)  
Phone: **b6**



Referred to the Navy

Referred to the Navy

**From:** Ratnasamy, Kayla R. (HQ-AA000) <[kayla.r.ratnasamy@nasa.gov](mailto:kayla.r.ratnasamy@nasa.gov)>

**Sent:** Thursday, July 15, 2021 12:07 PM

**To:** b6 [REDACTED] CIV USN DCNO N2N6 (USA) <b6 [REDACTED]>

b6 [REDACTED] SES USN NIA WASHINGTON DC (USA)

b6 [REDACTED]; Bray, Scott W SES USN DCNO N2N6 (USA)

b6 [REDACTED]

**Cc:** Massey, Natalie (HQ-AB000) <[natalie.massey@nasa.gov](mailto:natalie.massey@nasa.gov)>; Miller, Helen G. (HQ-AA000) <[helen.g.miller@nasa.gov](mailto:helen.g.miller@nasa.gov)>; KIEFFER, ARTHUR G. (KSC-TOSC-6560)[Test and Operations Support Contract] <[arthur.g.kieffer@nasa.gov](mailto:arthur.g.kieffer@nasa.gov)>; Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; McKay, Meredith (HQ-TA000) <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>; Johnson, Tricia L. (HQ-DA000)[ASRC FEDERAL SYSTEM SOLUTIONS]

<[tricia.johnson@nasa.gov](mailto:tricia.johnson@nasa.gov)>

**Subject:** [Non-DoD Source] UAPTF Report for NASA Administrator and Deputy Administrator Mtg. Request

Good Morning,

I am following up on this request for a briefing. Our office is available August 17 at 11am, September 8 at 3pm, and September 9 at 11am. Please let me which date works best.

Sincerely,

**Kayla R. Ratnasamy** (she/her)

Special Assistant to Administrator Bill Nelson

Office of the Administrator

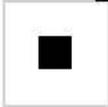
Mary W. Jackson NASA Headquarters Building

300 Hidden Figures Way, SW

Washington, DC 20546-0001

E-mail: [kayla.r.ratnasamy@nasa.gov](mailto:kayla.r.ratnasamy@nasa.gov)

Phone: b6



**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [Feldstein, Karen C. \(HQ-TA000\)](#)  
**Subject:** Re: [EXTERNAL] RE: UAPTF Report for NASA Administrator and Deputy Administrator Mtg. Request  
**Date:** Tuesday, July 20, 2021 7:23:00 AM

---

Yes. BN wants to discuss details of the (b) (5) [redacted] I will b6 [redacted] fyi, and recommend Jolene participate. She will be on a call secure today, an invite from the UAP TF folks to discuss the next stage of the effort.

---

On: 19 July 2021 21:47, "Feldstein, Karen C. (HQ-TA000)" <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)> wrote:

Assume this is a yes?

Thanks,  
Karen

---

**From:** "Ratnasamy, Kayla R. (HQ-AA000)" <[kayla.r.ratnasamy@nasa.gov](mailto:kayla.r.ratnasamy@nasa.gov)>  
**Date:** Monday, July 19, 2021 at 9:46 AM  
**To:** Karen Feldstein <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Cc:** Meredith McKay <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>  
**Subject:** FW: [EXTERNAL] RE: UAPTF Report for NASA Administrator and Deputy Administrator Mtg. Request

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**From:** [Feldstein, Karen C. \(HQ-TA000\)](#)  
**To:** [Ratnasamy, Kayla R. \(HQ-AA000\)](#)  
**Cc:** [McKay, Meredith \(HQ-TA000\)](#)  
**Subject:** Re: [EXTERNAL] RE: UAPTF Report for NASA Administrator and Deputy Administrator Mtg. Request  
**Date:** Tuesday, July 20, 2021 7:40:02 AM

---

Good morning Kayla - yes this briefing will need to take place in a secure room. Recommending that Jolene Meidinger of my staff and I join (Margaret Kieffer will be out of the office, and Jolene handles our intel liaison/classified activities).

---

On: 19 July 2021 21:48, "Feldstein, Karen C. (HQ-TA000)" <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)> wrote:

Hi Kayla, I believe so but I'm confirming.

Thanks!  
Karen

---

**From:** "Ratnasamy, Kayla R. (HQ-AA000)" <[kayla.r.ratnasamy@nasa.gov](mailto:kayla.r.ratnasamy@nasa.gov)>  
**Date:** Monday, July 19, 2021 at 9:46 AM  
**To:** Karen Feldstein <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Cc:** Meredith McKay <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>  
**Subject:** FW: [EXTERNAL] RE: UAPTF Report for NASA Administrator and Deputy Administrator Mtg. Request

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**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [Meidinger, Jolene A. \(HQ-TH000\)](#)  
**Date:** Wednesday, July 21, 2021 4:04:55 PM

---

fyi, I closed out the UAP TF TPs. Will close the room. Thanks again for umbrella, did not need 

**From:** [Potter, Sean \(HQ-NA020\)](#)  
**To:** [Feldstein, Karen C. \(HQ-TA000\)](#); [Kieffer, Margaret \(HQ-TH000\)](#); [Meidinger, Jolene A. \(HQ-TH000\)](#)  
**Cc:** [McKay, Meredith \(HQ-TA000\)](#)  
**Subject:** Re: [EXTERNAL] RE: [Non-DoD Source] UAPTF and NASA - Request for Comment  
**Date:** Wednesday, July 21, 2021 9:48:00 PM

---

Hi, Karen – I don't know, but can ask...

Sean

---

**From:** "Feldstein, Karen C. (HQ-TA000)" <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Date:** Wednesday, July 21, 2021 at 9:16 PM  
**To:** "Potter, Sean (HQ-NA020)" <[sean.potter@nasa.gov](mailto:sean.potter@nasa.gov)>, "Kieffer, Margaret (HQ-TH000)" <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>, "Meidinger, Jolene A. (HQ-TH000)" <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Cc:** "McKay, Meredith (HQ-TA000)" <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>  
**Subject:** Re: [EXTERNAL] RE: [Non-DoD Source] UAPTF and NASA - Request for Comment

Hi Sean, do you know if Marc shared this with A Suite, given the topic?

Thanks,  
Karen

---

On: 21 July 2021 16:04, "Potter, Sean (HQ-NA020)" <[sean.potter@nasa.gov](mailto:sean.potter@nasa.gov)> wrote:

Thanks, Margaret and Jolene. Appreciate it!

---

**From:** "Kieffer, Margaret (HQ-TH000)" <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>  
**Date:** Wednesday, July 21, 2021 at 4:03 PM  
**To:** "Potter, Sean (HQ-NA020)" <[sean.potter@nasa.gov](mailto:sean.potter@nasa.gov)>, "Meidinger, Jolene A. (HQ-TH000)" <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Cc:** "Feldstein, Karen C. (HQ-TA000)" <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>, "McKay, Meredith (HQ-TA000)" <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>  
**Subject:** RE: [EXTERNAL] RE: [Non-DoD Source] UAPTF and NASA - Request for Comment

Sean: Pardon, Jolene and I did review/discuss this AM, and thought it looked good, no changes.

KF/MM: Reminder, the final, public report does not call out NASA specifically.

M

---

Margaret Kieffer  
Director, Export Control and Interagency Liaison Division  
Office of International and Interagency Relations  
NASA Headquarters  
Room 5X53  
Office phone (202)358-1905  
Secure: b6  
[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)  
SIPR: b6  
JWICS: b6

---

**From:** Potter, Sean (HQ-NA020) <[sean.potter@nasa.gov](mailto:sean.potter@nasa.gov)>  
**Sent:** Wednesday, July 21, 2021 3:20 PM  
**To:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; Meidinger, Jolene A. (HQ-TH000) <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Cc:** Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; McKay, Meredith (HQ-TA000) <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>  
**Subject:** Re: [EXTERNAL] RE: [Non-DoD Source] UAPTF and NASA - Request for Comment

Hi – Just checking in on this... Stephanie is getting pinged by DOD...

---

**From:** "Potter, Sean (HQ-NA020)" <[sean.potter@nasa.gov](mailto:sean.potter@nasa.gov)>  
**Date:** Tuesday, July 20, 2021 at 4:52 PM  
**To:** "Kieffer, Margaret (HQ-TH000)" <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>, "Meidinger, Jolene A. (HQ-TH000)" <[jolene.meidinger@nasa.gov](mailto:jolene.meidinger@nasa.gov)>  
**Cc:** "Feldstein, Karen C. (HQ-TA000)" <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>, "McKay, Meredith (HQ-TA000)" <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>  
**Subject:** FW: [EXTERNAL] RE: [Non-DoD Source] UAPTF and NASA - Request for Comment

Hi, Margaret and Jolene – Please see the statement below (which I've highlighted for your convenience) regarding the UAPTF Task Force, which would come from (b) (6) in the Defense Press Operations... As you can see, (b) (6) has already coordinated this with Stephanie from the HEO PAO team, but we would like to get OIIR's blessing, as well.

Thanks,

Sean

---

**From:** "Gough, Susan L (Sue) CIV OSD PA (USA)" (b) (6)  
**Date:** Tuesday, July 20, 2021 at 14:58  
**To:** Stephanie Schierholz <stephanie.schierholz@nasa.gov>  
**Subject:** [EXTERNAL] RE: [Non-DoD Source] UAPTF and NASA - Request for Comment

Stephanie,  
Looks like we're good on my end with the below. Do you have any inputs, especially in the bottom paragraph? Is NASA going to answer separately? Greenwald is asking if I'm going to be speaking for NASA when I respond – which, of course, I can't, but I'm happy to say that the response was coordinated with NASA, and then you can say you don't have anything further beyond what I said – unless, of course, you do.

Regards,  
(b) (6)

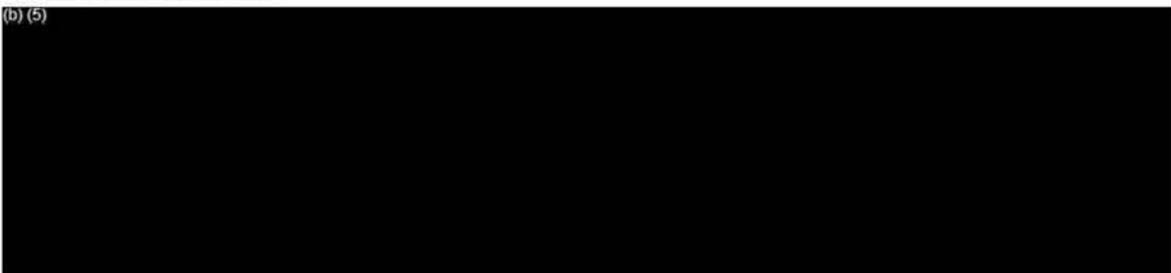
Defense Press Operations:

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**From:** (b) (6)  
**Sent:** Tuesday, July 20, 2021 10:42 AM  
**To:** (b) (6) CIV USN DCNO N2N6 (USA) (b) (6) CIV USN DCNO N2N6 (USA)  
(b) (6) CIV (USA) (b) (6) CIV USN DCNO N2N6 (USA)  
**Cc:** (b) (6) CIV (USA) (b) (6) CAPT USN DCNO N2N6 (USA) (b) (6)  
LCDR USN DCNO N2N6 (USA) (b) (6) CIV USN NIMITZ OPINTELCEN DC (USA) (b) (6)  
(b) (6) Capt USMC INTELLIGENCE (USA) (b) (6) SES USN (USA) (b) (6) CIV USN  
NAWCAD (USA) (b) (6); Stratton, John F (Jay) SES USN ONI WASHINGTON DC (USA) (b) (6)  
(b) (6); Schierholz, Stephanie (HQ-NA020) <stephanie.schierholz@nasa.gov>  
**Subject:** RE: [Non-DoD Source] UAPTF and NASA - Request for Comment

(b) (6) thanks, looks good; I made a few edits. I've added (b) (6) on the distro, for ODNI's awareness, and Stephanie Schierholz from NASA. Anyone have any objections/comments/edits to below:

(b) (5)



Regards,  
(b) (6)

(For Stephanie: I'm the OSD(Public Affairs) point person on UAP)

Referred to the Navy



## Deletion Page

Requester: John Greenwald

Request #: 21-HQ-F-00603

1 page(s) originating with or of interest to the US Navy are being referred to that agency for review and direct response to you.

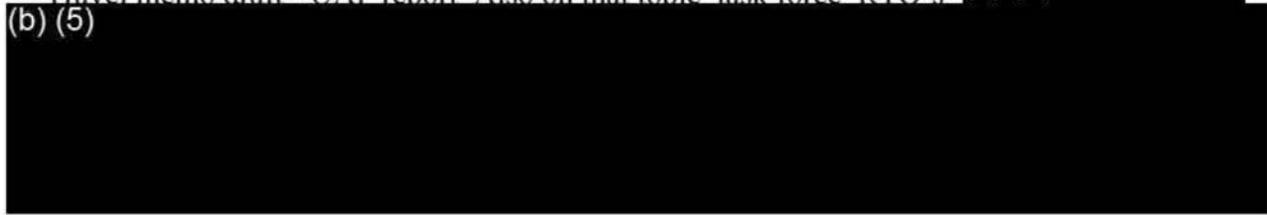
## **Deletion Page**

1 page containing duplicate information is held in the file. The page consists of email NASA already processed.

**From:** [Bress, Kent G. \(HQ-TF000\)](#)  
**To:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**Date:** Thursday, July 22, 2021 9:52:15 AM

---

- Travel memo draft - UAP report. Also on that topic, task force, RTO's - (b) (5)  
(b) (5)



**From:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**To:** [Bress, Kent G. \(HQ-TF000\) \(kent.g.bress@nasa.gov\)](#)  
**Cc:** [Flynn, David T. \(HQ-TH000\)](#)  
**Subject:** ECILD topics  
**Date:** Thursday, July 22, 2021 12:09:54 PM

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- (b) (5)
- [Redacted]

- RTQ on UAP Taskforce report coordinated by ECILD, thanks to KF for sharing with A suite;

- (b) (5)
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]

**From:** [Torres, Alfonso \(HQ-TH000\)](#)  
**To:** [Kieffer, Margaret \(HQ-TH000\)](#)  
**Cc:** [Flynn, David T. \(HQ-TH000\)](#)  
**Subject:** OIIR Weekly Updates  
**Date:** Friday, July 23, 2021 1:51:51 PM

---

Margaret,

Please see below for OIIR Weekly updates. There were no details for the CSWG meeting on 28 July. Highlighted....please remove if not required.

Thanks,  
Al

---

Bob,

Below is a list of top-level, OIIR-supported activities of interest this week and some upcoming activities:

b5 (Draft version of final that is already being released)



b5 (Draft version of final that is already being released)



Please let me know if you have any questions or would like additional information.

Regards,  
Karen

*Karen C. Feldstein*  
*Associate Administrator for*  
*International and Interagency Relations*  
*NASA Headquarters*  
*300 E St SW, Washington DC 20546*  
*Tel: (202) 358-0400*  
*Mobile: b6*

**From:** [Feldstein, Karen C. \(HQ-TA000\)](#)  
**Subject:** <no subject>  
**Date:** Sunday, August 15, 2021 10:40:09 PM

---

Meetings:

MON:

Lunar Flight Opptys  
ISS Extension Prep  
Dep Sec Commerce

Tues:

UAPTF report  
EOP re ISS extension

Weds

NOAA Administrator  
ASI Discussion with HEOMD

Fri

HLS ASC  
ASAP with Pam

**From:** [Flynn, David T. \(HQ-TH000\)](#)  
**To:** [McKay, Meredith \(HQ-TA000\)](#); [Feldstein, Karen C. \(HQ-TA000\)](#)  
**Subject:** RE: [EXTERNAL] Request for Comment - UAP Briefing for Administrator Aug 17  
**Date:** Tuesday, August 17, 2021 10:44:47 PM

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Copy that

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**From:** McKay, Meredith (HQ-TA000) <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>  
**Sent:** Tuesday, August 17, 2021 6:44 PM  
**To:** Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>; Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Subject:** RE: [EXTERNAL] Request for Comment - UAP Briefing for Administrator Aug 17  
**Importance:** High

Hi David,  
See questions OComm received below regarding the FOIA we received. It appears the reporter has the document requested in the FOIA. We'll need to help OComm with a draft response tomorrow.  
Thank you!  
M

---

**From:** Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Sent:** Tuesday, August 17, 2021 6:09 PM  
**To:** McKay, Meredith (HQ-TA000) <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>; Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Subject:** FW: [EXTERNAL] Request for Comment - UAP Briefing for Administrator Aug 17

Thoughts please?

---

**From:** "McGuinness, Jackie (HQ-NA000)" <[jackie.mcguinness@nasa.gov](mailto:jackie.mcguinness@nasa.gov)>  
**Date:** Tuesday, August 17, 2021 at 2:39 PM  
**To:** Karen Feldstein <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Subject:** FW: [EXTERNAL] Request for Comment - UAP Briefing for Administrator Aug 17

Hi Karen – See below. Will let you know if I get more info.

*In his FOIA request, Greenwald asked for "expedited" processing and as justification, he indicated "this document has been released in full." We don't know if that's true or not. So, he may have a copy of it somehow (that we did not release) and is sending you the questions referenced below.*

---

**From:** "Gramian, Nikki N. (HQ-NA040)" <[nikki.n.gramian@nasa.gov](mailto:nikki.n.gramian@nasa.gov)>  
**Date:** Tuesday, August 17, 2021 at 11:02 AM  
**To:** "McGuinness, Jackie (HQ-NA000)" <[jackie.mcguinness@nasa.gov](mailto:jackie.mcguinness@nasa.gov)>  
**Cc:** "Fox, Stephanie K. (HQ-NA040)" <[stephanie.k.fox@nasa.gov](mailto:stephanie.k.fox@nasa.gov)>

**Subject:** RE: [EXTERNAL] Request for Comment - UAP Briefing for Administrator Aug 17

To my knowledge the FOIA request Mr. Greenwald sent to obtain the OIIR July 25, 2021 document has not yet been processed. That request is FOIA tracking number 21-HQ-F-660 and it is still open in our system. I am copying Stephanie who is handling this request.

A search request was sent to OIIR (copy attached) last week, but we have not received the document yet.

In his FOIA request, Greenwald asked for "expedited" processing and as justification, he indicated "this document has been released in full." We don't know if that's true or not. So, he may have a copy of it somehow (that we did not release) and is sending you the questions referenced below.

But, as of now, the case is still open and we have not yet received the document to be processed to respond to Greenwald.

Nikki

---

**From:** McGuinness, Jackie (HQ-NA000) <jackie.mcguinness@nasa.gov>

**Sent:** Tuesday, August 17, 2021 10:37 AM

**To:** Gramian, Nikki N. (HQ-NA040) <nikki.n.gramian@nasa.gov>

**Subject:** FW: [EXTERNAL] Request for Comment - UAP Briefing for Administrator Aug 17

Hi Nikki – Did your team respond to the FOIA request mentioned below? Karen Feldstein said she was still working with FOIA on this request, so wanted to check to see how John got the OIIR Weekly Update.

Thanks,  
Jackie

---

**From:** b6

**Date:** Tuesday, August 10, 2021 at 1:42 PM

**To:** "McGuinness, Jackie (HQ-NA000)" <jackie.mcguinness@nasa.gov>

**Cc:** (b) (6)

**Subject:** [EXTERNAL] Request for Comment - UAP Briefing for Administrator Aug 17

Hello Jackie,

I hope you are doing well! I know you handle the PR for the Administrator, and I wanted to reach out about a scheduled UAP briefing on August 17 for Bill Nelson.

I am writing a story on that, as revealed by the FOIA release of the OIIR Weekly Update for July 25,

2021, which mentioned the UAP briefing for Mr. Nelson on August 17.

With that, I wanted to see if I could get comment on:

- 1) Is the briefing classified?
- 2) Who will be giving the briefing to Mr. Nelson? Can anyone be named specifically?
- 3) Is there a reason for the briefing specifically to NASA and the Administrator?
- 4) What is NASA's role with UAP investigations as pertaining to the UAPTF and its mission?

Thank you for your time. I am cc'ing (b) (6) at the Pentagon, as I understand she often issues the statements on behalf of NASA regarding this issue, but thought I would try with you direct first.

Thank you both again for your time...

Sincerely,

**John Greenwald, Jr.**

**CEO - The Black Vault, Inc.**

<https://www.theblackvault.com>

**Toll Free:** (800) 456-2228

**International:** 1 (818) 655-0474

**Fax:** (818) 659-7688

**Mailing Address:**

The Black Vault

27305 W. Live Oak Rd., Suite 1203

Castaic, CA 91384-4520

**From:** [Flynn, David T. \(HQ-TH000\)](mailto:Flynn, David T. (HQ-TH000))  
**To:** [Feldstein, Karen C. \(HQ-TA000\)](mailto:Feldstein, Karen C. (HQ-TA000))  
**Cc:** [Kieffer, Margaret \(HQ-TH000\)](mailto:Kieffer, Margaret (HQ-TH000)); [McKay, Meredith \(HQ-TA000\)](mailto:McKay, Meredith (HQ-TA000))  
**Subject:** RE: [EXTERNAL] RE: [Non-DoD Source] FW: Request for Comment - UAP Briefing for Administrator Aug 17  
**Date:** Wednesday, August 18, 2021 3:54:44 PM

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No problem

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**From:** Feldstein, Karen C. (HQ-TA000) <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Sent:** Wednesday, August 18, 2021 3:53 PM  
**To:** Flynn, David T. (HQ-TH000) <[david.flynn@nasa.gov](mailto:david.flynn@nasa.gov)>  
**Cc:** Kieffer, Margaret (HQ-TH000) <[margaret.kieffer@nasa.gov](mailto:margaret.kieffer@nasa.gov)>; McKay, Meredith (HQ-TA000) <[meredith.mckay@nasa.gov](mailto:meredith.mckay@nasa.gov)>  
**Subject:** FW: [EXTERNAL] RE: [Non-DoD Source] FW: Request for Comment - UAP Briefing for Administrator Aug 17

Sorry for the double dribble, but I think this one was already handled. DoD responded I believe, but I can ask if you're not comfortable with the response.

---

**From:** "McGuinness, Jackie (HQ-NA000)" <[jackie.mcguinness@nasa.gov](mailto:jackie.mcguinness@nasa.gov)>  
**Date:** Monday, August 16, 2021 at 1:26 PM  
**To:** Karen Feldstein <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>, "Etkind, Marc R. (HQ-NA000)" <[marc.r.etkind@nasa.gov](mailto:marc.r.etkind@nasa.gov)>  
**Subject:** Re: [EXTERNAL] RE: [Non-DoD Source] FW: Request for Comment - UAP Briefing for Administrator Aug 17

Thanks, Karen. It would be from DoD.

---

**From:** "Feldstein, Karen C. (HQ-TA000)" <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>  
**Date:** Monday, August 16, 2021 at 1:25 PM  
**To:** "McGuinness, Jackie (HQ-NA000)" <[jackie.mcguinness@nasa.gov](mailto:jackie.mcguinness@nasa.gov)>, "Etkind, Marc R. (HQ-NA000)" <[marc.r.etkind@nasa.gov](mailto:marc.r.etkind@nasa.gov)>  
**Subject:** Re: [EXTERNAL] RE: [Non-DoD Source] FW: Request for Comment - UAP Briefing for Administrator Aug 17

Hi Jackie,

I have no concerns with how NASA's role (or lack thereof) in the preparation of this report is characterized, but defer to others on the characterization of NASA's science activities and how the information is used.

Will DoD be putting this out again, or NASA?

---

**From:** "McGuinness, Jackie (HQ-NA000)" <[jackie.mcguinness@nasa.gov](mailto:jackie.mcguinness@nasa.gov)>

**Date:** Monday, August 16, 2021 at 1:21 PM

**To:** Karen Feldstein <[karen.c.feldstein@nasa.gov](mailto:karen.c.feldstein@nasa.gov)>, "Etkind, Marc R. (HQ-NA000)" <[marc.r.etkind@nasa.gov](mailto:marc.r.etkind@nasa.gov)>

**Subject:** FW: [EXTERNAL] RE: [Non-DoD Source] FW: Request for Comment - UAP Briefing for Administrator Aug 17

Hi Karen and Marc – Are you ok with the statement below? It's from DoD, but we can provide edits if you'd like.

(b) (5)



They're also wondering if ok to say (b) (5)

Thoughts?

---

**From:** (b) (6)

**Date:** Monday, August 16, 2021 at 12:22 PM

**To:** "jackie.mcguinness@nasa.gov" <[jackie.mcguinness@nasa.gov](mailto:jackie.mcguinness@nasa.gov)>, "Schierholz, Stephanie (HQ-NA020)" <[stephanie.schierholz@nasa.gov](mailto:stephanie.schierholz@nasa.gov)>

**Cc:** b6 CIV USN DCNO N2N6 (USA) b6

**Subject:** [EXTERNAL] RE: [Non-DoD Source] FW: Request for Comment - UAP Briefing for Administrator Aug 17

Hello, NASA,

Anything on this? The reporter held off publishing since we didn't reply, but is asking again this morning. Is the briefing still on? Are you going to respond separately, or are you okay with us responding?

Regards,

(b) (6)

Defense Press Operations

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**From:** (b) (6)

**Sent:** Thursday, August 12, 2021 12:31 PM

**To:** [jackie.mcguinness@nasa.gov](mailto:jackie.mcguinness@nasa.gov); Schierholz, Stephanie (HQ-NA020) <[stephanie.schierholz@nasa.gov](mailto:stephanie.schierholz@nasa.gov)>

**Subject:** RE: [Non-DoD Source] FW: Request for Comment - UAP Briefing for Administrator Aug 17

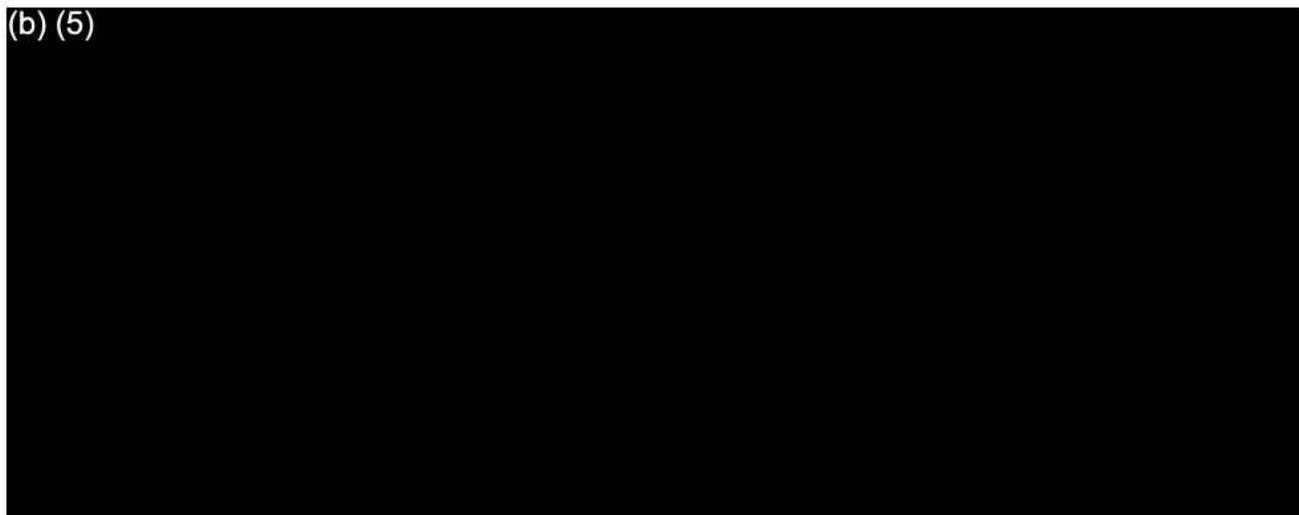
Jackie, Stephanie,

Back @ 21 July, Greenewald had asked about the FOIA he mentions below, which showed a past briefing to NASA, and he asked about it and why NASA wasn't listed in the UAP Report to Congress. After coordination, including with Stephanie for NASA, I responded:

"During the course of its work, the UAPTF has reached out to organizations across DoD, the Intelligence Community, and the U.S. government. The list of organizations included in the UAP Report to Congress were the ones who provided specific input in the preparation of the report. It was not a comprehensive list of all the organizations which the UAPTF has contacted in the course of its work. For security reasons, we will not detail the contributions of specific organizations to the UAPTF's work, nor the areas discussed with every organization as part of the UAPTF's investigations. It is worth noting, however, that the National Aeronautics and Space Administration is an organization with broad scientific responsibilities, including atmospheric research, etc. Such information is vital to fully understanding the environment in which Navy aviators operate and the conditions that may have been present during any particular observation."

For this particular query, I'm looking at pretty much just repeating the above, less the comment about the report:

(b) (5)



Let me know. Also, I'm not responding on NASA's behalf – the questions he asked before and now are mainly in DoD's lane.

Regards,

(b) (6)

Defense Press Operations

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**From:** b5

**Sent:** Tuesday, August 10, 2021 10:42 AM

**To:** 'jackie.mcguinness@nasa.gov' <jackie.mcguinness@nasa.gov>

**Cc:** (b) (6)

## **Deletion Page**

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