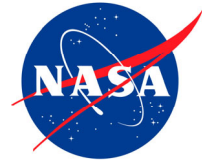


National Aeronautics and Space Administration

Headquarters

Washington, DC 20546-0001



Reply to attn. of: Office of Communications

March 31, 2022

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

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

Dear Mr. Greenewald:

This is our third 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. You seek 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, and January 11, 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 January 11 response provided you with 35 pages of records from the accounts of Sandra Connelly, Margaret Kieffer, and Bhavya Lal, 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 processing the enclosed records from the accounts of Joel Montalbano, Suzanne Gillen, Sandra Connelly, Michael New, Paul Hertz, Bhavya Lal, and Thomas Zurbuchen. We continue to process remaining records up to the agreed upon amount; however, please see the fee section below for additional information about remaining records.

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:

65 page(s) are released in full (RIF);
83 page(s) are released in part (RIP);
20 page(s) are withheld in full (WIF);
37 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.

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 190 pages. Because the cost of the billable 90 pages in this release falls below NASA's \$50 minimum there is no charge at this time; however, those pages will be included with any invoice generated once billable fees accrue.

For your information the remaining records consist of approximately 2,460 pages of **potentially** responsive emails. Your current agreement to pay \$165 only covers 243 pages of those potentially responsive records. Thus, at this point you have the following options regarding how to proceed with your request:

- 1) Process all remaining records. We estimate fees for all the records to be approximately \$382.50. If you select this option you must agree to pay the full estimated cost and pay half of it at this time (**\$191.25**). Note that total fees may be less than the full estimated amount once we complete processing and determine which records are responsive and what can be released. We would notify you of the final cost once processing is complete. You may email me at the below address with your willingness to pay the above-estimated fee. Also enclosed is an invoice with instructions for paying the current fee due should you select this option.
- 2) Keep the current agreement to pay \$165 and only receive remaining records up to that amount. If you choose this option please let us know the order in which you would like to receive the remaining records which consist of those from Bhavya Lal, Ravi Kopparapu, and individuals from the Office of International and Interagency Relations (OIIR).¹
- 3) Choose a different amount of fees you are willing to pay. If you choose this option, please also advise us of the order in which you would like to receive the remaining records.

With any of these options you may also reformulate your request to reduce the amount of records which would also enable us to respond to the remainder of your request as quickly as possible. We placed your request on hold pending the above-referenced information needed from you.

Appeal

Because processing is not yet complete, we ask that you defer any appeals until we complete our production of records. You do, however, 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:

¹ OIIR records consist of emails from the accounts of Karen Feldstein, Mike Gold, and Margaret Kieffer. These records are being processed together since these individuals are from the same office and much of the email discussions are interconnected.

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 stephanie.k.fox@nasa.gov. For further assistance you may also contact Nikki Gramian, Principal Agency FOIA Officer, at nikki.n.gramian@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; 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,




Stephanie K. Fox
Deputy Agency FOIA Officer

Enclosures

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>**

Re: Technosignature query - Vice

From: New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>
To: Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS] <alana.r.johnson@nasa.gov>
Cc: Chou, Felicia (HQ-NA001) <felicia.chou@nasa.gov>, Hautaluoma, Grey (HQ-NI000) <grey.hautaluoma-1@nasa.gov>, Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS] <elizabeth.r.landau@nasa.gov>, Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS] <joshua.a.handal@nasa.gov>
Sent: July 1, 2020 5:26:27 PM EDT
Received: July 1, 2020 5:26:27 PM EDT

I'll see what I can do tomorrow morning or Tuesday (b6 on Monday). But, for the sake of due diligence, do we know if this writer is considered a fringe figure?

Michael

--

Michael H. New, PhD

Deputy Associate Administrator for Research

Science Mission Directorate

NASA Headquarters

Phone: (202) 358-1766

Email: michael.h.new@nasa.gov

From: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>
Date: Wednesday, July 1, 2020 at 3:37 PM
To: Michael New <michael.h.new@nasa.gov>
Cc: "Chou, Felicia (HQ-NA001)" <felicia.chou@nasa.gov>, "Hautaluoma, Grey (HQ-NB000)" <grey.hautaluoma-1@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>
Subject: FW: Technosignature query - Vice

Hi, Michael.

We received a media query on the topic of technosignatures and I was directed to you. Would you be able to provide written responses to the questions here? (see the full query below signature)

Questions:

1. Does NASA presently collect data identifying atypical technosignatures, within or in proximity to earth's atmosphere?
2. If dictated by subsequent legislation, does NASA currently have the ability to detect atypical or anomalous technosignatures occurring within or in proximity to the earth's atmosphere?

3. Considering the strong congruence between the mainstream scientific community's analysis of SETI "technosignatures" and the reports of UAPs that the Navy is encountering, would NASA consider, if provided adequate funding and support, examination of potential technosignatures could be effective in trying to provide scientific support towards answering the UAP question being posed by the Navy, or the greater public as a whole?

Thank you,

Alana

--

Alana R. Johnson
Public Affairs Officer
NASA Headquarters
Planetary Science Division
O: 202.358.1501 | C: [REDACTED]
<https://solarsystem.nasa.gov/>

From: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>
Date: Wednesday, July 1, 2020 at 12:28 PM
To: "VOYTEK, MARY A. (HQ-DG000)" <mary.voytek- <mailto:mary.voytek-1@nasa.gov>1@nasa.gov>, "Hays, Lindsay E. (HQ-DG000)" <lindsay.hays@nasa.gov>
Subject: Technosignature query - Vice

Mary and Lindsay,

I was mistaken – this one is not for Popular Mechanics. The reporter has written for them before, and it seems he's incredibly interested in UFOs and Unidentified Aerial Phenomena (UAP). <https://twitter.com/LtTimMcMillan?s=20>

Please take a look at the questions and let me know what you think. He asked for a deadline of Friday, but I told him we need to push to next week due to the holiday. I bolded the portion of question three I think we could possibly touch on (without referencing SETI or the Navy). We will definitely coordinate responses with OLA and others.

He's working on an article for Vice (Motherboard) news related to a recent Congressional directive added to the Intelligence Authorization Act for FY2021. He's seeking comments relating to something within the NASA Authorization Act of 2019 <https://urldefense.proofpoint.com/v2/url?u=https-3A__www.commerce.senate.gov_2019_11_commerce-2Dleaders-2Dintroduce-2Dthe-2Dnasa-2Dauthorization-2Dact-2Dof-2D2019&d=DwMFaQ&c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&r=PLQpx8wlbYvZaODqkrDeqQ_IZRtGW79dgtOLHTSz6iA&m=xnEuczceZJFx-G_pHSnzfC9F7O8n8jUrbGSmwvW6lzo&s=yt24cU_0cedebeSFd_wyVhiZ2TDwMKvE6IMq41BrjzE&e=>>presented by members of the subcommittee on Aviation and Space and Senate Committee on Commerce, Science and Transportation on November 6, 2019.

Within the Bill, Title III- Science, Sec. 303 "Search for life" subsec. 4 lines 18-21 "Technosignatures," mentions "(1), the Administrator shall support activities to search for and analyze technosignatures."

Questions:

1. Does NASA presently collect data identifying atypical technosignatures, within or in proximity to earth's atmosphere?

2. If dictated by subsequent legislation, does NASA currently have the ability to detect atypical or anomalous technosignatures occurring within or in proximity to the earth's atmosphere?

3. Considering the strong congruence between the mainstream scientific community's analysis of SETI "technosignatures" and the reports of UAPs that the Navy is encountering, would NASA consider, if provided adequate funding and support, examination of potential technosignatures could be effective in trying to provide scientific support towards answering the UAP question being posed by the Navy, or the greater public as a whole?

Thanks for your help on this and for helping me learn more about it, too!

Alana

--

Alana R. Johnson

Public Affairs Officer

NASA Headquarters

Planetary Science Division

O: 202.358.1501 | C: b6

<https://solarsystem.nasa.gov> <<https://solarsystem.nasa.gov/>>

RE: FYSA: Global Exploration Roadmap Supplement - Web Update for Monday, Aug 24

From: Gold, Michael N. (HQ-AA000) <michael.n.gold@nasa.gov>
To: Gillen, Suzanne M. (HQ-VA000) <suzanne.m.gillen@nasa.gov>
Sent: August 23, 2020 1:18:15 PM EDT
Received: August 23, 2020 1:18:16 PM EDT

Yep, thanks for the heads-up. I've reviewed several times and have concurred.

How does your schedule look late this week or next for the UFO briefing?

From: Gillen, Suzanne M. (HQ-VA000) <suzanne.m.gillen@nasa.gov>
Sent: Sunday, August 23, 2020 12:53 PM
To: Gold, Michael N. (HQ-AA000) <michael.n.gold@nasa.gov>
Subject: FW: FYSA: Global Exploration Roadmap Supplement - Web Update for Monday, Aug 24
Importance: High

I don't see your name down below so want to make sure you are aware of this release on Monday related to the Global Exploration Roadmap Supplement!

Suzanne M. Gillen

Associate Administrator

Office of Legislative and Intergovernmental Affairs

NASA Headquarters

(Desk) - 202-358-1923

(Cell) - b6

suzanne.m.gillen@nasa.gov

From: Rowe, Andrew (HQ-VA030) <andrew.rowe@nasa.gov>
Sent: Friday, August 21, 2020 2:39 PM
To: Irving, Richard R. (HQ-VA030) <richard.r.irving@nasa.gov>; Flaherty, Christopher J. (HQ-VA030) <christopher.j.flaherty@nasa.gov>; Gillen, Suzanne M. (HQ-VA000) <suzanne.m.gillen@nasa.gov>
Subject: FW: FYSA: Global Exploration Roadmap Supplement - Web Update for Monday, Aug 24

The GER is coming! Looks like something we may want to communicate.

From: Anderson, Gina N. (HQ-NA001) <gina.n.anderson@nasa.gov>
Sent: Friday, August 21, 2020 2:14 PM
To: Lueders, Kathryn L. (KSC-CA000) <kathryn.l.lueders@nasa.gov>; Bowersox, Kenneth D. (HQ-CA000) <kenneth.d.bowersox@nasa.gov>; Mumford, Altonell L. (HQ-CA000) <amumford@nasa.gov>; Taylor, Alotta E. (HQ-CI000) <alotta.e.taylor@nasa.gov>; Edwards, Ashley (HQ-CI000) <ashley.edwards-1@nasa.gov>; Bryant, Devin (HQ-VA030) <devin.bryant@nasa.gov>; Rowe, Andrew (HQ-VA030) <andrew.rowe@nasa.gov>; Blasingame, Meredith K. (ARC-DL) <meredith.k.blasingame@nasa.gov>

Cc: Smith, Marshall (MSFC-CA000) <marshall.smith@nasa.gov>; Guidi, John (HQ-CQ000) <john.guidi@nasa.gov>; McKay, Meredith (HQ-TE000) <meredith.mckay@nasa.gov>; Finley, Patrick T (HQ-TE000) <patrick.t.finley@nasa.gov>; Kuhl, Katelyn M. (HQ-TE000) <katelyn.m.kuhl@nasa.gov>; Mitchell, Jonathan A. (HQ-TE000) <jonathan.a.mitchell@nasa.gov>; HEO PAO <heo-pao@lists.nasa.gov>; Mahoney, Erin C. (HQ-CM000)[ASRC RESEARCH & TECHNOLOGY SOLUTIONS] <erin.c.mahoney@nasa.gov>
Subject: FYSA: Global Exploration Roadmap Supplement - Web Update for Monday, Aug 24

Good afternoon,

Below is text for the Global Exploration Roadmap (GER) web update about the GER Supplement found here: <https://cms.nasa.gov/exploration/about/isecg> and the link to the supplement doc is here <[https://www.dropbox.com/b6\[REDACTED\]/GER Supplement Update 8-20-2020.pdf?dl=0](https://www.dropbox.com/b6[REDACTED]/GER%20Supplement%20Update%208-20-2020.pdf?dl=0)>. There's a quote in the web text from Tom Cremins that he has approved. The International Space Exploration Coordination Group <<https://www.globalspaceexploration.org/wordpress/>> (ISECG) will post the PDF on <https://www.globalspaceexploration.org/>, and we will link to their PDF file so that the ISECG has a central location to track downloads. We are targeting the morning of Monday, Aug. 24 to transmit the PDF and go live with the NASA ISECG update when they provide the live PDF link back to us.

Concurrences so far:

OIIR (Mike, Karen, Meredith, Patrick)

Tom Cremins

Marshall Smith

John Guidi

Gina Anderson

Barbara Zelon

Erin Mahoney

Please let us know if you have any questions or concerns. Additional routing will include:

- HEOMD Front Office – In process
- OCOMM Senior Leadership + Jim B.'s press secretary and Cheryl Warner – In process

Gina

Thanks, Gina

International Space Exploration Coordination Group

Together with 24 other space agencies, NASA participates in the International Space Exploration Coordination Group <<https://www.globalspaceexploration.org/wordpress/>> (ISECG) to advance a long-range human space exploration strategy.

Created in 2007, ISECG is a non-binding forum in which participating space agencies share information about their

space exploration plans, objectives, and interests with the goal of strengthening individual agency exploration programs and the collective effort. ISECG was established in response to "The Global Exploration Strategy: The Framework for Coordination <http://www.globalspaceexploration.org/c/document_library/get_file?uuid=119c14c4-6f68-49dd-94fa-af08ecb0c4f6&groupId=10812>," developed by 14 space agencies and released in May 2007. This GES Framework Document articulated a shared vision of coordinated human and robotic space exploration focused on Solar System destinations where humans may one day live and work.

The following space agencies are ISECG members (in alphabetical order):

Australian Space Agency (ASA), Brazilian Space Agency (Agência Espacial Brasileira—AEB), Canadian Space Agency (CSA), China National Space Administration (CNSA), Commonwealth Scientific and Industrial Research Organisation (Australia—CSIRO), European Space Agency (ESA), France's National Centre for Space Studies (Centre National D'Etudes Spatiales—CNES), German Space Agency (Deutsches Zentrum für Luft- und Raumfahrt—DLR), Indian Space Research Organisation (ISRO), Italian Space Agency (Agenzia Spaziale Italiana—ASI), Japan Aerospace Exploration Agency (JAXA), Korea Aerospace Research Institute (KARI), Luxembourg Space Agency (LSA), Norwegian Space Agency (NOSA), National Space Agency of Ukraine (NSAU), Polish Space Agency (POLSA), Romanian Space Agency (ROSA), Roscosmos State Corporation for Space Activities (Russia), Swiss Space Office (SSO), Thailand's Geo-Informatics and Space Technology Development Agency (GISTDA), United Arab Emirates Space Agency (UAESA), United Kingdom Space Agency (UKSA), United States' National Aeronautics and Space Administration (NASA), Vietnam National Space Center (VNSC)

ISECG Resources

- 2017 - Scientific opportunities enabled by human exploration beyond Low-Earth-Orbit – An ISECG Science White Paper <https://www.globalspaceexploration.org/wordpress/wp-content/isecg/ISECG_SWP_FINAL-web_2017-12.pdf>
- 2013 - Benefits Stemming from Space Exploration <<https://cms.nasa.gov/sites/default/files/files/Benefits-Stemming-from-Space-Exploration-2013-TAGGED.pdf>>

The Global Exploration Roadmap

In January 2018, ISECG published the third iteration of the GER, followed by a supplement in 2020 that reflected a dramatic increase in the number of ISECG member agencies (from 15 to 24) and a globally intensified and accelerated drive toward the Moon.

Download the 2020 GER Supplement here: [\[LINK\]](#)

The GER is a non-binding document that space agencies co-author to foster coordination and partnership opportunities. The iterative development process of the GER demonstrates the growing interest in space exploration across the globe and emphasizes the importance of cooperation to realize individual and common goals and objectives for ISECG members.

"When NASA received direction to accelerate our plans to send the first woman and next man to the Moon by 2024 under the Artemis program, it provided both a definitive timeline for NASA and a rallying force across the globe," said Tom Cremens, Associate Administrator for Strategy and Plans at NASA. "The nine new members recently joining ISECG reflect a growing global spirit of space exploration and these new spaceflight partners strengthen this momentous endeavor to return to the Moon—this time, for long-term science and exploration on and around humanity's nearest celestial neighbor as well as sharing a vision for the future exploration of Mars."

The GER is not only about lunar exploration. The document employs rich text, imagery, tables, and diagrams to articulate clear lunar science and exploration objectives that serve dual purposes of establishing common goals for the Moon while also preparing for the first human missions to Mars. The roadmap is consistent with member agencies' capability and technology investments while also asserting NASA's interest to remain a leader in space exploration.

GER Resources

- 2020 - GER Supplement [LINK]
- 2018 - GER third iteration <https://cms.nasa.gov/sites/default/files/atoms/files/ger_2018_small_mobile.pdf>
- 2017 - GER community workshop <<https://cms.nasa.gov/feature/nasa-to-host-workshop-on-the-next-global-exploration-roadmap>>
- 2013 - GER second iteration <https://cms.nasa.gov/sites/default/files/files/GER-2013_Small.pdf>
- 2011 - GER first iteration <https://cms.nasa.gov/pdf/591067main_GER_2011_small.pdf>

Re: PRESS QUERY - Popular Mechanics: policy initiatives/ Technosignatures

From: Hertz, Paul (HQ-DH000) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=3573AA82ADE34C77AF683B05B47481B6-HERTZ, PAUL>, Hertz, Paul (HQ-DH000) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=3573AA82ADE34C77AF683B05B47481B6-HERTZ, PAUL">
To: New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>
Sent: November 26, 2019 6:47:20 PM EST
Received: November 26, 2019 6:47:20 PM EST

I remember it differently. And the text for XRP explicitly permits techno signature proposals.

Paul

On: 26 November 2019 16:40, "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov> wrote:

BTW, I can't agree that b6 is a "technosignature expert". In fact, he seemed positively against the idea of NASA Astrophysics funding any such research...

--

Michael H. New, PhD

Deputy Associate Administrator for Research

Science Mission Directorate


NASA Headquarters

Phone: (202) 358-1766

Email: michael.h.new@nasa.gov

From: "Hertz, Paul (HQ-DA000)" <paul.hertz@nasa.gov>
Date: Tuesday, November 26, 2019 at 1:56 PM
To: "Feeley, Jens (HQ-DM000)" <jens.feeley@nasa.gov>, "Glaze, Lori S. (HQ-DG000)" <lori.s.glaze@nasa.gov>, "Johnson, Alana R. (HQ-DG000)[InuTeq, LLC]" <alana.r.johnson@nasa.gov>, Michael New <michael.h.new@nasa.gov>, "Hautaluoma, Grey (HQ-NB000)" <grey.hautaluoma-1@nasa.gov>, "Adler, Gabriel (HQ-VA030)" <gabriel.adler@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[InuTeq, LLC]" <joshua.a.handal@nasa.gov>, "Chou, Felicia (HQ-NA001)" <felicia.chou@nasa.gov>
Subject: RE: PRESS QUERY - Popular Mechanics: policy initiatives/ Technosignatures

Duplicate emails already processed



Deletion Page

 3 pages containing duplicate information are held in the file. The pages consist of emails NASA already processed.

From: [Quinn, Susie Perez \(HQ-AH000\)](#)
To: [Lal, Bhavya \(HQ-AA000\)](#); [Etkind, Marc R. \(HQ-NA000\)](#); [Brown, Alicia N. \(HQ-VA000\)](#); [Dalton, Bale \(HQ-AH000\)](#)
Subject: RE: National Academy review of UAP report
Date: Tuesday, June 15, 2021 6:37:13 AM

Two cents. Like his approach. Am curious why this hasn't been done before and how to also ensure we are not encroaching on current DOD or other agency activities. Also if there is room to coordinate w a civilian agency tho not sure who that would be.

From: Lal, Bhavya (HQ-AA000) <bhavya.lal@nasa.gov>
Sent: Tuesday, June 15, 2021 5:51 AM
To: Etkind, Marc R. (HQ-NA000) <marc.r.etkind@nasa.gov>; Brown, Alicia N. (HQ-VA000) <alicia.n.brown@nasa.gov>; Quinn, Susie Perez (HQ-AH000) <susie.p.quinn@nasa.gov>; Dalton, Bale (HQ-AH000) <bale.dalton@nasa.gov>
Subject: Fwd: National Academy review of UAP report

See below. Let's discuss! I think we should also talk to the authors of the report to understand how much of the data can be declassified.

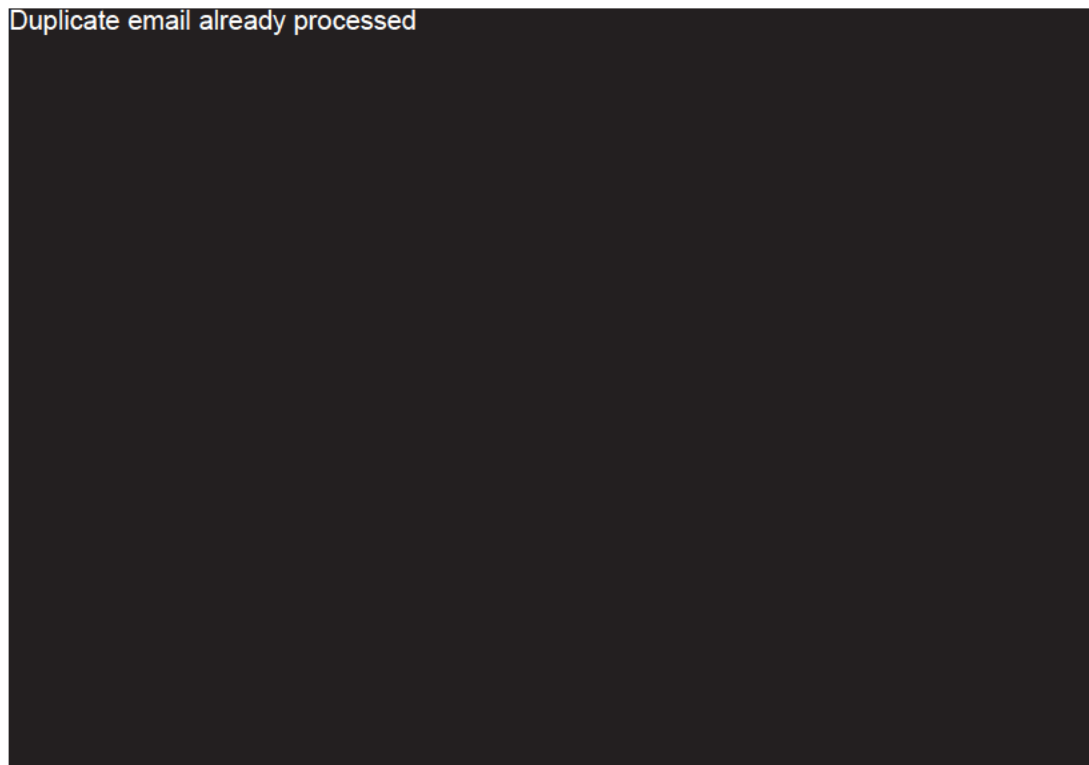
Bhavya Lal, Ph.D.

b6

Begin Forwarded Message:

From: "Zurbuchen, Thomas H. (HQ-DA000)" <thomas.h.zurbuchen@nasa.gov>
Subject: RE: National Academy review of UAP report
Date: 14 June 2021 23:27
To: "Lal, Bhavya (HQ-AA000)" <bhavya.lal@nasa.gov>

Duplicate email already processed



Deletion Page

2 pages containing duplicate information are held in the file. The pages consist of emails NASA already processed.

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

From: Jones, Nancy N. (GSFC-1300) <nancy.n.jones@nasa.gov>
To: 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>, Hautaluoma, Grey (HQ-NA020) <grey.hautaluoma-1@nasa.gov>, New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>, Fox, Karen C. (GSFC-1300) <karen.c.fox@nasa.gov>
Sent: May 18, 2021 2:18:47 PM EDT
Received: May 18, 2021 2:18:47 PM EDT

All,

Please find the response provided by Ravi Kopparapu.

Thanks,

Nancy

Begin Forwarded Message:

From: "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>
Subject: Re: [EXTERNAL] Inquiry from Washington Post about your paper
Date: 18 May 2021 12:40
To: "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>
Cc: "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>

Hi Nancy,

The interview was about our recent

<<https://gcc02.safelinks.protection.outlook.com/?url=https://arxiv.org/abs/2102.05027&data=04|01|michael.h.new@nasa.gov|37d1bf0009d8409bb78008d91a296109|7005d45845be48ae8140d43da96dd17b|0|0|637569587279548490|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTil6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=DNR73328tHnuIGJ0g/5i7O9GkC28xSJGr+L5knZ+8Jo=&reserved=0>> papers
<<https://gcc02.safelinks.protection.outlook.com/?url=https://arxiv.org/abs/2103.01536&data=04|01|michael.h.new@nasa.gov|37d1bf0009d8409bb78008d91a296109|7005d45845be48ae8140d43da96dd17b|0|0|637569587279548490|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTil6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=nL2Q+phkW0q0UC9mYBJRIJHdQpOyOmS0C0s292iIS4I=&reserved=0>> 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 <<https://gcc02.safelinks.protection.outlook.com/?url=https://www.scientificamerican.com/article/unidentified-aerial-phenomena-better-known-as-ufos-deserve-scientific-investigation/&data=04|01|michael.h.new@nasa.gov|37d1bf0009d8409bb78008d91a296109|7005d45845be48ae8140d43da96dd17b|0|0|637569587279558446|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTil6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=RLQs/jiqEZ4TZI5Q1/gwiyNoB2c4FfsQCdqubEnWXyg=&reserved=0>>. 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:

Duplicate emails already processed



Deletion Page

1 page containing duplicate information is held in the file. The page consists of emails NASA already processed.

[EXTERNAL] Fwd: Greetings and offer to help

From: Thomas Zurbuchen [b6] .com>
To: Thomas H Zurbuchen <thomas.h.zurbuchen@nasa.gov>, Zurbuchen, Thomas H. (HQ-DA000) <thomas.h.zurbuchen@nasa.gov>
Sent: June 14, 2021 11:04:37 PM EDT
Received: June 14, 2021 11:08:30 PM EDT
Attachments: Thomas_Zurbuchen_AL.docx, Thomas_Zurbuchen_AL.pdf

----- Forwarded message -----

From: Avi Loeb [b6]
Date: Sat, Jun 5, 2021 at 1:34 PM
Subject: Re: Greetings and offer to help
To: Thomas Zurbuchen [b6] .com>

Dear Thomas,

Attached is a summary of the concept we discussed over the phone. I included the SETI component at the end - per your recommendation.

My new textbook on "Life In the Cosmos

<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.hup.harvard.edu/catalog.php?isbn=9780674987579&data=04|01|thomas.h.zurbuchen@nasa.gov|a38a4a99321c43bbf40608d92faad8b8|7005d45845be48ae8140d43da96dd17b|0|0|637593233102137795|Unknown|TWfPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=AFR04CLJ95QR4OS+N3j6sFP4g9/QcKTvFat2RYtISA8=&reserved=0>> is about to be published by Harvard University Press in a couple of weeks. In my next message, I will ask the publisher to send you a copy.

Let me know how you wish to proceed. It is a pleasure working with you.

With warm regards,

Avi

Abraham (Avi) Loeb
Frank B. Baird Jr. Professor of Science
Harvard University

Website: <https://web.cfa.harvard.edu/~loeb/>

<<https://gcc02.safelinks.protection.outlook.com/?url=https://web.cfa.harvard.edu/~loeb/&data=04|01|thomas.h.zurbuchen@nasa.gov|a38a4a99321c43bbf40608d92faad8b8|7005d45845be48ae8140d43da96dd17b|0|0|637593233102137795|Unknown|TWfPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=EvKQ4zKEeKFi/dNCUI6hpK7W8bjdxS5SjtxzBVgFA=&reserved=0>>

Cell: [b6] [he/him/his]

On Sat, Jun 5, 2021 at 8:53 AM Avi Loeb [b6] > wrote:

Yes, I am available today anytime between 9:30AM-7PM ET. Let me know which time works best for you.

My cell phone number is [b6]

Looking forward to speaking with you.

Avi

Abraham (Avi) Loeb
Frank B. Baird Jr. Professor of Science
Harvard University

Website: <https://web.cfa.harvard.edu/~loeb/>
<<https://gcc02.safelinks.protection.outlook.com/?url=https://web.cfa.harvard.edu/~loeb/&data=04|01|thomas.h.zurbuchen@nasa.gov|a38a4a99321c43bbf40608d92faad8b8|7005d45845be48ae8140d43da96dd17b|0|0|637593233102147755|Unknown|TWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTiI6lk1haWwiLCJXVCi6Mn0=|1000&sdata=QOOK/f7kJ33FI2AY5hXIEQIBQirSz2AMsYC9J7x2ick=&reserved=0>>

Cell: b6 [he/him/his]

On Sat, Jun 5, 2021 at 8:37 AM Thomas Zurbuchen b6 com> wrote:

Avi - Do you have time for a quick chat this weekend?

Thomas

Sent from my iPhone

On Jun 5, 2021, at 5:31 AM, Avi Loeb <b6> wrote:

Dear Thomas,

In the NASA news conference <<https://gcc02.safelinks.protection.outlook.com/?url=https://www.c-span.org/video/?512246-1/nasa-news-conference&data=04|01|thomas.h.zurbuchen@nasa.gov|a38a4a99321c43bbf40608d92faad8b8|7005d45845be48ae8140d43da96dd17b|0|0|637593233102147755|Unknown|TWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTiI6lk1haWwiLCJXVCi6Mn0=|1000&sdata=PqsbuPTH2nlfC0VF18JsV7EgmrkO8MFkeeWEYbcjCio=&reserved=0>> that you attended with Bill Nelson on June 2 and the follow-up interview <<https://gcc02.safelinks.protection.outlook.com/?url=https://edition.cnn.com/videos/business/2021/06/04/ufo-nasa-navy-pilots-bill-nelson-chief-investigation-pentagon-orig.cnn-business/video/playlists/business-news/&data=04|01|thomas.h.zurbuchen@nasa.gov|a38a4a99321c43bbf40608d92faad8b8|7005d45845be48ae8140d43da96dd17b|0|0|637593233102157708|Unknown|TWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTiI6lk1haWwiLCJXVCi6Mn0=|1000&sdata=JlQMaujArxI+nDuHWUwOPELeTJ/1jnAaRzW4TzSE2c8=&reserved=0>> that he gave to CNN, Bill indicated that he would like scientists to look into the data described in the forthcoming Pentagon report to congress and assess the nature of the unidentified aerial phenomena being reported. Leaving the mystery unresolved fuels unsubstantiated speculations in the public. My sense is that a detailed analysis of all available data by physicists rather than by lawmakers or national security analysts may clear up the fog and is important for demonstrating the integrity of the scientific process (especially these days when anti-science sentiments are expressed in some political quarters).

Please let me know if I can be of help in any related analysis of the available data. I have decades-long knowledge of physics and its applications to technological devices and will be glad to offer my expertise in any such study. More

details about my background are described in my CV

<<https://gcc02.safelinks.protection.outlook.com/?url=https://web.cfa.harvard.edu/~loeb/vitae.pdf&data=04|01|thomas.h.zurbuchen@nasa.gov|a38a4a99321c43bbf40608d92faad8b8|7005d45845be48ae8140d43da96dd17b|0|0|637593233102157708|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTil6lk1haWwiLCJXVCi6Mn0=|1000&sdata=9Egx0go0g/B4zMqTyEfccnk/u8xkPmXclKjtWVDERiY=&reserved=0>> and my website
<<https://gcc02.safelinks.protection.outlook.com/?url=https://web.cfa.harvard.edu/~loeb/&data=04|01|thomas.h.zurbuchen@nasa.gov|a38a4a99321c43bbf40608d92faad8b8|7005d45845be48ae8140d43da96dd17b|0|0|637593233102167662|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTil6lk1haWwiLCJXVCi6Mn0=|1000&sdata=yY3dODM3U8N/wvuRbIHhNy6lhoyBqhwTpT7U0aL4Hc=&reserved=0>>. Feel free to share this message with Bill.

For the record, I received your Gmail address from my BU collaborator, b6 who speaks very highly of you.

With kind regards,

Avi Loeb

Abraham (Avi) Loeb
Frank B. Baird Jr. Professor of Science
Harvard University

Website:<https://web.cfa.harvard.edu/~loeb/>
<<https://gcc02.safelinks.protection.outlook.com/?url=https://web.cfa.harvard.edu/~loeb/&data=04|01|thomas.h.zurbuchen@nasa.gov|a38a4a99321c43bbf40608d92faad8b8|7005d45845be48ae8140d43da96dd17b|0|0|637593233102167662|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTil6lk1haWwiLCJXVCi6Mn0=|1000&sdata=yY3dODM3U8N/wvuRbIHhNy6lhoyBqhwTpT7U0aL4Hc=&reserved=0>>

Cell: b6 [he/him/his]

Attachment

1. Thomas_Zurbuchen_AL.docx

Type: application/vnd.openxmlformats-officedocument.wordprocessingml.document
Size: 34 KB (35,137 bytes)

2. Thomas_Zurbuchen_AL.pdf

Type: application/pdf
Size: 229 KB (234,621 bytes)

Attachment #1

Thomas_Zurbuchen_AL.docx

Original view

2 pages (displayed on pages 6 to 7)

Scientific Study of UAPs and Techno-Signatures

By Avi Loeb on June 5, 2021

A report on Unidentified Aerial Phenomena (UAP) is expected to be delivered by the Pentagon and various intelligence agencies to Congress this month. The reality of UAPs is beyond doubt but their nature requires further scientific study. It is therefore an opportune time for NASA and the scientific community to take a closer look at UAP by collecting and analyzing new data with state-of-the-art instrumentation and computers.

The new data can be collected by cameras, telescopes and audio sensors, with capabilities far exceeding the equipment that provided the existing UAP data. This program provides a unique opportunity for demonstrating the power of science in resolving a question that is of great interest to society, namely: *"is the nature of UAP natural, human-made or extraterrestrial?"* Finding a clear answer on the basis of open data will establish confidence from the general public in evidence-based knowledge, as well as in the transparency and integrity of NASA and the federal government. The societal appreciation of science will double up on the successful development of a messenger-RNA vaccine that triggered the desired immune response to COVID-19 using a synthetic chemical.

Currently, the UAP mystery surrounding the inconclusive findings of the Pentagon report fuels unsubstantiated speculations. A decisive scientific experiment that would clarify the nature of UAPs will demonstrate the power of scientific research in clarifying the fog on a subject of huge importance to society.

The required instrumentation will likely include state-of-the-art cameras installed on wide-field telescopes that scan the sky. The data stream will be processed by an advanced computer system that will store only the essential variable features. The focus on near-field aerial phenomenon is different from astronomical surveys of distant sources, such as the upcoming Legacy Survey of Space and Time (LSST) on the Vera C. Rubin Observatory.

The intriguing nature of UAP implies that irrespective of whether their origin is terrestrial or extraterrestrial, we will learn something new and exciting. Therefore, this research program is a win-win proposition.

The recommended instrumentation and observing plan will be defined by a scientific advisory committee, operating within a budgetary envelope defined by NASA.

The proposed initial members of the “UAP Task Force” are as follows:

Avi Loeb (Task Force Chair)

b6 (Yale, optical/IR observer with expertise in wide field cameras)
b6 (U. Chicago; former director of b6)
b6 Optical/IR observer, adaptive optics expert; Nobel Laureate)
b6 (Caltech, optical/IR observer with interest in SETI)
b6 (U. Washington, science director at b6)
b6 ; radio observer; Shaw Prize Laureate)
b6 (Princeton, general purpose observer with interest in SETI)
b6 (b6 Chief Scientist)
b6 (Caltech, radio observations with interest in SETI)
b6 (UCSD, optical/IR observer with interest in SETI)

In parallel to the effort to understand the nature of UAPs, a funding program should be established to explore technological signature of extraterrestrial civilizations. Novel research directions that can be explored in this program include:

- Flyby photography of unusual interstellar objects like ‘Oumuamua
- Artificial lights on nightside of planets
- Unusual reflectance on the dayside of planets
- Search for artificial megastructures around other stars
- Search for industrial pollution in planetary atmospheres

An extensive overview of the scientific background underlying these studies is provided in a new (1,061 pages long) textbook, titled: “[Life In the Cosmos](#)”, by Manasvi Lingam and Avi Loeb, to be published on June 29, 2021, by Harvard University Press.

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 longest-serving 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](#)”.

Attachment #2

Thomas_Zurbuchen_AL.pdf

Original view

2 pages (displayed on pages 9 to 10)

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The new data can be collected by cameras, telescopes and audio sensors, with capabilities far exceeding the equipment that provided the existing UAP data. This program provides a unique opportunity for demonstrating the power of science in resolving a question that is of great interest to society, namely: *"is the nature of UAP natural, human-made or extraterrestrial?"* Finding a clear answer on the basis of open data will establish confidence from the general public in evidence-based knowledge, as well as in the transparency and integrity of NASA and the federal government. The societal appreciation of science will double up on the successful development of a messenger-RNA vaccine that triggered the desired immune response to COVID-19 using a synthetic chemical.

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The intriguing nature of UAP implies that irrespective of whether their origin is terrestrial or extraterrestrial, we will learn something new and exciting. Therefore, this research program is a win-win proposition.

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The proposed initial members of the “UAP Task Force” are as follows:

Avi Loeb (Task Force Chair)

b6 (Yale, optical/IR observer with expertise in wide field cameras)

b6 (U. Chicago; former director of the Carnegie Observatories)

b6; Optical/IR observer, adaptive optics expert; Nobel Laureate)

b6 (Caltech, optical/IR observer with interest in SETI)

b6 (U. Washington, science director at b6)

b6; radio observer; Shaw Prize Laureate)

b6 (Princeton, general purpose observer with interest in SETI)

b6 Chief Scientist)

b6 (Caltech, radio observations with interest in SETI)

b6 (UCSD, optical/IR observer with interest in SETI)

In parallel to the effort to understand the nature of UAPs, a funding program should be established to explore technological signature of extraterrestrial civilizations. Novel research directions that can be explored in this program include:

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- Artificial lights on nightside of planets
- Unusual reflectance on the dayside of planets
- Search for artificial megastructures around other stars
- Search for industrial pollution in planetary atmospheres

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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 longest-serving 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](#)”.

RE: Noon deadline - WaPo OpEd - Ravi Kopparapu - FW: Washington Post article draft

From: Thompson, Tabatha T. (HQ-NA020) <tabatha.t.thompson@nasa.gov>
To: Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS] <alana.r.johnson@nasa.gov>, Harrington, J D (HQ-NA020) <j.d.harrington@nasa.gov>, Fox, Karen C. (GSFC-1300) <karen.c.fox@nasa.gov>, New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>
Cc: Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS] <joshua.a.handal@nasa.gov>
Sent: May 25, 2021 11:13:57 AM EDT
Received: May 25, 2021 11:14:00 AM EDT

Alana, I had also flagged this for Allard (adding him here), as he had a separate conversation with Marc directly on this topic and I want to make sure all are aware who should be.

From: Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS] <alana.r.johnson@nasa.gov>
Sent: Tuesday, May 25, 2021 11:10 AM
To: Harrington, J D (HQ-NA020) <j.d.harrington@nasa.gov>; Fox, Karen C. (GSFC-1300) <karen.c.fox@nasa.gov>; New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>; Thompson, Tabatha T. (HQ-NA020) <tabatha.t.thompson@nasa.gov>
Cc: Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS] <joshua.a.handal@nasa.gov>
Subject: Re: Noon deadline - WaPo OpEd - Ravi Kopparapu - FW: Washington Post article draft

Thanks, JD!

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>
<<https://gcc02.safelinks.protection.outlook.com/?url=https://bit.ly/mars-landing-media&data=04|01|michael.h.new@nasa.gov|ed68c9e870874134e27308d91f8fb820|7005d45845be48ae8140d43da96dd17b|0|0|637575524403651655|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=4cT113dIdJt+IL3GYAmzqXXiY1qymvwhi/Tlh59ZiYU=&reserved=0>>.

Alana R. Johnson

Senior Communications Specialist, PAAC V Contract

Planetary Science Division

alana.r.johnson@nasa.gov

o: (202) 358-1501 | c: (b6)

NASA Headquarters, 300 E. St SW, Washington, DC. 20546

asrcfederal.com

<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.asrcfederal.com/&data=04|01|michael.h.new@nasa.gov|ed68c9e870874134e27308d91f8fb820|7005d45845be48ae8140d43da96dd17b|0|0|637575524403661607|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=2FRdKsfodDkJYakChrc9dZrnQdurqpS7iaTmJ85qV4=&reserved=0>>|Purpose Driven. Enduring Commitment.

From: "Harrington, J D (HQ-NA020)" <j.d.harrington@nasa.gov>

Date: Tuesday, May 25, 2021 at 11:07 AM

To: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>, "Fox, Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov>, "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov>, "Thompson, Tabatha T. (HQ-NA020)" <tabatha.t.thompson@nasa.gov>
Cc: "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>
Subject: RE: Noon deadline - WaPo OpEd - Ravi Kopparapu - FW: Washington Post article draft

I read the article. I don't see anything that jumps out at me. As long as it's listed as his story and not the agency's, I don't see a problem. Also wouldn't expect it to list his NASA job title...

JD

From: Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS] <alana.r.johnson@nasa.gov>
Sent: Tuesday, May 25, 2021 10:44 AM
To: Fox, Karen C. (GSFC-1300) <karen.c.fox@nasa.gov>; New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>; Harrington, J D (HQ-NA020) <j.d.harrington@nasa.gov>; Thompson, Tabatha T. (HQ-NA020) <tabatha.t.thompson@nasa.gov>
Cc: Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS] <joshua.a.handal@nasa.gov>
Subject: Noon deadline - WaPo OpEd - Ravi Kopparapu - FW: Washington Post article draft
Importance: High

Bumping up to flag the noon deadline.

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>

<<https://gcc02.safelinks.protection.outlook.com/?url=https://bit.ly/mars-landing-media&data=04|01|michael.h.new@nasa.gov|ed68c9e870874134e27308d91f8fb820|7005d45845be48ae8140d43da96dd17b|0|0|637575524403661607|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTiI6Ik1hZWwiLCJXVCI6Mn0=|1000&sdata=3DYvfB2Gd5soeRYq5l/0yIMWdfq8v67SluXCnOjIOMw=&reserved=0>>.

Alana R. Johnson

Senior Communications Specialist, PAAC V Contract

Planetary Science Division

alana.r.johnson@nasa.gov

o: (202) 358-1501 | c: b6

NASA Headquarters, 300 E. St SW, Washington, DC. 20546

asrcfederal.com

<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.asrcfederal.com/&data=04|01|michael.h.new@nasa.gov|ed68c9e870874134e27308d91f8fb820|7005d45845be48ae8140d43da96dd17b|0|0|637575524403671563|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTiI6Ik1hZWwiLCJXVCI6Mn0=|1000&sdata=e1hZZfqqzIP3LDfi3SWnaUJ+BfROJkyqNhKyeel6NmY=&reserved=0>>|Purpose Driven. Enduring Commitment.

From: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>
Date: Tuesday, May 25, 2021 at 9:06 AM
To: "Fox, Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov>, "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov>, "Harrington, J D (HQ-NA020)" <j.d.harrington@nasa.gov>

Cc: "Glaze, Lori S. (HQ-DG000)" <lori.s.glaze@nasa.gov>, "Thompson, Tabatha T. (HQ-NA020)" <tabatha.t.thompson@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>
Subject: WaPo OpEd - Ravi Kopparapu - FW: Washington Post article draft

Michael, JD and Karen.

Attached for awareness is an OpEd written by GSFC scientist Ravi Kopparapu which stems from his recent papers on Technosignature science and Unidentified Aerial Phenomena (UAPs).

Please let me know if you have any flags. We learned this morning that it is due to WaPo by noon today.

From Ravi, 5/18:

The interview was about our recent

<<https://gcc02.safelinks.protection.outlook.com/?url=https://arxiv.org/abs/2102.05027&data=04|01|michael.h.new@nasa.gov|ed68c9e870874134e27308d91f8fb820|7005d45845be48ae8140d43da96dd17b|0|0|637575524403671563|Unknown|TWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTil6lk1haWwiLCJXVCi6Mn0=|1000&sdata=74y6V8Bb|igD+O4aUWTuHCdSPU8KYCBIVk6zITLV+OE=&reserved=0>>papers
<<https://gcc02.safelinks.protection.outlook.com/?url=https://arxiv.org/abs/2103.01536&data=04|01|michael.h.new@nasa.gov|ed68c9e870874134e27308d91f8fb820|7005d45845be48ae8140d43da96dd17b|0|0|637575524403681522|Unknown|TWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTil6lk1haWwiLCJXVCi6Mn0=|1000&sdata=rztUdyCZYFVF3g0vpVNEDoKNuuzAA/uVXdKe9iUsgUk=&reserved=0>>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 <<https://gcc02.safelinks.protection.outlook.com/?url=https://www.scientificamerican.com/article/unidentified-aerial-phenomena-better-known-as-ufos-deserve-scientific-investigation/&data=04|01|michael.h.new@nasa.gov|ed68c9e870874134e27308d91f8fb820|7005d45845be48ae8140d43da96dd17b|0|0|637575524403681522|Unknown|TWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTil6lk1haWwiLCJXVCi6Mn0=|1000&sdata=wYuFocXk6uS/NHqGUdXq3jz/1/f6ijAD1NSjJZJ8fnc=&reserved=0>>. 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,

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>

<<https://gcc02.safelinks.protection.outlook.com/?url=https://bit.ly/mars-landing-media&data=04|01|michael.h.new@nasa.gov|ed68c9e870874134e27308d91f8fb820|7005d45845be48ae8140d43da96dd17b|0|0|637575524403691479|Unknown|TWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTil6lk1haWwiLCJXVCi6Mn0=|1000&sdata=N5Y+t0L2/J2rNgbar9solzrSyHsHcS2Vbe9Te1U9g9g=&reserved=0>>.

Alana R. Johnson

Senior Communications Specialist, PAAC V Contract

Planetary Science Division

alana.r.johnson@nasa.gov

o: (202) 358-1501 | c: b6

NASA Headquarters, 300 E. St SW, Washington, DC. 20546

asrcfederal.com

<https://gcc02.safelinks.protection.outlook.com/?url=https://www.asrcfederal.com/&data=04|01|michael.h.new@nasa.gov|ed68c9e870874134e27308d91f8fb820|7005d45845be48ae8140d43da96dd17b|0|0|637575524403691479|Unknown|TWfPbGZsb3d8eyJWljoimC4wLjAwMDAiLCJQljoiv2luMzliLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=1LzSbq2DZ1OyKd+lvTb5kka3bda8mTfiS9PKoGx/K84=&reserved=0>|Purpose Driven. Enduring Commitment.

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

Date: Tuesday, May 25, 2021 at 8:25 AM

To: "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>, "Fox, Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov>, "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov>
Subject: FW: Washington Post article draft

Hi All,

Somehow, I overlooked this email. Please take a look at the article. Ravi plans to submit today at noon.

Apologies for the short notice.

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: Thursday, May 20, 2021 at 12:01 PM

To: "Nancy N. Jones" <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 for those who gave comments.

Best

Ravi

Begin Forwarded Message:

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


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

Date:18 May 2021 12:40

To:"Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>

Cc:"Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>

Duplicate emails already processed



Attachment

1. WaPo_Final.docx

Type: application/vnd.openxmlformats-officedocument.wordprocessingml.document
Size: 9 KB (9,716 bytes)

2. FW: [EXTERNAL] Inquiry from Washington Post about your paper

Type: message/rfc822
Size: 29 KB (30,370 bytes)

Attachment #1

WaPo_Final.docx

Original view

2 pages (displayed on pages 7 to 8)

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.

Attachment #2

FW: [EXTERNAL] Inquiry from Washington Post about your paper

FW: [EXTERNAL] Inquiry from Washington Post about your paper

From: Jones, Nancy N. (GSFC-1300) <nancy.n.jones@nasa.gov>
To: Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS] <alana.r.johnson@nasa.gov>
Sent: May 20, 2021 9:23:11 AM EDT
Received: May 20, 2021 9:23:13 AM EDT

FYI: Ravi is working on the article. I will send it to HQ when he has final copy.

--

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 18, 2021 at 2:18 PM
To: "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>, "Hautaluoma, Grey (HQ-NA020)" <grey.hautaluoma-1@nasa.gov>, "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov>, "Fox, Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov>
Subject: Fwd: [EXTERNAL] Inquiry from Washington Post about your paper

All,

Please find the response provided by Ravi Kopparapu.

Thanks,

Nancy

Begin Forwarded Message:

From: "Kopparapu, Ravi Kumar (GSFC-6990)" <ravikumar.kopparapu@nasa.gov>
Subject: Re: [EXTERNAL] Inquiry from Washington Post about your paper
Date: 18 May 2021 12:40
To: "Jones, Nancy N. (GSFC-1300)" <nancy.n.jones@nasa.gov>
Cc: "Andreoli, Claire (GSFC-1300)" <claire.andreoli@nasa.gov>

Hi Nancy,

The interview was about our recent

Deletion Page

3 pages containing duplicate information are held in the file. The pages consist of emails NASA already processed.

From: [Lal, Bhavya \(HQ-AA000\)](#)
To: [Etkind, Marc R. \(HQ-NA000\)](#)
Subject: Re: National Academy review of UAP report
Date: Saturday, June 12, 2021 12:08:01 PM

You can tell Bill it's a good idea :-). Reading now though [REDACTED] b5
[REDACTED] my weekend.

Bhavya Lal, Ph.D.
[REDACTED] b5

On: 12 June 2021 11:55, "Etkind, Marc R. (HQ-NA000)" <marc.r.etkind@nasa.gov> wrote:

Love this idea of study. LMK how I can help support. Btw, thought this was a good read...

<https://www.cnet.com/news/that-ufo-report-has-us-thinking-all-wrong-about-the-military>

From: "Quinn, Susie Perez (HQ-AH000)" <susie.p.quinn@nasa.gov>
Date: Thursday, June 10, 2021 at 2:14 PM
To: Bhavya Lal <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: National Academy review of UAP report

Bill will ask for input from Thomas Z- do you want to ask him for views?

From: Lal, Bhavya (HQ-AA000) <bhavya.lal@nasa.gov>
Sent: Thursday, June 10, 2021 1:14 PM
To: Quinn, Susie Perez (HQ-AH000) <susie.p.quinn@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: FW: National Academy review of UAP report

As I had mentioned this am, see below. Would BN be interested in such a study? Brings NASA in more centrally, and also the scientific community.

From: Turner, Ron (HQ-UA000)[MIPSS SME] <ron.turner@nasa.gov>
Sent: Thursday, June 10, 2021 11:54 AM
To: Lal, Bhavya (HQ-AA000) <bhavya.lal@nasa.gov>
Cc: Turner, Ron <[REDACTED] b6>
Subject: National Academy review of UAP report

Deletion Page

1 page containing duplicate information is held in the file. The page consists of an email NASA already processed.

UFO topic - how is our plan?

From: Zurbuchen, Thomas H. (HQ-DA000) <thomas.h.zurbuchen@nasa.gov>
To: Evans, Daniel A. (HQ-DA000) <daniel.a.evans@nasa.gov>, New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>
Sent: August 3, 2021 5:47:55 PM EDT
Received: August 3, 2021 5:47:57 PM EDT

<https://www.wgbh.org/news/science-and-technology/2021/08/02/ufo-hunting-with-harvard-data-astrophysicist-advocates-for-scientific-investigation>
<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.wgbh.org/news/science-and-technology/2021/08/02/ufo-hunting-with-harvard-data-astrophysicist-advocates-for-scientific-investigation&data=04|01|michael.h.new@nasa.gov|6754a11de7bb493c125508d956c85a57|7005d45845be48ae8140d43da96dd17b|0|0|637636240784354899|Unknown|TWFpbGZsb3d8eyJWljoiMC4wLjAwMDAiLCJQIjoiV2luMzliLCJB>
Til6lk1haWwiLCJXVCi6Mn0=|1000&sdata=tlGiHc4H06KL/Akl0u/1mBfqjfp7cWOInUZgGITQg=&reserved=0>

Thomas H. Zurbuchen, PhD

Associate Administrator, NASA Science Mission Directorate

@Dr_ThomasZ

<https://gcc02.safelinks.protection.outlook.com/?url=https://twitter.com/Dr_ThomasZ&data=04|01|michael.h.new@nasa.gov|6754a11de7bb493c125508d956c85a57|7005d45845be48ae8140d43da96dd17b|0|0|637636240784354899|Unknown|TWFpbGZsb3d8eyJWljoiMC4wLjAwMDAiLCJQIjoiV2luMzliLCJB
Til6lk1haWwiLCJXVCi6Mn0=|1000&sdata=7/O16QkJaOu30LbW2zSQjXJXofVwzXgixziKwc1s+N8=&reserved=0>

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UFO Vids

From: Keshian, Jaclyn R. (HQ-VA000) <jaclyn.r.keshian@nasa.gov>
To: Gillen, Suzanne M. (HQ-VA000) <suzanne.m.gillen@nasa.gov>
Sent: April 28, 2020 11:27:26 AM EDT
Received: April 28, 2020 11:27:27 AM EDT

FYI that the DoD has released previously unconfirmed UFO videos

<https://www.defense.gov/Newsroom/Releases/Release/Article/2165713/statement-by-the-department-of-defense-on-the-release-of-historical-navy-videos/>

Jackie Keshian

Policy Advisor

Office of Legislative and Intergovernmental Affairs

NASA Headquarters

(202) 358-4790

FW: UAPTF and NASA - Request for Comment

From: Weigel, Dana J. (JSC-OA111) <dana.j.weigel@nasa.gov>
To: Montalbano, Joel R. (JSC-OA111) <joel.r.montalbano@nasa.gov>
Sent: July 21, 2021 11:51:54 AM EDT
Received: July 21, 2021 11:51:55 AM EDT

Suggested answers below. Trying to be helpful.

1. Because NASA has the most experience with non-terrestrial life forms including alien interludes
2. Um, because it is classified
3. He is all-knowing and has experienced closed encounters of his own
4. Not that the public would understand
5. NASA reporting is through Area 51 and Skinwalker Ranch

Dana Weigel

Deputy Manager, ISSP

International Space Station Program

Office: 281-483-4372

Cell: b6

From: Cheshier, Leah D. (JSC-AD911) <leah.d.cheshier@nasa.gov>
Sent: Tuesday, July 20, 2021 12:44 PM
To: Montalbano, Joel R. (JSC-OA111) <joel.r.montalbano@nasa.gov>
Cc: Huot, Daniel G. (JSC-AD911) <daniel.g.huot@nasa.gov>; Jordan, Gary J. (JSC-AD911) <gary.j.jordan@nasa.gov>; Weigel, Dana J. (JSC-OA111) <dana.j.weigel@nasa.gov>; Grau, Raphael A. (JSC-OX111) <raphael.a.grau@nasa.gov>; Mathis, Dylan (JSC-AD111) <dylan.mathis-1@nasa.gov>; Dorth, Gregory (JSC-OX111) <gregory.dorth-1@nasa.gov>
Subject: RE: UAPTF and NASA - Request for Comment

Hi Joel,

Just checking back on this reporter Q&A – we'll appreciate any information you can provide.

Thank you!

Leah

From: Cheshier, Leah D. (JSC-AD911)
Sent: Monday, July 19, 2021 8:39 AM
To: Montalbano, Joel R. (JSC-OA111) <joel.r.montalbano@nasa.gov>
Cc: Huot, Daniel G. (JSC-AD911) <daniel.g.huot@nasa.gov>; Jordan, Gary J. (JSC-AD911) <gary.j.jordan@nasa.gov>; Weigel, Dana J. (JSC-OA111) <dana.j.weigel@nasa.gov>; Grau, Raphael A. (JSC-

OX111) <raphael.a.grau@nasa.gov>; Mathis, Dylan (JSC-AD111) <dylan.mathis-1@nasa.gov>; Dorth, Gregory (JSC-
OX111) <gregory.dorth-1@nasa.gov>

Subject: UAPTF and NASA - Request for Comment

Good morning Joel,

We have a particularly interesting request this morning based on information obtained from a FOIA. A reporter has included the questions below regarding your participation in a briefing with the UAP task force, and you can see at the bottom of this email the information he received from the FOIA. These responses will be cleared by OIIR prior to release. We are grateful for your help in answering as much of the below as possible.

1. Why did the UAPTF seek out to brief NASA?

1. Please reach out to the UAPTF regarding intentions to meet with 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,

Leah

Begin Forwarded Message:

From: "john@greenewald.com" <john@greenewald.com>

Subject: [EXTERNAL] UAPTF and NASA - Request for Comment

Date: 19 July 2021 07:45

To: "'Gough, Susan L (Sue) CIV OSD PA (USA)'" <susan.l.gough.civ@mail.mil>, "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>, "joseph.gradisher@navy.mil" <joseph.gradisher@navy.mil>, "'Genualdi, Andriana J LT USN CHINFO WASHINGTON DC (USA)'" <andriana.j.genualdi@navy.mil>, "'Chinfo Duty Officer'" <Chinfo.DutyOffic.FCT@navy.mil>, "'Wilkin, Emily A LT USN CHINFO WASHINGTON DC (USA)'" <emily.a.wilkin2@navy.mil>

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:

6. Why did the UAPTF seek out to brief NASA?

7. The brief was via secure video teleconference; accurate to say this was a "classified briefing"?

8. 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.

9. Is there anything that can be said about the contents of the briefing?

10. 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:

Sincerely,

John Greenewald, Jr.

CEO - The Black Vault, Inc.

<https://www.theblackvault.com>

<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.theblackvault.com/&data=04|01|joel.r.montalbano@nasa.gov|be2607c6f3f9479ceed508d94c5f76d0|7005d45845be48ae8140d43da96dd17b|0|0|637624795156808168|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzIiLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=JXL+uPm5utZ6kUpkQa4IKFQ+9QWEt3IEGzXujw6AwQE=&reserved=0>>

Toll Free: (800) 456-2228

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Mailing Address:

The Black Vault

27305 W. Live Oak Rd., Suite 1203

Castaic, CA 91384-4520

RE: SETI -- astro-funded research?

From: Hertz, Paul (HQ-DH000) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=3573AA82ADE34C77AF683B05B47481B6-HERTZ, PAUL>, Hertz, Paul (HQ-DH000) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=3573AA82ADE34C77AF683B05B47481B6-HERTZ, PAUL">
To: Fox, Karen C. (GSFC-1300) <karen.c.fox@nasa.gov>, Hudgins, Douglas M. (HQ-DH000) <douglas.m.hudgins@nasa.gov>, Jang-Condell, Hannah (HQ-DH000)[NASA IPA] <hannah.jang-condell@nasa.gov>
Cc: Fisher, Alise M. (HQ-NA020) <alise.m.fisher@nasa.gov>, Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS] <elizabeth.r.landau@nasa.gov>
Sent: June 7, 2021 1:18:08 PM EDT
Received: June 7, 2021 1:18:08 PM EDT

Who we fund is public information. It is posted in NSPIRES. You can even find out how much we funded them if you go to NSSC and look up the grants records.

Paul

Paul Hertz (paul.hertz@nasa.gov) (he/him/his)

Director, Astrophysics Division, Science Mission Directorate

Mary W. Jackson NASA Headquarters Building

300 Hidden Figures Way SW, Washington, DC 20546-0001

Voice: 202-358-0986; Sec'y: 202-358-2150

From: Fox, Karen C. (GSFC-1300) <karen.c.fox@nasa.gov>
Sent: Monday, June 7, 2021 1:14 PM
To: Hudgins, Douglas M. (HQ-DH000) <douglas.m.hudgins@nasa.gov>; Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>; Jang-Condell, Hannah (HQ-DH000)[NASA IPA] <hannah.jang-condell@nasa.gov>
Cc: Fisher, Alise M. (HQ-NA020) <alise.m.fisher@nasa.gov>; Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS] <elizabeth.r.landau@nasa.gov>
Subject: Re: SETI -- astro-funded research?

Just what I needed, thanks to you all!

I may reach out as the week goes on to make sure I'm talking correctly about technosignatures in general for this requested UAPs communications document I've been asked to put together.

And one last question: Who NASA funds is public information, correct? Or would I need to get permission from the PIs if we wanted to mention the funded proposals? (Understood that it would be politic and polite to give the PIs a heads up if we mention them – just trying to figure out if their permission is required.)

--Karen

--

Karen C. Fox

Senior Science Communications Officer

Office of Communications

From: "Hudgins, Douglas M. (HQ-DH000)" <douglas.m.hudgins@nasa.gov>


Date: Monday, June 7, 2021 at 12:44 PM

To: "Hertz, Paul (HQ-DH000)" <paul.hertz@nasa.gov>, "Fox, Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov>, "Jang-Condell, Hannah (HQ-DH000)[NASA IPA]" <hannah.jang-condell@nasa.gov>

Cc: "Fisher, Alise M. (HQ-NA020)" <alise.m.fisher@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>

Subject: Re: SETI -- astro-funded research?

Duplicate emails already processed



Deletion Page

 2 pages containing duplicate information are held in the file. The pages consist of emails NASA already processed.

Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov>, "O'Connor, Courtney M (HQ-1862)[MORI ASSOCIATES INC]" <courtney.m.oconnor@nasa.gov>

Subject: Re: FOR QUICK REVIEW: TPs/ RTQs on UAP/ UFO/ Search for Life

Thanks for giving me an opportunity to review the TPs and RTQs. Looks good!

cheers,

Dr. Lori S. Glaze

Director, Planetary Science Division

NASA

Lori.S.Glaze@nasa.gov

202-358-1588

pronouns: she/her/hers

From: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>

Date: Friday, May 28, 2021 at 3:17 PM

To: "Glaze, Lori S. (GSFC-6900)" <lori.s.glaze@nasa.gov>, "Voytek, Mary A. (HQ-DG000)" <mary.voytek-1@nasa.gov>, Micahel New <michael.h.new@nasa.gov>

Cc: "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>, "Fox, Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov>, "O'Connor, Courtney M (HQ-1862)[MORI ASSOCIATES INC]" <courtney.m.oconnor@nasa.gov>

Subject: FOR QUICK REVIEW: TPs/ RTQs on UAP/ UFO/ Search for Life

Hello,

Attached for your review/ awareness is a set of Talking points and RTQs requested by the AA for Communications, Marc Etkind, and Sen. Nelson's press secretary. Our understanding is that Sen. Nelson is eager to lean in on the discussion of Unidentified Aerial Phenomena and the search for life beyond Earth.

Marc also wanted information about all the missions with ties to astrobiology and the search for life.

Much of that information came from here <https://astrobiology.nasa.gov/missions/> and help from Astrophysics talkers on Exoplanet.

Thank you for your quick attention to this, as our deadline to the A suite is COB today.

Respectfully,

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>

<<https://gcc02.safelinks.protection.outlook.com/?url=https://bit.ly/mars-landing-media&data=04|01|michael.h.new@nasa.gov|6b5d88fafcaa48f8b28b08d9221118c6|7005d45845be48ae8140d43da96dd17b|0|0|637578279097614794|Unknown|TWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Ik1h>

aWwiLCJXVCi6Mn0=|1000&sdata=PsobXFXBsafn7uS5UEivX2Vy9DPH5WjK2yq+loGoEAc=&reserved=0>.

Alana R. Johnson

Senior Communications Specialist, PAAC V Contract

Planetary Science Division

alana.r.johnson@nasa.gov

o: (202) 358-1501 | c: b6

NASA Headquarters, 300 E. St SW, Washington, DC. 20546

asrcfederal.com

<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.asrcfederal.com/&data=04|01|michael.h.new@nasa.gov|6b5d88fafcaa48f8b28b08d9221118c6|7005d45845be48ae8140d43da96dd17b|0|0|637578279097614794|Unknown|TWFPbGZsb3d8eyJWljoIMC4wLjAwMDAiLCJQIjoIV2luMzliLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=LvRPiL4FFujPcsekW9/N16gj485Efi7laTns2ahlMYQ=&reserved=0>>|Purpose Driven. Enduring Commitment.

Attachment

1. v3 TP 21-XXX Search for Life, Technosignatures & UAPUFOs_for review_AJ.docx

Type: application/vnd.openxmlformats-officedocument.wordprocessingml.document
Size: 49 KB (50,329 bytes)

Attachment #1

**v3 TP 21-XXX Search for Life, Technosignatures & UAPUFOs_for
review_AJ.docx**

Original view

9 pages (displayed on pages 5 to 13)

Deletion Page

9 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) ☐ 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:

Earlier draft of talking points, the later version of which is already being released.

RE: FOR REVIEW: UAP doc #2 -- Updated talking points

From: Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>
To: Fox, Karen C. (HQ-1300) <karen.c.fox@nasa.gov>, New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>
Sent: June 28, 2021 6:48:54 AM EDT
Received: June 28, 2021 6:48:56 AM EDT

Karen –

I guess it was too late to effect any change.

<https://www.nasa.gov/feature/faq-unidentified-aerial-phenomena-uapsufos>

The first entry on the FAQ on UAPs is about alien life. In fact, the first 6 FAQs (out of 7) are about alien life. NASA led with ET instead of leading with science.

Paul

Paul Hertz (paul.hertz@nasa.gov) (he/him/his)

Director, Astrophysics Division, Science Mission Directorate

Mary W. Jackson NASA Headquarters Building

300 Hidden Figures Way SW, Washington, DC 20546-0001

Voice: 202-358-0986; Sec'y: 202-358-2150

From: Fox, Karen C. (HQ-1300) <karen.c.fox@nasa.gov>
Sent: Wednesday, June 23, 2021 5:31 PM
To: Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>; New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>
Subject: FOR REVIEW: UAP doc #2 -- Updated talking points

Cheers, to you both!

(I have this out for review with Mary Voytek, too but on a separate planetary thread.)

As promised this morning, I'd love your eyes on this updated Talking Points document—which, among other changes, now leads with Nasa's search for life, rather than leading with UAPs. It remains, of course, an internal document simply to provide background for our spokespeople.

I've attached both a clean version and one with track changes. Please let me know if you have additional edits or concerns!

Thanks,
Karen

--

Karen C. Fox

Senior Science Communications Officer

Office of Communications

Attachment

1. Talking Points Search for Life_UAPs_updated.docx

Type: application/vnd.openxmlformats-officedocument.wordprocessingml.document
Size: 51 KB (52,844 bytes)

2. Talking Points Search for Life_track changes.docx

Type: application/vnd.openxmlformats-officedocument.wordprocessingml.document
Size: 55 KB (57,342 bytes)

Attachment #1

Talking Points Search for Life_UAPs_updated.docx

Original view

10 pages (displayed on pages 4 to 13)

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TP: XX-XXX

Date , 2021

SUBJECT: NASA's Search for Life

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.

KEY POINTS

- 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 find unmistakable signs of life beyond Earth. We look for life in any form, not just intelligent life.
- To date, NASA has yet to find any credible evidence of extraterrestrial life, but we are not closed to the possibility that such life exists. 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 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.
- The nature of science is to better understand the unknown. If we learn of unidentified aerial phenomena, (UAP, or more commonly known as unidentified flying objects or UFOs), it opens up the door to new science questions to explore.
- 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

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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.

QUESTIONS AND ANSWERS

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[REDACTED]

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[REDACTED]

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[REDACTED]

Commented [A1]: Needs OIIR review.

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[REDACTED]

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[REDACTED]

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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 technological life.

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- 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 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*

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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:
 - 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

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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.*
 - 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.*

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- 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.*
 - 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.

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- 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
- 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)

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- *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 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.
 - 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 / 202-358-1501
- HQ: Karen Fox, karen.fox@nasa.gov/301-286-6284
- HQ: Liz Landau, 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

Attachment #2

Talking Points Search for Life_track changes.docx

Original view

11 pages (displayed on pages 15 to 25)

Deletion Page

11

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) ☐ 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:

Earlier draft of internal talking points already released.

FYI: UAP plan draft

From: Fox, Karen C. (GSFC-1300) <karen.c.fox@nasa.gov>
To: Zurbuchen, Thomas H. (HQ-DA000) <thomas.h.zurbuchen@nasa.gov>
Sent: June 11, 2021 6:15:25 PM EDT
Received: June 11, 2021 6:15:28 PM EDT
Attachments: UAPs draft plan.pptx

Cheers, Thomas –

For your awareness, attached please find the first draft of a UAP communications plan, which I have just shared with Marc Etkind and others in the Office of Communications. A fair number of people shared their ideas for this, but we also did particularly seek input from Mary Voytek in her role for astrobiology.

We'll see what feedback we get from Marc, but do let me know if you have any additional comments.

Thanks,

Karen

--

Karen C. Fox

Senior Science Communications Officer

Office of Communications

NASA Headquarters

Karen.fox@nasa.gov

Attachment

1. UAPs draft plan.pptx

Type: application/vnd.openxmlformats-officedocument.presentationml.presentation
Size: 11 MB (11,607,193 bytes)

Attachment #1

UAPs draft plan.pptx

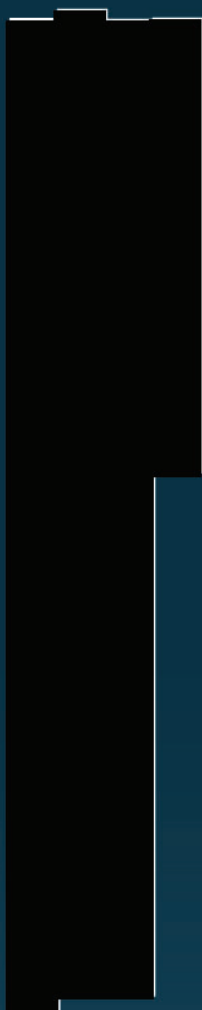
Original view

8 pages (displayed on pages 4 to 11)



UAP PLANNING

b5





SHORT TERM: Catching the wave on the UAP report

b5

b5



Media

b5

[REDACTED]

b5

[REDACTED]

- Eg. Bill Nelson, Thomas Zurbuchen, Michelle Thaller, Jim Green

b5

[REDACTED]

- Eg. Ravi Kopparapu, Laura Kerber, Shawn Donegal - Goldeman

b5

[REDACTED]

- <http://astrobiology.com/2020/06/new-study-to-search-universe-for-signs-of-technological-civilizations.html> (Adam Frank, U of Rochester – solid science communicator)
- A search for technosignatures around newly discovered exoplanets (Jean-Luc Margot, UCLA – Solid science communicator)



Social

- Tumblr: Current and upcoming NASA missions looking for life
- Reddit AMA or Twitter Spaces with SMEs answering questions

Printed Products

- Set up a FAQ on NASA's search for life that we can point to whenever needed via social, for media etc.
- Feature/evergreen content on current and upcoming NASA missions looking for life

Cleaning house

- Need to update this page (a top page when you search "NASA UFO"):
<https://sservi.nasa.gov/?question=ufo-sightings>



b5

[Redacted text block]

b5

[Redacted text block]

b5

[Redacted text block]



LONG TERM: Continuing the Conversation

b5

b5



POTENTIAL LARGER ACTIVITIES

- WORKSHOP/NASA SOCIAL: [REDACTED] b5
Workshop between scientists/astronauts/rocket engineers and science fiction writers. [REDACTED] b5

- SOCIAL: Humans of NASA vignettes [REDACTED] b5
[REDACTED] b5 those [REDACTED] b5
(Hoping to lean into [REDACTED] b5
but would depend on what we get.)

- VIDEO SERIES: [REDACTED] b5
A series of 4-5 videos or recorded shows [REDACTED] b5

- LIVE SHOTS CAMPAIGN



**RE: UAPA Virtual Event with [REDACTED], "Extreme Acceleration by UAPs",
introduction by [REDACTED], Tue, Oct 6, 3-4pm EST**

From: Gillen, Suzanne M. (HQ-VA000) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=3526C22D341043A48E26CF6A9CE5F8F0-GILLEN, SUZ>, Gillen, Suzanne M. (HQ-VA000) </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=3526C22D341043A48E26CF6A9CE5F8F0-GILLEN, SUZ">
To: [REDACTED]
Cc: Jackson, Keegan (MSFC-VA000) <keegan.jackson@nasa.gov>, [REDACTED]
Sent: October 5, 2020 9:56:15 PM EDT
Received: October 5, 2020 9:56:15 PM EDT

Thank you!

Suzanne M. Gillen

Associate Administrator

Office of Legislative and Intergovernmental Affairs

NASA Headquarters

(Desk) - 202-358-1923

(Cell) – [REDACTED]

suzanne.m.gillen@nasa.gov

From: [REDACTED]
Sent: Monday, October 5, 2020 9:21 PM
To: Gillen, Suzanne M. (HQ-VA000) <suzanne.m.gillen@nasa.gov>
Cc: Jackson, Keegan (MSFC-VA000) <keegan.jackson@nasa.gov>; [REDACTED]
Subject: [EXTERNAL] RE: UAPA Virtual Event with [REDACTED], "Extreme Acceleration by UAPs", introduction by [REDACTED], Tue, Oct 6, 3-4pm EST

Hi Suzanne,

Thanks for looping in Keegan!

Yes, same link as below works fine. There can be more than one person on that link.

[REDACTED]

Hi Keegan,

Glad you can join us!

b6

Hi b6 and b6

Can you add Keegan to attendee list?

b6

From: Gillen, Suzanne M. (HQ-VA000) <suzanne.m.gillen@nasa.gov>

Sent: Monday, October 5, 2020 7:43 PM

To: b6

Cc: Jackson, Keegan (MSFC-VA000) <keegan.jackson@nasa.gov>

Subject: RE: UAPA Virtual Event with b6, "Extreme Acceleration by UAPs", introduction by b6

Tue, Oct 6, 3-4pm EST

b6

Keegan who is cc'd would also like to RSVP for this meeting. Do we just go to the same link that you sent to Mike below?

Thanks,

Suzanne

Suzanne M. Gillen

Associate Administrator

Office of Legislative and Intergovernmental Affairs

NASA Headquarters

(Desk) - 202-358-1923

(Cell) - b6

suzanne.m.gillen@nasa.gov

From: b6

Sent: Monday, October 5, 2020 8:59 AM

To: Gillen, Suzanne M. (HQ-VA000) <suzanne.m.gillen@nasa.gov>

Subject: [EXTERNAL] RE: UAPA Virtual Event with b6, "Extreme Acceleration by UAPs", introduction by b6, Tue, Oct 6, 3-4pm EST

Hi Suzanne,

Glad to have you join us for this telecon!

Of course, happy to add you to the distro.

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: Suzanne Gillen
Company: NASA

Please let us know if you have any questions or changes prior to the meeting.

Event ID: 353

From: Gillen, Suzanne M. (HQ-VA000) <suzanne.m.gillen@nasa.gov>
Sent: Sunday, October 4, 2020 12:07 AM
To: b6
Subject: RE: UAPA Virtual Event with b6, "Extreme Acceleration by UAPs", introduction by b6, Tue, Oct 6, 3-4pm EST

b6

Hope all is well. I'd like to RSVP. Could you please add me to your list for future briefings?

Thanks,

Suzanne

Suzanne M. Gillen

Associate Administrator

Office of Legislative and Intergovernmental Affairs

NASA Headquarters

(Desk) - 202-358-1923

(Cell) - b6

suzanne.m.gillen@nasa.gov

From: Gold, Michael N. (HQ-AA000) <michael.n.gold@nasa.gov>
Sent: Monday, September 28, 2020 4:47 PM
To: Gillen, Suzanne M. (HQ-VA000) <suzanne.m.gillen@nasa.gov>
Subject: FW: UAPA Virtual Event with b6, "Extreme Acceleration by UAPs", introduction by b6, Tue, Oct 6, 3-4pm EST

From: b6
Sent: Monday, September 28, 2020 3:36 PM
Subject: [EXTERNAL] UAPA Virtual Event with b6, "Extreme Acceleration by UAPs", introduction by b6, Tue, Oct 6, 3-4pm EST

Deletion Page

 2 pages containing duplicate information are held in the file. The pages consist of emails NASA already processed.

From: [Lal, Bhavya \(HQ-IA000\)](#)
To: [Cruz, Randy C. \(HQ-AA000\)\[Affiliate\]](#)
Subject: RE: Unidentified Aerial Phenomenon
Date: Wednesday, May 19, 2021 12:32:58 PM

Thanks Randy! b6

I will check my email after I hear from you .

From: Cruz, Randy C. (HQ-AA000)[Affiliate] <randy.c.cruz@nasa.gov>
Sent: Wednesday, May 19, 2021 12:31 PM
To: Lal, Bhavya (HQ-IA000) <bhavya.lal@nasa.gov>
Subject: Unidentified Aerial Phenomenon

Bhavya,

Took me a while to dig into my mental archive, but Dr. Jay Stratton from ONI is the one who put together the original congressionally mandated brief. I have the brief on JWICS and can forward to you tomorrow when I come into the SCIF.

V/r,
Randy

Randy Cruz
Senior Advisor to the Administrator
NASA Headquarters
Office: (202) 358-1445
Cell: b6

Too many topics for Tomorrow Morning

To: Zurbuchen, Thomas H. (HQ-DA000) <thomas.h.zurbuchen@nasa.gov>
Sent: January 5, 2021 7:41:08 PM EST
Received: January 5, 2021 7:41:08 PM EST

Thomas,

I have too many topics for tomorrow morning to cover all so I'm providing to you so that you can choose which one takes priority. I will need to either drop off promptly at 8 or get one of the deputies to start the meeting.

1. STMD Budget – impacts to SBIR and SMD
2. OCT/OCS Chiefs – potential discussion with incoming administration
3. ICD MAPPER Pre-ASM to APMC – might not need to discuss since its on the agenda with Steve
4. Class D – In addition to your paper, need to summarize SPHEREX status and suggestion
5. OSMA is hiring deputy for Pete and also has greased skids for better coordination with centers – don't need to discuss

Topics thus far for Steve J:

1. Sharing overguide materials
2. UFO's
3. Ice-Mapper Pre ASM
4. OCOMM Situation
- 5.

Sandra

Sandra Connelly

Deputy Associate Administrator

Science Mission Directorate

NASA Headquarters

300 E Street SW

Washington, DC 20546

(w) 202-358-4731

(c) [REDACTED]

Sandra.Connelly@nasa.gov

Re: URGENT REVIEW: Re: HEADS UP - Washington Post OpEd --

Technosignatures/ UAPs

From: Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]
<alana.r.johnson@nasa.gov>
To: Fox, Karen C. (GSFC-1300) <karen.c.fox@nasa.gov>, Glaze, Lori S. (HQ-DG000)
<lori.s.glaze@nasa.gov>, New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>,
Voytek, Mary A. (HQ-DG000) <mary.voytek-1@nasa.gov>, Ianson, Eric (HQ-DG000)
<eianson@nasa.gov>
Cc: Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]
<joshua.a.handal@nasa.gov>, O'Connor, Courtney M (HQ-1862)[MORI ASSOCIATES
INC] <courtney.m.oconnor@nasa.gov>, Landau, Elizabeth R (HQ-1864)[ASRC
FEDERAL SYSTEM SOLUTIONS] <elizabeth.r.landau@nasa.gov>
Sent: May 27, 2021 9:01:57 AM EDT
Received: May 27, 2021 9:01:58 AM EDT

The Op Ed is online now:

<https://www.washingtonpost.com/opinions/2021/05/26/we-need-put-science-center-ufo-question/>
<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.washingtonpost.com/opinions/2021/05/26/we-need-put-science-center-ufo-question/&data=04|01|michael.h.new@nasa.gov|693648e4aac24ae9296c08d9210f9c54|7005d45845be48ae8140d43da96dd17b|0|0|637577173191524064|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTiI6I1haWwiLCJXVCi6Mn0=|1000&sdata=muNeUjEAlaV+an8KXCpSPJTJMKCVcdCvH1IpRJcU0CU=&reserved=0>>

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>

<<https://gcc02.safelinks.protection.outlook.com/?url=https://bit.ly/mars-landing-media&data=04|01|michael.h.new@nasa.gov|693648e4aac24ae9296c08d9210f9c54|7005d45845be48ae8140d43da96dd17b|0|0|637577173191524064|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTiI6I1haWwiLCJXVCi6Mn0=|1000&sdata=TmzcxjybDBY4YI+vadU89fW7wQ0Vb968okX8I2I9rw=&reserved=0>>.

Alana R. Johnson

Senior Communications Specialist, PAAC V Contract

Planetary Science Division

alana.r.johnson@nasa.gov

o: (202) 358-1501 | c: b5

NASA Headquarters, 300 E. St SW, Washington, DC. 20546

asrcfederal.com

<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.asrcfederal.com/&data=04|01|michael.h.new@nasa.gov|693648e4aac24ae9296c08d9210f9c54|7005d45845be48ae8140d43da96dd17b|0|0|637577173191524064|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTiI6I1haWwiLCJXVCi6Mn0=|1000&sdata=lrGijwKqRyH0099Z40D1eeV8U3SqaJqVjdoGmzJ2Los=&reserved=0>>|Purpose Driven. Enduring Commitment.

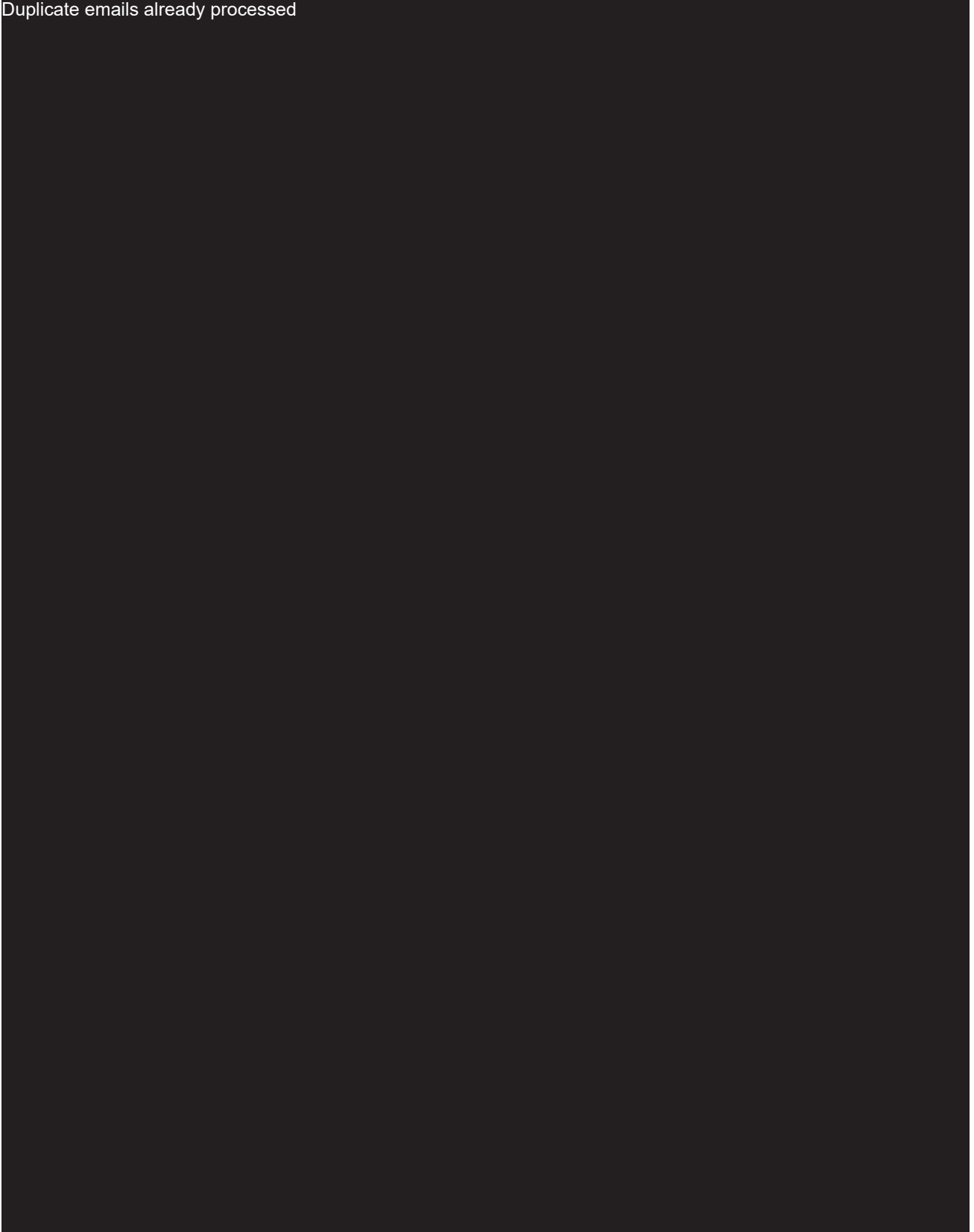
From: "Fox, Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov>

Date: Wednesday, May 26, 2021 at 5:04 PM

To: "Glaze, Lori S. (HQ-DG000)" <lori.s.glaze@nasa.gov>, "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL

SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>, "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov>, "Voytek, Mary A. (HQ-DG000)" <mary.voytek-1@nasa.gov>, "Ianson, Eric (HQ-DG000)" <eianson@nasa.gov>
Cc: "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>, "O'Connor, Courtney M (HQ-1862)[MORI ASSOCIATES INC]" <courtney.m.oconnor@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>
Subject: Re: URGENT REVIEW: Re: HEADS UP - Washington Post OpEd -- Technosignatures/ UAPs

Duplicate emails already processed



Deletion Page

4 pages containing duplicate information are held in the file. The pages consist of emails NASA already processed.

RE: UFOs/UAP

From: Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>
To: New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>, Fox, Karen C. (HQ-1300) <karen.c.fox@nasa.gov>
Cc: Fox, Nicola J. (HQ-DJ000) <nicola.j.fox@nasa.gov>, Voytek, Mary A. (HQ-DG000) <mary.voytek-1@nasa.gov>
Sent: June 23, 2021 10:30:56 AM EDT
Received: June 23, 2021 10:30:56 AM EDT

Michael says exactly what I was trying to say. UAPs can be about a pivot to science and data and solving mysteries. It should not assume the answer (and thereby give credence to the alien belief) by being a pivot to life in the universe.

Paul

Paul Hertz (paul.hertz@nasa.gov) (he/him/his)

Director, Astrophysics Division, Science Mission Directorate

Mary W. Jackson NASA Headquarters Building

300 Hidden Figures Way SW, Washington, DC 20546-0001

Voice: 202-358-0986; Sec'y: 202-358-2150

From: New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>
Sent: Wednesday, June 23, 2021 8:40 AM
To: Fox, Karen C. (HQ-1300) <karen.c.fox@nasa.gov>
Cc: Fox, Nicola J. (HQ-DJ000) <nicola.j.fox@nasa.gov>; Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>; Voytek, Mary A. (HQ-DG000) <mary.voytek-1@nasa.gov>
Subject: UFOs/UAP

Dear Karen,

I wanted to jump in and try to reframe Paul's comments on UAP/UFOs. If I understood what you said, the communications strategy seems to be to make some general statements regarding UAP and then pivot to NASA's activities searching for life in the Universe (and our work on exoplanets). The issue with this approach is that by juxtaposing UAP with searching for life, we are implicitly associating UAP with life — that is, aliens.

A more neutral framing would be to say that there currently is not much data about UAP and data is the life's blood of science — Thomas's often repeated phrase the "the plural of anecdote is not data" would be appropriate to insert here. As a part of NASA's charter to expand human knowledge of the Earth and of phenomena in the atmosphere and space, NASA can/should develop a strategy to collect the data needed for a full, scientific investigation of UAP. This would enable a pivot to discussing NASA's work in transient astronomy (Swift, for example) and/or our work on observing changes in the Earth (GRACE-FO, CYGNSS, Tropics, etc.).

Naturally, public interest in UAP is driven by the imagined linkage between UAP and non-Terran, intelligent life. In the absence of any non-anecdotal information about UAP, though, it is non-scientific (almost anti-scientific) to encourage that linkage even tangentially.

Michael

--

Michael H. New, PhD

Deputy Associate Administrator for Research

Science Mission Directorate

Mary W. Jackson NASA Headquarters Building

300 Hidden Figures Way SW, Washington, DC 20546-0001

Phone: (202) 358-1766

Pronouns: he/him/his

From: [Lal, Bhavya \(HQ-AA000\)](#)
To: [Zurbuchen, Thomas H. \(HQ-DA000\)](#)
Subject: Re: National Academy review of UAP report
Date: Tuesday, June 15, 2021 8:24:14 PM

No need. You got it :-)

Bhavya Lal, Ph.D.

b6


On: 15 June 2021 20:15, "Zurbuchen, Thomas H. (HQ-DA000)"
<thomas.h.zurbuchen@nasa.gov> wrote:

Happy to keep you in the loop if interested, BTW. Just trying to indicate by email typed on plane that I think I know the next steps. I will see whether this will get noisy... Will def keep you in the loop.

From: Lal, Bhavya (HQ-AA000) <bhavya.lal@nasa.gov>
Sent: Tuesday, June 15, 2021 7:51 PM
To: Zurbuchen, Thomas H. (HQ-DA000) <thomas.h.zurbuchen@nasa.gov>
Subject: RE: National Academy review of UAP report

OK. I will step out of this OODA loop then.

From: Zurbuchen, Thomas H. (HQ-DA000) <thomas.h.zurbuchen@nasa.gov>
Sent: Tuesday, June 15, 2021 2:20 PM
To: Lal, Bhavya (HQ-AA000) <bhavya.lal@nasa.gov>
Subject: Re: National Academy review of UAP report

I will put a plan together and assign it. As the administrator has both personally and publicly said that he assigned it to me, I will just keep him and Bob in the loop as needed.

I do not need any other help except perhaps comm coordination w Marc.

On: 15 June 2021 11:49, "Lal, Bhavya (HQ-AA000)" <bhavya.lal@nasa.gov> wrote:

Agree with your approach (Susie too). What should be next steps? A chat with Cabana? Nelson?

From: Zurbuchen, Thomas H. (HQ-DA000)
<thomas.h.zurbuchen@nasa.gov>
Sent: Monday, June 14, 2021 11:27 PM
To: Lal, Bhavya (HQ-AA000) <bhavya.lal@nasa.gov>
Subject: RE: National Academy review of UAP report

Deletion Page

3 pages containing duplicate information are held in the file. The pages consist of emails NASA already processed.

untitled

From: Futrell, Heather A. (HQ-DJ000) <heather.a.futrell@nasa.gov>
To: Kessel, Mona (HQ-DJ000) <mona.kessel@nasa.gov>, 8:orgid:860dea7f-a6df-47c9-a567-4cc8cacde837, Caisse, Christopher (HQ-DK000)[BOOZ ALLEN HAMILTON] <christopher.caisse@nasa.gov>, Darling, Susannah G. (GSFC-130.0)[ADNET SYSTEMS INC] <susannah.g.darling@nasa.gov>, 8:orgid:50c7714e-8dfa-4322-8681-293570d944a4, Robles, Alvin (HQ-453.0)[BOOZ ALLEN HAMILTON] <alvin.s.robles@nasa.gov>, Guhathakurta, Madhulika (HQ-DJ000) <madhulika.guhathakurta@nasa.gov>, Moses, J Daniel (HQ-DJ000) <dan.moses@nasa.gov>, Zide, Alan J. (HQ-DJ000) <alan.j.zide@nasa.gov>, Spann, James F. (HQ-DJ000) <jim.spann@nasa.gov>, Luce, Peg (HQ-DJ000) <peg.luce@nasa.gov>, Hakimzadeh, Roshanak (HQ-DJ000) <hakimzadeh@nasa.gov>, Fox, Nicola J. (HQ-DJ000) <nicola.j.fox@nasa.gov>, Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>, Cauffman, Sandra A. (HQ-DK000) <sandra.a.cauffman@nasa.gov>, Chrissotimos, Nicholas G. (GSFC-4600) <nicholas.g.chrissotimos@nasa.gov>, Glaze, Lori S. (HQ-DG000) <lori.s.glaze@nasa.gov>
Sent: April 17, 2020 5:06:16 PM EDT
Received: April 17, 2020 5:06:16 PM EDT

[12:24 PM] Leisner, Jared S. (HQ-DJ000)

Is **b6** ok? His screen flashed, and then he had this shocked, dazed expression as he looked around the room.

[12:24 PM] Leisner, Jared S. (HQ-DJ000)

He may have seen a UFO.

untitled

From: Petree, Kirsten (HQ-DA000)[BOOZ ALLEN HAMILTON] <kirsten.petree@nasa.gov>
To: Moore, Amanda (HQ-DA000)[BOOZ ALLEN HAMILTON] <amanda.moore@nasa.gov>, Zurbuchen, Thomas H. (HQ-DA000) <thomas.h.zurbuchen@nasa.gov>, Peters, Wanda C. (HQ-DA000) <wanda.c.peters@nasa.gov>, New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>, Robinson, Gregory L (HQ-DA010) <gregory.l.robinson@nasa.gov>, Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>, St Germain, Karen M. (HQ-DK000) <karen.m.stgermain@nasa.gov>, Fox, Nicola J. (HQ-DJ000) <nicola.j.fox@nasa.gov>, Salute, Joan S. (HQ-DG000) <joan.s.salute@nasa.gov>, Kearns, Joel K. (HQ-DA000) <joel.k.kearns@nasa.gov>, Flynn, Karen E. (HQ-DA000) <karen.e.flynn@nasa.gov>, Connelly, Sandra (HQ-DA000) <sandra.connelly@nasa.gov>, Kundrot, Craig E. (HQ-DP000) <craig.e.kundrot@nasa.gov>, Gramling, Jeffrey J. (HQ-DA050) <jeffrey.j.gramling@nasa.gov>
Sent: July 22, 2021 1:14:52 PM EDT
Received: July 22, 2021 1:14:52 PM EDT

SMD COMMUNITY TOWN HALL I/O QUESTIONS FOR July 22, 2021

1 - Thomas

The ongoing prohibition on NASA collaboration and communication with Chinese scientists continues to be the largest impediment to our ability to work on environmental science issues as a cohesive international community. Meanwhile, President Biden is reaching out to China directly on climate issues and has released a number of Executive Orders on climate, international leadership, and restoring the role of science. While there are aspects of NASA's mission for which this prohibition may be valid, is there any scenario for removing this obstacle for those at NASA who work specifically on environmental issues that serve the global public interest? Simple measures to open direct communication, e.g., email, seminars, visits, etc. would dramatically improve the situation.

2 – Michael New

NASA FINESST graduate student awards are capped at \$45,000, yet graduate students cost more than this. On top of this, students on fellowships lose access to other things at universities, e.g. teaching assistant opportunities, etc. Can the stipends be increased and the rules changed?

3 – Wanda Peters

How does NASA evaluate its program managers? Are there any mechanisms for the research community to provide their inputs in the annual evaluation process for PMs?

4 – Michael New

It is troubling that the selection rate for NASA's Early Career Fellowship program was 0%. What are the reasons for this?

5 - Thomas

When will guidance on the future of work be released?

6 – Karen St. Germain or Thomas?

What specific mechanisms are in place (/envisaged) to further the new strategic partnership b/w NASA & ESA on

climate change?

7 – Wanda and Thomas may want to weigh in

How do you ensure that there are no conflicts of interest between NASA mission Project Science Offices and Program Managers?

8 - Thomas

The Mars 2020 mission leadership decreed that they will not sample the drillable blank. How can the community change this?

9 - Thomas

May we ask that Mars 2020 publish detailed contamination control measurement results? This is needed to prepare for MSR.

10 - Thomas

MSR planning is dominated by CalTech/JPL, who financially benefit from MSR missions. Is this conflict of interest allowed?

11 – Nicky Fox

What is being done to combat the drastic decrease in basic research funding for heliophysics in the president's proposed budget?

12 - Thomas

Does the Mars Sample Return Standing Review Board have expertise for the Mars ascent vehicle? Please list SRB member names. The concern is that this unique challenge is underestimated, and the absence of cognizant oversight would mean years of delays and cost increases.

13 - Thomas

How has the need for science equipment and infrastructure to be sustainable and interoperable been affected by the short schedule to get back to the moon on Artemis?

14 – Karen

Does NASA have any new projects that are being planned to deal with the dangers of climate change?

15 - Thomas

In June, both our new Administrator and the SMD AA were interviewed on C-SPAN concerning the recent UAP report. Are there active groups within NASA HQ that are planning on investigating the issue, beyond the so-called "technosignatures" in our exoplanet data?

16 – Michael New

The labor costs have been going up but many of NASA's grant solicitations have been using the same suggested

average for the past 10 years. Do you have plans to systematically address this and the inflation in the future?

[EXTERNAL] NYTimes.com: Was That a Dropped Call From ET?

From: b6
To: b6, editorial@nytimes.com, b6, opinion@thehill.com, press@politico.com, b6, 60m@cbsnews.com, b6
Cc: b6, info@kavlifoundation.org, b6, paul.hertz@nasa.gov, b6, engagement@ostp.eop.gov, b6, science_editors@aaas.org, b6, nature@nature.com, Open Research Support <ORSupport@springernature.com>, b6, president@harvard.edu, president@jhu.edu, b6, b6, Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>
Sent: December 31, 2020 10:48:56 PM EST
Received: December 31, 2020 10:49:46 PM EST

12/31/2020

Hi, Dear old-Friend Overbye, Friends & ex-friends (if any in 2020):

I agree with Chief-scientist Werthimer "We've seen these types of signal before, and it's always turned out to be R.F.I., radio frequency interference"

I can give you a 'better' answer: no, no, not now—why?

Because, you are not ready to 'listen or see' the free-truth, want to 'believe' fiction that costs \$-----Billions or Trillions...

Or let us see if "Kavli Foundation & Takada/Sasaki... with a new-Telescope" can find 'Neutron or Indra' (not your famous black hole—we know you have been seeing it in a dream for 100 Yrs.).

Yes, yes, we should be able to find Neutron within a few days—if the new-Telescope works & it wants to find or see (or maybe it is seeing black holes in a dream...?)

By the way, is this Jew (Yuri Milner, a Russian billionaire investor

<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.nytimes.com/2017/11/05/world/yuri-milner-facebook-twitter-russia.html&data=04|01|paul.hertz@nasa.gov|284fdd739090406094ba08d8ae0830ee|7005d45845be48ae8140d43da96dd17b|0|0|637450697865901352|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTil6lk1haWwiLCJXVCi6Mn0=|3000&sdata=rkyuRjytJrgnvUJsu5RzZiUZZsBSGxY+40vyjRYDFSy=&reserved=0>) a friend of yours? —we know, the Jews with \$----- (steal from all places... to control the earth).

Why is this guy spending \$----- to hear Radio-waves from Proxima? Maybe he wants to go there, make friends, and steal more...\$? Just Kidding..

In the meantime, Wish you a Happy New-Year !

Of course, that includes all of my friends (ex-friends, too): I had many Jewish friends—they sold me the "word", remember, we are all Indians...!

And, we formed 'Torah-gang, Bible-gang or Koran-gang & red-gang', and of course, the Bombs, for Play or Drama...

The Drama, I guess, is to 'divide & rule to get rich & control...the earth'?

I congratulate my Jewish-brothers for the Job done well !

b6

From The New York Times:

Was That a Dropped Call From ET?

A spooky radio signal showed up after a radio telescope was aimed at the next star over from our sun.

<https://www.nytimes.com/2020/12/31/science/radio-signal-extraterrestrial.html?smid=em-share>
<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.nytimes.com/2020/12/31/science/radio-signal-extraterrestrial.html?smid=em-share&data=04|01|paul.hertz@nasa.gov|284fdd739090406094ba08d8ae0830ee|7005d45845be48ae8140d43da96dd17b|0|0|637450697865901352|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTiI6I6k1haWwLlCjXVCi6Mn0=|3000&sdata=o6y7Yvnl9a0HizT2A/m56rgxLf+fObdsm5kg058ilTw=&reserved=0>>

OUT THERE

Was That a Dropped Call From ET?

By Dennis Overbye <<https://gcc02.safelinks.protection.outlook.com/?url=https://www.nytimes.com/by/dennis-overbye&data=04|01|paul.hertz@nasa.gov|284fdd739090406094ba08d8ae0830ee|7005d45845be48ae8140d43da96dd17b|0|0|637450697865911310|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTiI6I6k1haWwLlCjXVCi6Mn0=|3000&sdata=oPq5G+Z6/0+eBYhQ9frs08gjTL4tc0C/mTTXe19qPK0=&reserved=0>>

Dec. 31, 2020

A spooky radio signal showed up after a radio telescope was aimed at the next star over from our sun.

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Proxima Centauri, the closest known star to our own sun, is found in the constellation Centaurus and is not visible to the naked eye. The mysterious signal came from its direction. Credit

<https://gcc02.safelinks.protection.outlook.com/?url=https://www.nytimes.com/2020/12/31/science/radio-signal-extraterrestrial.html?surface=home-discovery-vi-prg&fallback=false&req_id=358252483&algo=identity&variant=no-exp&imp_id=741409495&action=click&module=Science%20%20Technology&pgtype=Homepage&data=04|01|paul.hertz@nasa.gov|284fdd739090406094ba08d8ae0830ee|7005d45845be48ae8140d43da96dd17b|0|0|637450697865911310|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTiI6I6k1haWwLlCjXVCi6Mn0=|3000&sdata=12XsK//+wFKyVwiDGahla+5464A6yGAt36g7otuJVzM=&reserved=0>...ESA/Hubble & NASA

Nobody believes it was ET phoning, but radio astronomers admit they don't have an explanation yet for a beam of radio waves that apparently came from the direction of the star Proxima Centauri.

"It's some sort of technological signal. The question is whether it's Earth technology or technology from somewhere out yonder," said Sofia Sheikh, a graduate student at Pennsylvania State University

<https://gcc02.safelinks.protection.outlook.com/?url=https://www.nytimes.com/2020/12/31/science/radio-signal-extraterrestrial.html?surface=home-discovery-vi-prg&fallback=false&req_id=358252483&algo=identity&variant=no-exp&imp_id=741409495&action=click&module=Science%20%20Technology&pgtype=Homepage&data=04|01|paul.hertz@nasa.gov|284fdd739090406094ba08d8ae0830ee|7005d45845be48ae8140d43da96dd17b|0|0|637450697865921256|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTiI6Ikh1haWwiLCJXVCi6Mn0=|3000&sdata=HrfUC9/mISqUdhnb4SEP4/47Sby9xGYWP0CCvaSB4XQ=&reserved=0> leading a team studying the signal and trying to decipher its origin. She is part of Breakthrough Listen, a \$100 million effort funded by Yuri Milner, a Russian billionaire investor

<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.nytimes.com/2017/11/05/world/yuri-milner-facebook-russia.html&data=04|01|paul.hertz@nasa.gov|284fdd739090406094ba08d8ae0830ee|7005d45845be48ae8140d43da96dd17b|0|0|637450697865921256|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTiI6Ikh1haWwiLCJXVCi6Mn0=|3000&sdata=pC2z6bmNbhcwfp23XmHRTCsj2YNNKrHi/6Eiu9fmKIA=&reserved=0>>, to find alien radio waves. The project has now stumbled on its most intriguing pay dirt yet.

Proxima Centauri is an inviting prospect

<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.nytimes.com/2016/08/25/science/earth-planet-proxima-centauri.html&data=04|01|paul.hertz@nasa.gov|284fdd739090406094ba08d8ae0830ee|7005d45845be48ae8140d43da96dd17b|0|0|637450697865921256|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTiI6Ikh1haWwiLCJXVCi6Mn0=|3000&sdata=pl6fPYIzYDutLp9Z2sd5b+0a2FSOf4y9E63UXkKHnA=&reserved=0>> for "out yonder."

It is the closest known star to the sun, only 4.24 light-years from Earth, part of a triple-star system known as Alpha Centauri. Proxima has at least two planets, one of which is a rocky world only slightly more massive than Earth that occupies the star's so-called habitable zone, where temperatures should be conducive to water, the stuff of life, on its surface.

The radio signal itself, detected in spring 2019 and reported on earlier in The Guardian

<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.theguardian.com/science/2020/dec/18/scientists-looking-for-aliens-investigate-radio-beam-from-nearby-star&data=04|01|paul.hertz@nasa.gov|284fdd739090406094ba08d8ae0830ee|7005d45845be48ae8140d43da96dd17b|0|0|637450697865931208|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTiI6Ikh1haWwiLCJXVCi6Mn0=|3000&sdata=OCFr6ZTf3DEtBppr2b8vo015f+6d0ZeSxJZZTmluWE=&reserved=0>>, is in many ways the stuff of dreams for alien hunters. It was a narrow-band signal with a frequency of 982.02 MHz as recorded at the Parkes Observatory in Australia. Nature, whether an exploding star or a geomagnetic storm, tends to broadcast on a wide range of frequencies.

"The signal appears to only show up in our data when we're looking in the direction of Proxima Centauri, which is exciting," Ms. Sheikh said. "That's a threshold that's never been passed by any signal that we've seen previously, but there are a lot of caveats."

Practitioners of the hopeful field of the search for extraterrestrial intelligence, also known as SETI, say they have seen it all before.

"We've seen these types of signal before, and it's always turned out to be R.F.I., radio frequency interference," Dan Werthimer, chief technologist at the Berkeley SETI Research Center, who is not part of the Proxima Centauri study, wrote in an email.

That thought was echoed by his Berkeley colleague Andrew Siemion, who is the principal investigator for Breakthrough Listen. "Our experiment exists in a sea of interfering signals," he said.

"My instinct in the end is that it will be anthropogenic in origin," he added. "But so far we can't yet fully explain it."

So there's nothing to see here, folks. Until there is. Notwithstanding claims of biosignature gases on Venus
<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.nytimes.com/2020/09/14/science/venus-life-clouds.html&data=04|01|paul.hertz@nasa.gov|284fdd739090406094ba08d8ae0830ee|7005d45845be48ae8140d43da96dd17b|0|0|637450697865931208|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|3000&sdata=pEIQ5Ka4MoHO+njXlhfSz4sv7ldMlvQW/BYLM/pJ9o=&reserved=0>> and tales of U.F.O. sightings collected by the Pentagon
<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.nytimes.com/2020/07/23/us/politics/pentagon-ufo-harry-reid-navy.html&data=04|01|paul.hertz@nasa.gov|284fdd739090406094ba08d8ae0830ee|7005d45845be48ae8140d43da96dd17b|0|0|637450697865941175|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|3000&sdata=Kh4nXSO/FEVLMS3xRTVrbZNKuGh0Yr11e4iv8H9iP0=&reserved=0>>, the discovery of life, let alone intelligence, out there would be a psychological thunderclap of cosmic and historic proportions.

False alarms have been part of SETI since the very beginning, when Frank Drake, then at Cornell and now retired from the University of California, Santa Cruz, pointed a radio telescope in Green Bank, W.Va.

<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.nytimes.com/2020/03/06/us/green-bank-west-virginia-quiet-zone.html&data=04|01|paul.hertz@nasa.gov|284fdd739090406094ba08d8ae0830ee|7005d45845be48ae8140d43da96dd17b|0|0|637450697865941175|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|3000&sdata=GRGpUWV/WO03+gvTv+8wPOTEYtLPOp+bwjQ07S9/n7I=&reserved=0>>, in 1960 at a pair of stars, hoping to hear aliens' radio waves. He detected what seemed to be a signal. Could it be this easy to discover we are not alone?

It turned out to be a secret military experiment.

Sixty years later we are still officially alone and SETI as an enterprise has been through the wars economically and politically even as technology has enhanced humanity's ability to comb the nearly infinite haystack of planets, stars and "magical frequencies" on which They might be broadcasting.

Breakthrough Listen was announced with much fanfare by Mr. Milner and Stephen Hawking in 2015

<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.nytimes.com/2015/07/21/science/yuri-milner-russian-entrepreneur-promises-100-million-for-alien-search.html&data=04|01|paul.hertz@nasa.gov|284fdd739090406094ba08d8ae0830ee|7005d45845be48ae8140d43da96dd17b|0|0|637450697865941175|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|3000&sdata=7ZP9etfnva8jprO3UZ/kfiDfe12hFEo+h2GvEDBS/M8=&reserved=0>>, sparking what Dr. Siemion called a renaissance.

"This is the best time to be doing SETI," he said.

The recent excitement began on April 29, 2019, when Breakthrough Listen scientists turned the Parkes radio telescope on Proxima Centauri, to monitor the star for violent flares. It is a small star known as a red dwarf. These stars are prone to such outbursts, which could strip the atmosphere from a planet and render it uninhabitable.

The Parkes Observatory radio telescope in Australia, which picked up the signal in 2019. Credit...Stefica Bikes/Reuters

In all they recorded 26 hours of data. The Parkes radio telescope, however, was equipped with a new receiver capable of resolving narrow-band signals of the type SETI researchers seek. So in fall 2020, the team decided to search the data for such signals, a job that fell to Shane Smith, an undergraduate at Hillsdale College in Michigan and an intern with Breakthrough.

The signal that surprised the team appeared five times on April 29 during a series of 30-minute windows in https://gcc02.safelinks.protection.outlook.com/?url=https://www.nytimes.com/2020/12/31/science/radio-signal-extraterrestrial.html?surface=home-discovery-vi-prg&fallback=false&req_id=358252483&algo=identity&variant=no-exp&imp_id=741409495&action=click&module=Science%20%20Technology&pgtype=Homepage&data=04|01|paul.hertz@nasa.gov|284fdd739090406094ba08d8ae0830ee|7005d45845be48ae8140d43da96dd17b|0|0|637450697865951129|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTil6Ik1haWwiLCJXVCi6Mn0=|3000&sdata=QnUci/3tcrKpo7ic/wm9+uIKYmjw85mKvDn5/mvIU7k=&reserved=0 which the telescope was pointed in the direction of Proxima Centauri. It has not appeared since. It was a pure unmodulated tone, meaning it appeared to carry no message except the fact of its own existence.

The signal also showed a tendency to drift slightly in frequency during the 30-minute intervals, a sign that whatever the signal came from is not on the surface of Earth, but often correlates with a rotating or orbiting object.

But the drift does not match the motions of any known planets in Proxima Centauri. And in fact the signal, if it is real, might be coming from someplace beyond the Alpha Centauri system. Who knows?

The subsequent nonappearance of the signal has prompted comparisons to a famous detection known as the “Wow! Signal” <https://gcc02.safelinks.protection.outlook.com/?url=http://www.bigear.org/wow20th.htm#vast&data=04|01|paul.hertz@nasa.gov|284fdd739090406094ba08d8ae0830ee|7005d45845be48ae8140d43da96dd17b|0|0|637450697865951129|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQljojV2luMzliLCJBTil6Ik1haWwiLCJXVCi6Mn0=|3000&sdata=GbPOM2EA4QFOQ8n9I5Xg7Az4km2Aovsl/yv/GA9E8ek=&reserved=0>” that appeared on a printout from the Big Ear radio telescope, operated by Ohio State University in 1977. Jerry Ehman, a now retired astronomer, wrote “Wow!” on the side of the printout when he saw it after that fact. The signal never appeared again, nor was it satisfactorily explained, and some people still wonder if it was a missed call from Out There.

Of the Proxima signal, Dr. Siemion said, “There have been some exclamations but ‘wow’ hasn’t been one of them.”

Asked what they were, he laughed.

“Initially there were perplexed reactions from folks, but it settled down quickly,” he said.

Over a period of 24 to 48 hours at the end of this October, he said, the mood shifted from inquisitive and curious to “very serious scientific detective work.”

Ms. Sheikh, who expects to get her doctorate this coming summer, is leading the detective work. She got her bachelor’s degree at the University of California, Berkeley, intending to go into particle physics, but found herself drifting into astronomy instead. She first heard about the Breakthrough Listen project and SETI on Reddit while she was looking for a new undergraduate research project.

“I would say we were extremely skeptical at first, and I remain skeptical,” she said about the putative signal. But she added that it was “the most interesting signal to come through the Breakthrough Listen program.”

The team hopes to publish its results early in 2021.

The Parkes telescope — which once relayed communications to the Apollo astronauts — is notorious for false alarms,

Dr. Werthimer says. In one recent example, he said, astronomers thought they had discovered a new astrophysical phenomenon.

“It was very exciting until somebody noticed the signals only appeared at the lunch hour,” he said. They were coming from a microwave oven.

Over the years SETI astronomers have prided themselves on their ability to chase down the source of suspicious signals and eliminate them before word leaked out to the public.

This time their work was reported by The Guardian. “The public wants to know, we get that,” Dr. Siemion said. But, as he and Ms. Sheikh emphasize, they aren’t nearly done yet.

“Frankly, there’s still a lot of analysis that we have to do to be confident that this thing is not interference,” Ms. Sheikh said.

Part of the problem, she explained, is that the original observations were not done according to the standard SETI protocol. Normally, a radio telescope would point at a star or other target for five minutes and then “nod” slightly away from it for five minutes to see if the signal persisted.

In the Proxima observations, however, the telescope pointed for 30 minutes and then moved far across the sky (30 degrees or so) for five minutes to a quasar the astronomers were using to calibrate the brightness of the star’s flares. Such a large swing might have taken the telescope away from whatever the source of the radio interference was.

If all else fails, Ms. Sheikh said, they will try to reproduce the results by replicating the exact movements of the Parkes telescope again on April 29, 2021.

“Because,” she said, “if it’s actually coming from Proxima, then maybe they would like send a hello once a year or something like that.” She went on, “But it’s more likely that there’s some sort of yearly event that happens at the visitor center, or something like that, that causes an environmental effect that doesn’t happen the rest of the year.”

The Proxima signal could be destined to pass into legend like the Ohio State Wow! Signal, but in SETI, there is always another day, another star.

It’s been fun, Ms. Sheikh said, even if the Proxima signal ends up being interference.

“This is extremely exciting, no matter what comes out of it.”

Re: PRESS QUERY - Popular Mechanics: policy initiatives/ Technosignatures

From: Johnson, Alana R. (HQ-DG000)[InuTeq, LLC] <alana.r.johnson@nasa.gov>
To: Adler, Gabriel (HQ-VA030) <gabriel.adler@nasa.gov>, Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>, Feeley, Jens (HQ-DM000) <jens.feeley@nasa.gov>, Glaze, Lori S. (HQ-DG000) <lori.s.glaze@nasa.gov>, New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>, Hautaluoma, Grey (HQ-NI000) <grey.hautaluoma-1@nasa.gov>, Handal, Joshua A. (HQ-DG000)[InuTeq, LLC] <joshua.a.handal@nasa.gov>, Chou, Felicia (HQ-NA001) <felicia.chou@nasa.gov>
Sent: November 26, 2019 2:15:40 PM EST
Received: November 26, 2019 2:15:48 PM EST

Thank you, all!

I will weave the input from Paul and Gabriel into responses and send back out for review.

FYSA – once we have it polished I will send up to the 5th floor for awareness and then return to the reporter, attributable to Michael New.

Vr,

Alana

--

Alana R. Johnson
Public Affairs Officer
NASA Headquarters
Planetary Science Division
O: 202.358.1501 | C: b6
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From: "Adler, Gabriel (HQ-VA030)" <gabriel.adler@nasa.gov>
Date: Tuesday, November 26, 2019 at 2:07 PM
To: "Hertz, Paul (HQ-DH000)" <paul.hertz@nasa.gov>, "Feeley, Jens (HQ-DM000)" <jens.feeley@nasa.gov>, "Glaze, Lori S. (HQ-DG000)" <lori.s.glaze@nasa.gov>, "Johnson, Alana R. (HQ-DG000)[InuTeq, LLC]" <alana.r.johnson@nasa.gov>, "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov>, "Hautaluoma, Grey (HQ-NI000)" <grey.hautaluoma-1@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[InuTeq, LLC]" <joshua.a.handal@nasa.gov>, "Chou, Felicia (HQ-NA001)" <felicia.chou@nasa.gov>
Subject: Re: PRESS QUERY - Popular Mechanics: policy initiatives/ Technosignatures

I would throw in these 2 cents:

- b5 [REDACTED]

- b5 [REDACTED]

From: "paul.hertz@nasa.gov" <paul.hertz@nasa.gov>
Date: Tuesday, November 26, 2019 at 1:56 PM
To: "Feeley, Jens (HQ-DM000)" <jens.feeley@nasa.gov>, "Glaze, Lori S. (HQ-DG000)" <lori.s.glaze@nasa.gov>, "Johnson, Alana R. (HQ-DG000)[InuTeq, LLC]" <alana.r.johnson@nasa.gov>, "New, Michael H. (HQ-DA000)"

<michael.h.new@nasa.gov>, "Hautaluoma, Grey (HQ-NI000)" <grey.hautaluoma-1@nasa.gov>, "Adler, Gabriel (HQ-VA030)" <gabriel.adler@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[InuTeq, LLC]" <joshua.a.handal@nasa.gov>, "Chou, Felicia (HQ-NA001)" <felicia.chou@nasa.gov>
Subject: RE: PRESS QUERY - Popular Mechanics: policy initiatives/ Technosignatures

Hi all, just jumping in from b6

The all presentations and the report from the technosignature workshop is available at <https://www.hou.usra.edu/meetings/technosignatures2018/agenda/>. Our technosignature expert, b6 has completed his IPA at NASA and is moving to NSF (and is on vacation in the southern hemisphere right now).

The Popular Mechanics questions appear to be about UFO sightings ("within or in proximity to earth's atmosphere"). Is this correct?

Some start to answers might be

- a) NASA archives all the data from all of its telescopes, whether that data is a technosignature or not. That data is publicly available to researchers who wish to search for technosignatures within NASA data archives.
- b) This depends on the nature of the technosignature. If it is the kind of signature that is visible to a NASA telescope and it happens while the telescope is looking in that direction, then the answer is yes. But nobody including NASA can promise to detect any kind of undefined and unlocated signature no matter what.
- c) NASA will follow whatever direction it receives through the appropriation process.

Paul

Paul Hertz (paul.hertz@nasa.gov)

Director, Astrophysics Division, Science Mission Directorate

Mail Suite 3U23, NASA HQ, Washington, DC 20546-0001

Voice: 202-358-0986; Sec'y: 202-358-2150; Fax: 202-358-3062

From: Feeley, Jens (HQ-DM000) <jens.feeley@nasa.gov>
Sent: Monday, November 25, 2019 8:00 PM
To: Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>; Glaze, Lori S. (HQ-DG000) <lori.s.glaze@nasa.gov>; Johnson, Alana R. (HQ-DG000)[InuTeq, LLC] <alana.r.johnson@nasa.gov>; New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>; Hautaluoma, Grey (HQ-NI000) <grey.hautaluoma-1@nasa.gov>; Adler, Gabriel (HQ-VA030) <gabriel.adler@nasa.gov>; Handal, Joshua A. (HQ-DG000)[InuTeq, LLC] <joshua.a.handal@nasa.gov>; Chou, Felicia (HQ-NA001) <felicia.chou@nasa.gov>
Subject: FW: PRESS QUERY - Popular Mechanics: policy initiatives/ Technosignatures

Folks:

Adding Paul Hertz.

-- Jens

T. Jens Feeley, Ph.D.
Chief, Policy Branch
Science Mission Directorate
NASA Headquarters, Room 3F26

Phone: 202.358.1714

From: Lori Glaze <lori.s.glaze@nasa.gov>
Date: Monday, November 25, 2019 at 7:04 AM
To: "Johnson, Alana R. (HQ-DG000)[InuTeq, LLC]" <alana.r.johnson@nasa.gov>, MICHAEL NEW <michael.h.new@nasa.gov>, Jens Feeley <jens.feeley@nasa.gov>
Cc: GREY HAUTALUOMA <grey.hautaluoma-1@nasa.gov>, Gabriel Adler <gabriel.adler@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[InuTeq, LLC]" <joshua.a.handal@nasa.gov>, "Chou, Felicia (HQ-NA001)" <felicia.chou@nasa.gov>
Subject: Re: PRESS QUERY - Popular Mechanics: policy initiatives/ Technosignatures

Thank you Alana,

APD/PSD hosted a technosignatures workshop last year in response to the authorization. There was also an OIG report released in March. The attached email from Peter Meister includes the report, which in turn includes a letter from TZ which details substantial issues SMD has with the final report.

All of this may be helpful in setting the SMD context and for drafting a response to Popular Mechanics.

Dr. Lori S. Glaze

Director, Planetary Science Division

NASA

Lori.S.Glaze@nasa.gov

202-358-1588

From: "Johnson, Alana R. (HQ-DG000)[InuTeq, LLC]" <alana.r.johnson@nasa.gov>
Date: Friday, November 22, 2019 at 4:40 PM
To: Micahel New <michael.h.new@nasa.gov>, "Feeley, Jens (HQ-DM000)" <jens.feeley@nasa.gov>
Cc: "Hautaluoma, Grey (HQ-NI000)" <grey.hautaluoma-1@nasa.gov>, "Glaze, Lori S. (GSFC-6900)" <lori.s.glaze@nasa.gov>, "Adler, Gabriel (HQ-VA030)" <gabriel.adler@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[InuTeq, LLC]" <joshua.a.handal@nasa.gov>, "Chou, Felicia (HQ-NA001)" <felicia.chou@nasa.gov>
Subject: PRESS QUERY - Popular Mechanics: policy initiatives/ Technosignatures

Hello, Michael and Jens.

A journalist working with Popular Mechanics reached out to us for an article on the various policy initiatives that have occurred throughout the year regarding reports of what the Navy has officially characterized
<https://urldefense.proofpoint.com/v2/url?u=https-3A__www.popularmechanics.com_military_a29073804_navy-2Dufo-2Dvideos-2Dreal_&d=DwMFaQ&c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&r=wdn5aSg5zZdHijLMAKmMroM5AuyNmxOFz_UpaNEYa5M&m=74V9o68zXD0mRjQTPMIWmkgSePuT1OguP0VNium3fS0&s=H_A->

Q47T3sUhUSMizPHCUdFCey8jQT2K6E955Hv869U&e=>as "unidentified aerial phenomena" (UAP); including the U.S. Navy issuing new guidelines <https://urldefense.proofpoint.com/v2/url?u=https-3A__www.politico.com_story_2019_04_23_us-2Dnavy-2Dguidelines-2Dreporting-2Dufos-2D1375290&d=DwMFaQ&c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&r=wdn5aSg5zZdHljLMAKmMr oM5AuyNmxOFz_UpaNEYa5M&m=74V9o68zXD0mRjQTPMIWmkgSePuT1OguP0VNium3fS0&s=4ubryvmz M9AV-bWs-NCUd3bzWcQPOu-BFNvU11P3y-M&e=>> to their personnel for the reporting of observations of unidentified aerial incidents by their personnel.

He's asked for us to provide comment for an upcoming article relating to an item contained within the NASA Authorization Act of 2019 <https://urldefense.proofpoint.com/v2/url?u=https-3A__www.commerce.senate.gov_2019_11_commerce-2Dleaders-2Dintroduce-2Dthe-2Dnasa-2Dauthorization-2Dact-2Dof-2D2019&d=DwMFaQ&c=ApwzowJNAKKw3xye91w7BE1XMRKi2LN9kiMk5Csz9Zk&r=wdn5aSg5zZdHljLMAKmMr oM5AuyNmxOFz_UpaNEYa5M&m=74V9o68zXD0mRjQTPMIWmkgSePuT1OguP0VNium3fS0&s=XwBdb-HUIOC4ML3-yeMTF4ZQRskkpwyRv6hGxHfj48&e=>> presented by members of the subcommittee on Aviation and Space and Senate Committee on Commerce, Science and Transportation on November 6, 2019.

1. Within the Bill, Title III- Science, Sec. 303 "Search for life" subsec. 4 lines 18-21 "Technosignatures," mentions "(1), the Administrator shall support activities to search for and analyze technosignatures."

o Does NASA presently collect data identifying atypical technosignatures, within or in proximity to earth's atmosphere?

o If dictated by subsequent legislation, does NASA currently have the ability to detect atypical or anomalous technosignatures occurring within or in proximity to the earth's atmosphere?

o Considering the strong congruence between the mainstream scientific community's analysis of SETI "technosignatures" and the reports of UAPs that the Navy is encountering, would NASA consider, if provided adequate funding and support, examination of potential technosignatures could be effective in trying to provide scientific support towards answering the UAP question being posed by the Navy, or the greater public as a whole?

Attributable written responses are welcome, and his deadline isn't until Dec. 9th so we have plenty of time. That said, we will need to build in time to coordinate draft responses through OCOMM.

Vr,

Alana

--

Alana R. Johnson
Public Affairs Officer
NASA Headquarters
Planetary Science Division
O: 202.358.1501 | C: b6
<https://solarsystem.nasa.gov/>

Attachment

1. Final Report - Audit of SETI Institute

Type: message/rfc822
Size: 4 MB (4,352,312 bytes)

Attachment #1

Final Report - Audit of SETI Institute

Final Report - Audit of SETI Institute

From: Meister, Peter G. (HQ-DM000) <peter.g.meister@nasa.gov>
To: Zurbuchen, Thomas H. (HQ-DA000) <thomas.h.zurbuchen@nasa.gov>, Andrucyk, Dennis J. (HQ-DA000) <dennis.j.andrucyk@nasa.gov>, Connelly, Sandra (HQ-DA000) <sandra.connelly@nasa.gov>, Seablom, Michael S (HQ-DA000) <michael.s.seablom@nasa.gov>, Maizel, Roy A. (HQ-DA000) <roy.a.maizel@nasa.gov>, New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>, Robinson, Gregory L (HQ-DA010) <gregory.l.robinson@nasa.gov>, Smith, Eric P. (HQ-DA010) <eric.p.smith@nasa.gov>, Gertsen, Ellen M (HQ-DA000) <ellen.gertsen@nasa.gov>, Tupper, Craig (HQ-DL000) <craig.tupper@nasa.gov>, Wolf, Katherine M. (HQ-DL000) <katherine.m.wolf@nasa.gov>, Woods, Dan (HQ-DM000) <dan.woods@nasa.gov>, Feeley, Jens (HQ-DM000) <jens.feeley@nasa.gov>, Erickson, Kristen (HQ-DO000) <kristen.erickson@nasa.gov>, Cauffman, Sandra A. (HQ-DK000) <sandra.a.cauffman@nasa.gov>, Ianson, Eric (HQ-DK000) <eianson@nasa.gov>, Friedl, Lawrence A. (HQ-DK000) <lfriedl@nasa.gov>, Kaye, Jack (HQ-DK000) <jack.kaye@nasa.gov>, Lee, John (HQ-DN000) <john.lee@nasa.gov>, Gagosian, John S. (HQ-DH000) <john.s.gagosian@nasa.gov>, Fox, Nicola J. (HQ-DJ000) <nicola.j.fox@nasa.gov>, Luce, Peg (HQ-DJ000) <peg.luce@nasa.gov>, Glaze, Lori S. (GSFC-6980) <lori.s.glaze@nasa.gov>, Beaty, Ralph E. (HQ-DL000) <ralph.e.beaty@nasa.gov>, Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>, Volosin, Jeffrey F. (HQ-4600) <jeffrey.f.volosin@nasa.gov>, Myers, Matthew G. (GRC-LEX0) <matthew.g.myers@nasa.gov>, Thompson, Meagan (HQ-DG000)[Arctic Slope Technical Services, Inc.] <meagan.thompson@nasa.gov>, Delgado Lopez, Laura M. (HQ-DM000) <laura.m.delgadoloopez@nasa.gov>, McCauley Rench, Becky (HQ-DG000) <rebecca.l.mccauleyrench@nasa.gov>, Woods, Dan (HQ-DA000) <dan.woods@nasa.gov>, Ianson, Eric (HQ-DG000) <eianson@nasa.gov>, Glaze, Lori S. (HQ-DG000) <lori.s.glaze@nasa.gov>, Volosin, Jeffrey F. (HQ-DH000) <jeffrey.f.volosin@nasa.gov>
Sent: March 6, 2019 12:16:07 PM EST
Received: March 6, 2019 12:16:09 PM EST

All:

Today the OIG the OIG issued the attached final report entitled, "Audit of SETI Institute".

The objective of the audit was to assess the extent to which the Institute supports NASA's science goals and objectives and evaluate its use of NASA's funds in support of the Agency's mission.

The OIG found that SETI has complied with applicable Federal requirements and has properly accounted for expenditures. The OIG also found no legal prohibition against NASA funding technosignatures research.

In response to SMD concerns, the final report toned down that implication that NASA should fund the search for technosignatures. However, the final report still contains numerous implicit and explicit inaccuracies, misleading statements and uncorroborated findings - some of which SMD identified and specifically refuted in our letter response (appended to the report).

The OIG made no recommendations to NASA in the report.

Many thanks to all the folks across SMD who provided outstanding support on this particularly challenging engagement.

Peter

RE: Classified UAP Briefing

From: STOVALL, SHERICE L. (HQ-TA000) <sherice.l.stovall@nasa.gov>
To: Montalbano, Joel R. (JSC-OA111) <joel.r.montalbano@nasa.gov>
Sent: September 9, 2020 1:04:39 PM EDT
Received: September 9, 2020 1:04:40 PM EDT

1 hour.

Sherice

From: Montalbano, Joel R. (JSC-OA111) <joel.r.montalbano@nasa.gov>
Sent: Wednesday, September 9, 2020 12:59 PM
To: STOVALL, SHERICE L. (HQ-TA000) <sherice.l.stovall@nasa.gov>
Subject: RE: Classified UAP Briefing

How long is the meeting?

Joel

From: STOVALL, SHERICE L. (HQ-TA000) <sherice.l.stovall@nasa.gov>
Sent: Wednesday, September 9, 2020 09:51
To: Montalbano, Joel R. (JSC-OA111) <joel.r.montalbano@nasa.gov>
Subject: Classified UAP Briefing

Hi Joel,

Mike would like to invite you to attend a classified Unidentified Aerial Phenomena briefing on September 14 at 1:00 pm EDT. Please let me know if you are able to attend. Thanks!

<https://www.defense.gov/Newsroom/Releases/Release/Article/2314065/establishment-of-unidentified-aerial-phenomena-task-force/>

Sherice L. Stovall

Office of International & Interagency Relations (OIIR)

NASA HQ – Washington D.C.

Email: 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

FW: National Academy review of UAP report

From: Zurbuchen, Thomas H. (HQ-DA000) <thomas.h.zurbuchen@nasa.gov>
To: Evans, Daniel A. (HQ-DA000) <daniel.a.evans@nasa.gov>, New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>
Sent: June 15, 2021 8:19:56 PM EDT
Received: June 15, 2021 8:21:13 PM EDT
Attachments: Thomas_Zurbuchen_AL.pdf, Microsoft Word - Extraterrestrial or Terrestrial origin.docx.pdf

Friends – I keep being pushed on this UAP issue. Here is my response I sent to Bhavya which has a singular focus: if we are into UAP or similar phenomena, let's get more data...

I added two thought pieces. Pls resist reaching out to authors of these pieces without talking to me.

But, with all that – can you guys think about this and perhaps bring it to the next level?

THZ

From: Zurbuchen, Thomas H. (HQ-DA000)
Sent: Monday, June 14, 2021 11:27 PM
To: Lal, Bhavya (HQ-AA000) <bhavya.lal@nasa.gov>
Subject: RE: National Academy review of UAP report

Bhavya – we need to decide what we want to do. The Academy has struggled, over time, to be forward leaning and I worry that asking too early for an Academy study would actually miss the point. It is not quite clear what we would want them to do- this is not a data-rich field. About data: here is my worry about the UAP work by the Intel community: I do not know b5

I do not know whether b5

Instead, I would like to focus on b5. I would like to pull together a group of experts within NASA and describe a b5 discussed in the UAP report. It might also make sense to do an b5 to see whether there is anything interesting there. My hope would be to turn this into a data-rich field. I would not be opposed to take that plan and let it be reviewed by the Academy and perhaps even b5".

For reference, I am attaching two white papers that I had leading scholars write independently. One of them is perhaps the most influential Astrophysicist in the US, Dave Spergel, and the other one is perhaps the most forward leaning in the field, Avi Loeb. Google both if you want to know more. You see how much they overlap! Again – let's make this data-rich!

You could ask, finally: why do anything? I would answer in three ways

1. Why miss a chance to demonstrate the power of science and the power of data to address a tough problem?
2. I DO want NASA to be a place where we focus on high-risk/high-impact science. We do not just walk away when something is sounding controversial
3. The administrator sounds like he would like us to do something

Best,

Thomas

From: Lal, Bhavya (HQ-AA000) <bhavya.lal@nasa.gov>
Sent: Monday, June 14, 2021 10:36 AM
To: Zurbuchen, Thomas H. (HQ-DA000) <thomas.h.zurbuchen@nasa.gov>
Subject: RE: National Academy review of UAP report

Thoughts on an Academies study on this topic?

From: Turner, Ron (HQ-UA000)[MIPSS SME] <ron.turner@nasa.gov>
Sent: Thursday, June 10, 2021 11:54 AM
To: Lal, Bhavya (HQ-AA000) <bhavya.lal@nasa.gov>
Cc: Turner, Ron <b6 [REDACTED]>
Subject: National Academy review of UAP report

Bhavya, I enjoyed our discussion this morning. Here are some thoughts about a NASA-sponsored, National Academy-led study following the release of the UAP report.

The public is going to be very interested in following up on the findings of the UAP report after it is released to Congress. A general concern with the classified nature of the report may be a sense that the government is still "hiding something". I think there will be a natural expectation that NASA would respond in some fashion.

One possible response would be for NASA to direct the National Academies to do an independent review of the findings of the UAP report. NASA, working with the Academies, is uniquely positioned as a source of trust, imparting a healthy dose of skepticism while open to hearing from the more eager advocates. It would be a way to establish confidence in the findings and to see if there is anything in the observations that warrant further examination or could improve future observations. It would be staffed by objective academic and industry experts who could bring a critical eye to the data and the limits of the available observations.

The task statement will evolve, as the report is released and in negotiation with Congress. But some specific objectives could be:

b5



b5



I would be happy to continue to work with you to formulate a work statement. Let me know if I can help.

Hope to see you some time!

Ron T.

Attachment

1. Thomas_Zurbuchen_AL.pdf

Type: application/pdf
Size: 229 KB (234,621 bytes)

2. Microsoft Word - Extraterrestrial or Terrestrial origin.docx.pdf

Type: application/pdf
Size: 867 KB (887,863 bytes)

Attachment #1

Thomas_Zurbuchen_AL.pdf

Original view

2 pages (displayed on pages 6 to 7)

Deletion Page

2 pages containing duplicate information are held in the file. The pages consist of a document NASA already processed.

Attachment #2

Microsoft Word - Extraterrestrial or Terrestrial origin.docx.pdf

Original view

3 pages (displayed on pages 9 to 11)

Thoughts on UFOs

David Spergel

The recent publication of observations of unidentified flying objects (UFOs) has stimulated a revived interest in the possibility of extraterrestrial visitors. This note describes possible hypotheses about the nature of UFOs, outlines key observables, and then suggests possible observing programs with an emphasis on approaches that will lead to interesting science even if UFOs have terrestrial origin.

What are they?

The most conservative hypothesis is that these UFOs are built by humans: experimental vehicles under development by the US military or by foreign militaries. In the past, famous UFO sites (e.g., Area 51) have turned out to be test sites for advanced technologies. Some of the “triangular shaped” objects that are capable of rapid accelerations and high speeds do seem remarkably similar to descriptions of hypersonic vehicles that are currently under development by the Army, [Navy](#), [Air Force](#), [DARPA](#) and the [NSA](#). The [Indian](#), [Chinese](#) and [Russian](#) military are all developing their own hypersonic vehicles. DARPA’s HTV-2 had test flights over a decade ago so that the recent appearance of flying triangular shaped objects that can reach high speeds seems consistent with this hypothesis. There is also extensive work on developing [drone swarms](#) by many nations (including even Armenia) whose properties match some UFO reports.



Image of the Indian HGV-2, one of many hypersonic vehicles that are being tested and deployed.

Another possible explanation for some of the events are natural phenomena such as [Ball lightning](#) or St. Elmo Fire. Plasma physicists and atmospheric physicists are still struggling to fully understand these phenomena. Recent work associates these events with lightning induced quasi-stable plasma effects (see e.g., [Skyrmion origin of ball lightning](#)). Some of the events could be optical illusions due to multiple reflections in airplane windows or atmospheric effects.

The most exciting hypothesis is that some of the UFOs are extraterrestrials visiting the Earth and studying the planet and its life forms. Aliens capable of interstellar space travel are not likely to be using technologies that are familiar to us (e.g., solar sails or hypersonic airbreathing vehicles). They would only be detectable if they wished to be seen. For example, they would likely want to miniaturize their probes and not likely to have familiar-looking vehicles. Given astronomical timescales, alien life is likely either a billion years less advanced than human life or a billion years more advanced technologically. As [Clarke's third law](#) states, "any sufficiently advanced technology is indistinguishable from magic".

Observables

What are the observables that can distinguish between these hypotheses? We would like to characterize the UFO events: What is their duration? What is the amplitude of the observed accelerations and velocities? How frequent are these events? Are they associated with weather phenomena? Where do the events occur? What are the properties of the objects? Do they have a surface or are they a plasma? Observations that can answer these questions can help identify the UFOs.

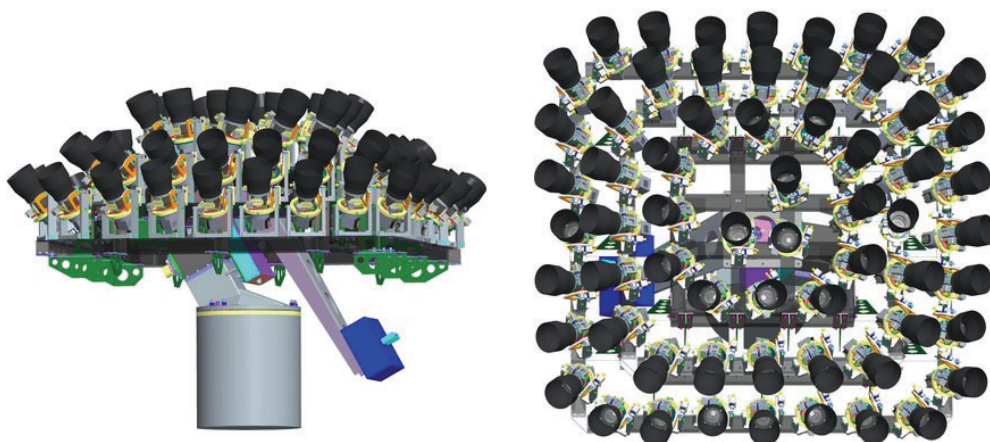
Potential observational program

An observational program that monitors the sky for rapidly moving objects and for time-variability would likely be able to help address the origin of these UFOs. Ideally, these telescopes would be monitoring much of the sky continuously so that they could simultaneously observe the events reported by pilots.

There are several existing observing programs that could be used to extrapolate to an all-sky monitoring program. In the optical, the [ASAS](#) telescope and the [HATPI](#) project monitor a significant fraction of the sky. ASAS operates a network of telescopes in South Africa, Texas, Hawaii, and Chile. HATPI uses a series of small cameras to monitor most of the sky visible from Chile. Currently, HATPI cover $\frac{3}{4}$ of the visible sky and detects 1% variations in 13th magnitude stars within 30 seconds. The approximate cost of HATPI was ~\$5 million, so that a program of making multiple copies of HATPI would not be overwhelmingly costly. This network would complement the Vera Rubin Observatory by enabling constant monitoring of transients, would detect transiting planets, and would be able to observe UFOs in clear weather. The telescopes are currently designed to operate at night and there would need to be significant modifications in the software for day-time operations. The biggest cost for these telescopes would be developing the software optimized for detecting fast moving objects and the ability to sort

through enormous databases and not be dominated by planes, birds, and human-made satellites.

Model of HATPI telescope



Microwave observations would be able to detect the thermal emission from objects in orbit or in the upper atmosphere. For example, consider a 0.5m telescope operating at 2mm with modern detectors. A one-meter diameter object at 20 km moving at 10 km/s subtends 10" and moves 2' in a millisecond. With a temperature of 300K, the UFO would appear as a 0.1K source. [Modern detectors](#) have noise variances of $\sim 1 \text{ (mK)}^2 \text{ s}$, so sources are > 10 sigma in a single detector in 1 millisecond. It would potentially be possible to build a set of small microwave telescopes that could monitor the sky and detect any moving satellite or plane. If these were also equipped with polarizers, they could be used for CMB polarization measurements. In the past year, CMB experiments have been repurposed to look for [astrophysical transients](#) and [planet IX](#). They have not been used to look for rapidly moving objects.

Another possibility would be to monitor the sky at radio wavelengths using observatories based on the design of [CHIME](#) or [HIRAX](#). These radio telescopes are already monitoring much of the sky (from Canada and eventually from South Africa) searching for [fast radio bursts](#).

Downward-looking satellites could also monitor the earth's atmosphere for fast moving events. One potential approach would be to design "hitchhiker" instruments for satellites that could be downward looking. There are likely national reconnaissance organization capabilities that can already monitor the Earth for fast moving planes and rockets and existing earth science observations likely contain data that could be used to look for anomalous fast-moving objects.

For all these observational approaches, one of the challenges would be to balance the desire to protect national security with the desire to reassure the public that all the relevant information on UFOs was being revealed. Any observing program that could detecting UFO would also detect other flying objects including many classified satellites.

Re: Technosignature query - Vice

From: Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]
<alana.r.johnson@nasa.gov>
To: New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>
Sent: July 2, 2020 1:07:15 PM EDT
Received: July 2, 2020 1:07:17 PM EDT

Copy that!

--

Alana R. Johnson
Public Affairs Officer
NASA Headquarters
Planetary Science Division
O: 202.358.1501 | C: b6
<https://solarsystem.nasa.gov/>

From: "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov>
Date: Thursday, July 2, 2020 at 1:06 PM
To: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>
Cc: "Chou, Felicia (HQ-NA001)" <felicia.chou@nasa.gov>, "Hautaluoma, Grey (HQ-NI000)" <grey.hautaluoma-1@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>
Subject: Re: Technosignature query - Vice

Please let Maria Washington know — she owns my calendar. Thanks.

--

Michael H. New, PhD

Deputy Associate Administrator for Research

Science Mission Directorate

NASA Headquarters

Phone: (202) 358-1766

Email: michael.h.new@nasa.gov

From: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>
Date: Thursday, July 2, 2020 at 1:06 PM
To: Michael New <michael.h.new@nasa.gov>
Cc: "Chou, Felicia (HQ-NA001)" <felicia.chou@nasa.gov>, "Hautaluoma, Grey (HQ-NB000)" <grey.hautaluoma-1@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>
Subject: Re: Technosignature query - Vice

Michael,

I'll schedule for 10:30 am Wednesday. If the reporter cannot wait that long, we will go with option B/ written response.

Thank you,

Alana

--

Alana R. Johnson
Public Affairs Officer
NASA Headquarters
Planetary Science Division
O: 202.358.1501 | C: b6
<https://solarsystem.nasa.gov/>

From: "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov>
Date: Thursday, July 2, 2020 at 12:54 PM
To: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>
Cc: "Chou, Felicia (HQ-NA001)" <felicia.chou@nasa.gov>, "Hautaluoma, Grey (HQ-NI000)" <grey.hautaluoma-1@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>
Subject: Re: Technosignature query - Vice

Okay. My first free block of time next week is on Wednesday from 10:30AM until noon.

Michael

--

Michael H. New, PhD

Deputy Associate Administrator for Research

Science Mission Directorate

NASA Headquarters

Phone: (202) 358-1766

Email: michael.h.new@nasa.gov

From: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>
Date: Thursday, July 2, 2020 at 12:33 PM
To: Michael New <michael.h.new@nasa.gov>
Cc: "Chou, Felicia (HQ-NA001)" <felicia.chou@nasa.gov>, "Hautaluoma, Grey (HQ-NB000)" <grey.hautaluoma-1@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>

Subject: Re: Technosignature query - Vice

Michael,

She didn't say we was unavailable, but she and Mary think we should do this, but written responses are best. I can go either way, just wanting to see if you are interested in engaging directly with the Science writer.

My understanding is this would be a good opportunity to demonstrate the things that NASA is doing about techosignatures, but the topic has been a hot issue for us in the past, and they want to be very careful around issues that touch SETI.

I'm trying to find out if the writer has talked with anyone else.

Thanks,

Alana

--

Alana R. Johnson
Public Affairs Officer
NASA Headquarters
Planetary Science Division
O: 202.358.1501 | C: b6
<https://solarsystem.nasa.gov/>

From: "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov>
Date: Thursday, July 2, 2020 at 11:46 AM
To: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>
Cc: "Chou, Felicia (HQ-NA001)" <felicia.chou@nasa.gov>, "Hautaluoma, Grey (HQ-NI000)" <grey.hautaluoma-1@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>
Subject: Re: Technosignature query - Vice

This reporter is very late to the party. Most of these questions were asked and answered around the time of the Technosignatures Workshop. Is this really their interest?

M

--

Michael H. New, PhD

Deputy Associate Administrator for Research

Science Mission Directorate

NASA Headquarters

Phone: (202) 358-1766

Email: michael.h.new@nasa.gov

From: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>

Date: Thursday, July 2, 2020 at 10:25 AM


To: Michael New <michael.h.new@nasa.gov>

Cc: "Chou, Felicia (HQ-NA001)" <felicia.chou@nasa.gov>, "Hautaluoma, Grey (HQ-NB000)" <grey.hautaluoma-1@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]"

<elizabeth.r.landau@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>

Subject: Re: Technosignature query - Vice

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From: [Etkind, Marc R. \(HQ-NA000\)](#)
To: [Lal, Bhavya \(HQ-AA000\)](#)
Subject: Re: National Academy review of UAP report
Date: Sunday, June 20, 2021 6:36:44 PM

Sure. My two cents... I like where he's headed—seems like a scientific approach, and the rigor that Spergel suggests, can add much to the discussion.

From: Bhavya Lal <bhavya.lal@nasa.gov>
Date: Sunday, June 20, 2021 at 6:31 PM
To: "Etkind, Marc R. (HQ-NA000)" <marc.r.etkind@nasa.gov>
Subject: Re: National Academy review of UAP report

Thomas has asked to take point. Should we hand off to him? We have plenty on our plates. Thoughts?

Bhavya Lal, Ph.D.

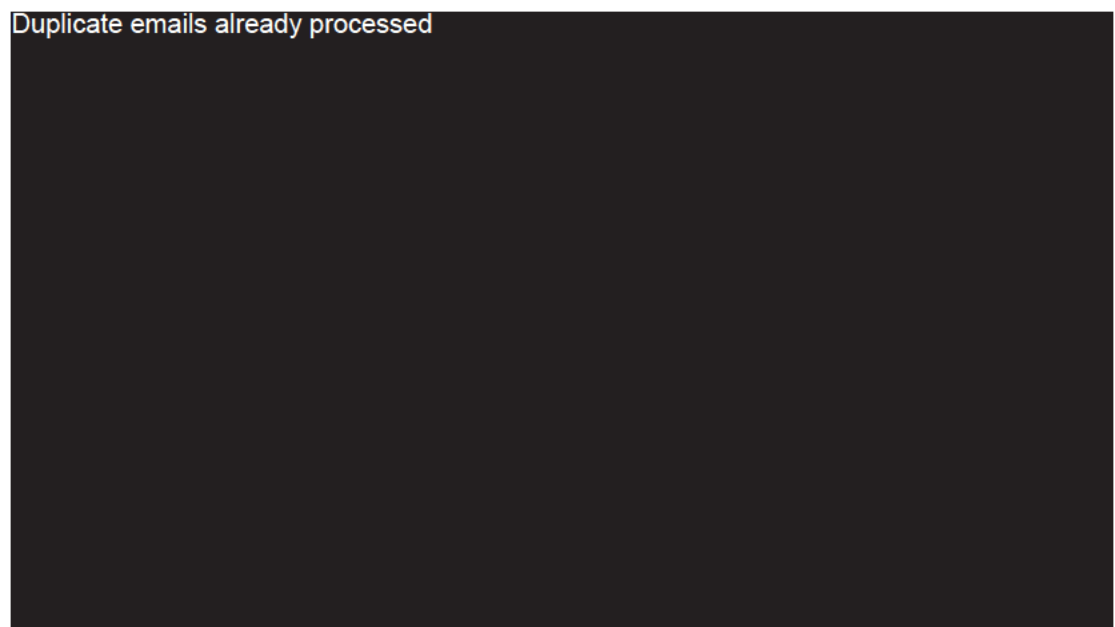
b6

On: 20 June 2021 18:29, "Etkind, Marc R. (HQ-NA000)" <marc.r.etkind@nasa.gov> wrote:

Just getting caught up and thanks for sharing... what's the next step?

From: Bhavya Lal <bhavya.lal@nasa.gov>
Date: Tuesday, June 15, 2021 at 5:52 AM
To: "Etkind, Marc R. (HQ-NA000)" <marc.r.etkind@nasa.gov>, "Brown, Alicia N. (HQ-VA000)" <alicia.n.brown@nasa.gov>, "Quinn, Susie Perez (HQ-AH000)" <susie.p.quinn@nasa.gov>, "Dalton, Bale (HQ-AH000)" <bale.dalton@nasa.gov>
Subject: Fwd: National Academy review of UAP report

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3 pages containing duplicate information are held in the file. The pages consist of emails NASA already processed.

Re: UFO

From: Jurczyk, Stephen G. (HQ-AI000) <stephen.g.jurczyk@nasa.gov>
To: Connelly, Sandra (HQ-DA000) <sandra.connelly@nasa.gov>, Saunders, Melanie (HQ-AA000) <melanie.saunders-1@nasa.gov>
Sent: January 8, 2021 5:30:56 PM EST
Received: January 8, 2021 5:30:56 PM EST

Makes sense. Randy has also seen the briefing I mentioned in our meeting.

From: "Connelly, Sandra (HQ-DA000)" <sandra.connelly@nasa.gov>
Date: Friday, January 8, 2021 at 4:39 PM
To: "Saunders, Melanie (HQ-AA000)" <melanie.saunders-1@nasa.gov>, Stephen Jurczyk <stephen.g.jurczyk@nasa.gov>
Subject: UFO

It was Randy Cruz who posed the question during a meeting earlier this week.

RE: Unidentified Aerial Phenomena

From: Connelly, Sandra (HQ-DA000) <sandra.connelly@nasa.gov>
To: New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>, Zurbuchen, Thomas H. (HQ-DA000) <thomas.h.zurbuchen@nasa.gov>, Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>, Feldstein, Karen C. (HQ-TA000) <karen.c.feldstein@nasa.gov>, Cruz, Randy C. (HQ-AA000)[Affiliate] <randy.c.cruz@nasa.gov>, Gold, Michael N. (HQ-AA000) <michael.n.gold@nasa.gov>
Sent: January 4, 2021 2:48:45 PM EST
Received: January 4, 2021 2:48:46 PM EST

Looped in TZ and Michael New. See below...

Sandra Connelly

Deputy Associate Administrator

Science Mission Directorate

NASA Headquarters

300 E Street SW

Washington, DC 20546

(w) 202-358-4731

(c) b6

Sandra.Connelly@nasa.gov

From: New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>
Sent: Monday, January 4, 2021 2:41 PM
To: Zurbuchen, Thomas H. (HQ-DA000) <thomas.h.zurbuchen@nasa.gov>; Connelly, Sandra (HQ-DA000) <sandra.connelly@nasa.gov>; Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>
Subject: Re: Unidentified Aerial Phenomena

To the best of my knowledge, we don't have any funded investigations on Unidentified Aerial Phenomena. At some level, I suppose, UAP might be considered a type of "technosignature" but I personally have never seen a proposal to scientifically analyze data on UAPs — and as the Program Scientist for the Exobiology Program, believe me when I say that I have reviewed numerous proposals on similar topics.

--

Michael H. New, PhD

Deputy Associate Administrator for Research

Science Mission Directorate

Mary W. Jackson NASA Headquarters Building

300 Hidden Figures Way SW, Washington, DC 20546-0001

Phone: (202) 358-1766

Pronouns: he/him/his

From: "Zurbuchen, Thomas H. (HQ-DA000)" <thomas.h.zurbuchen@nasa.gov>

Date: Monday, January 4, 2021 at 2:32 PM

To: "Connelly, Sandra (HQ-DA000)" <sandra.connelly@nasa.gov>, Michael New <michael.h.new@nasa.gov>, "Hertz, Paul (HQ-DA000)" <paul.hertz@nasa.gov>

Subject: Re: Unidentified Aerial Phenomena

Sandra – I am cc-ing in the experts on this...

From: "Connelly, Sandra (HQ-DA000)" <sandra.connelly@nasa.gov>

Date: Monday, January 4, 2021 at 2:27 PM

To: "Zurbuchen, Thomas H. (HQ-DA000)" <thomas.h.zurbuchen@nasa.gov>

Subject: FW: Unidentified Aerial Phenomena

Thomas,

This came up during the extended federated board today. As an agency, we don't have anyone looking for UFO's, do we?? SMD looks for signs of life and near earth objects. If a UFO was identified as a result of our work, I'm guessing the science community would be thrilled – as long as they are friendly – however, we aren't searching for UFO's, we search for scientific discovery. What would your response be?

Sandra

Sandra Connelly

Deputy Associate Administrator

Science Mission Directorate

NASA Headquarters

300 E Street SW

Washington, DC 20546

(w) 202-358-4731

(c) b6

Sandra.Connelly@nasa.gov

From: Feldstein, Karen C. (HQ-TA000) <karen.c.feldstein@nasa.gov>

Sent: Monday, January 4, 2021 1:55 PM

To: Cruz, Randy C. (HQ-AA000)[Affiliate] <randy.c.cruz@nasa.gov>; Connelly, Sandra (HQ-DA000) <sandra.connelly@nasa.gov>; Gold, Michael N. (HQ-AA000) <michael.n.gold@nasa.gov>
Subject: Re: Unidentified Aerial Phenomena

Hi Randy, looping in Mike as well.

Thanks,

Karen

From: "Cruz, Randy C. (HQ-AA000)[Affiliate]" <randy.c.cruz@nasa.gov>
Date: Monday, January 4, 2021 at 1:50 PM
To: "Connelly, Sandra (HQ-DA000)" <sandra.connelly@nasa.gov>
Cc: Karen Feldstein <karen.c.feldstein@nasa.gov>
Subject: Unidentified Aerial Phenomena

Happy New Year Sandra and Karen!

There's been a lot of media discussion lately about UFO's, supported by 'leaked footage,' photos, etc. of things in LEO or well within earth's atmosphere. I imagine, at some point, NASA gets approached to validate and utilize our technologies/capabilities to monitor and/or analyze some of these claims. Who at NASA does this?

The Senate Intelligence Authorization Act for FY2021 directed an analysis of known incidents and a plan to report these phenomenon in the future. I imagine this will become an inter-agency effort.

V/r,

Randy

Randy Cruz

Senior Advisor to the Administrator

NASA Headquarters

Office: (202) 358-1445

Cell: b6

Re: Astrobiology?

From: Fox, Karen C. (HQ-1300) <karen.c.fox@nasa.gov>
To: Glaze, Lori S. (HQ-DG000) <lori.s.glaze@nasa.gov>, Zurbuchen, Thomas H. (HQ-DA000) <thomas.h.zurbuchen@nasa.gov>, Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>
Sent: June 29, 2021 8:39:14 AM EDT
Received: June 29, 2021 8:39:15 AM EDT

1. Will see what I can do.
2. Have given many talking points to his "people", and emphasized that there is no evidence for UAPs and tried to make the astrobiology aspects really clear instead.
3. As of yesterday, he is apparently "tapping out" of UAP interviews, so also hoping that we don't see a lot of this in the future, regardless.
4. Thomas may well have additional thoughts or conversations planned with him!

--

Karen C. Fox

Senior Science Communications Officer

Office of Communications

From: "Glaze, Lori S. (HQ-DG000)" <lori.s.glaze@nasa.gov>
Date: Tuesday, June 29, 2021 at 7:08 AM
To: "Zurbuchen, Thomas H. (HQ-DA000)" <thomas.h.zurbuchen@nasa.gov>, "Fox, Karen C. (HQ-1300)" <karen.c.fox@nasa.gov>, "Hertz, Paul (HQ-DH000)" <paul.hertz@nasa.gov>
Subject: Astrobiology?

Just saw this quote from the Administrator's interview on Sunday:

"Remember, the universe is so large," he said. "We have a program in NASA called the Search for Extraterrestrial Intelligence. But thus far we don't have any receipt of a communication from something that's intelligent."

Can we get him to talk about Astrobiology instead of SETI?

Dr. Lori S. Glaze

Director, Planetary Science Division

NASA

Lori.S.Glaze@nasa.gov

202-358-1588

pronouns: she/her/hers

Re: UFOs/UAP

From: Fox, Karen C. (HQ-1300) <karen.c.fox@nasa.gov>
To: Voytek, Mary A. (HQ-DG000) <mary.voytek-1@nasa.gov>, New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>
Cc: Fox, Nicola J. (HQ-DJ000) <nicola.j.fox@nasa.gov>, Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>
Sent: June 23, 2021 10:32:31 AM EDT
Received: June 23, 2021 10:32:31 AM EDT

Cheers, all –

I appreciate this discussion. I did follow up with Paul about it, and have now actually heard from a number of people who want to make sure we're that pivoting from UFOs to the search for life doesn't make it sound like we are tacitly agreeing that all unidentified objects could be extraterrestrial life. So, YES, we will work hard to watch for that nuance and make sure we are educating all our spokespeople on not equating those two concepts.

Both Lori Glaze and Ravi K at Goddard have been making that point when they've been interviewed as well.

(And to answer your direct question, Mary, the conversation below is about our talking points document. Which is receiving an update as we speak. I know Courtney O'Connor sent you the old version for another look through, and I look forward to any extra comments from you, as well. A new version with all new comments incorporated to all of you once we have it! Hopefully later today.)

--Karen

--

Karen C. Fox

Senior Science Communications Officer

Office of Communications

From: "Voytek, Mary A. (HQ-DG000)" <mary.voytek-1@nasa.gov>
Date: Wednesday, June 23, 2021 at 10:25 AM
To: "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov>, "Fox, Karen C. (HQ-1300)" <karen.c.fox@nasa.gov>
Cc: "Fox, Nicola J. (HQ-DJ000)" <nicola.j.fox@nasa.gov>, "Hertz, Paul (HQ-DH000)" <paul.hertz@nasa.gov>
Subject: Re: UFOs/UAP

Are these public talking pints or trying to educate Nelson. In which case I think **b5**.

On: 23 June 2021 05:39, "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov> wrote:

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Re: URGENT REVIEW: Re: HEADS UP - Washington Post OpEd --

Technosignatures/ UAPs

From: Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]
<alana.r.johnson@nasa.gov>
To: Fox, Karen C. (GSFC-1300) <karen.c.fox@nasa.gov>, Glaze, Lori S. (HQ-DG000)
<lori.s.glaze@nasa.gov>, New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>,
Voytek, Mary A. (HQ-DG000) <mary.voytek-1@nasa.gov>, Ianson, Eric (HQ-DG000)
<eianson@nasa.gov>
Cc: Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]
<joshua.a.handal@nasa.gov>, O'Connor, Courtney M (HQ-1862)[MORI ASSOCIATES
INC] <courtney.m.oconnor@nasa.gov>, Landau, Elizabeth R (HQ-1864)[ASRC
FEDERAL SYSTEM SOLUTIONS] <elizabeth.r.landau@nasa.gov>
Sent: May 26, 2021 5:11:00 PM EDT
Received: May 26, 2021 5:11:01 PM EDT

Courtney made a great point – perhaps change b5 :

b5 ...”

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>

<<https://gcc02.safelinks.protection.outlook.com/?url=https://bit.ly/mars-landing-media&data=04|01|michael.h.new@nasa.gov|ab7729a30dfc4323b4bc08d9208ac359|7005d45845be48ae8140d43da96dd17b|0|0|637576602612435091|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=xIVbO3I+X1r7ycvAwZrggAtH6Dg6H6S/qb/YZ79cBjE=&reserved=0>>.

Alana R. Johnson

Senior Communications Specialist, PAAC V Contract

Planetary Science Division

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asrcfederal.com

<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.asrcfederal.com/&data=04|01|michael.h.new@nasa.gov|ab7729a30dfc4323b4bc08d9208ac359|7005d45845be48ae8140d43da96dd17b|0|0|637576602612435091|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=wRbeEpW02AtWoBWEGQFaUXbJAYgUIAZPw7x2TGNvsY=&reserved=0>>|Purpose Driven. Enduring Commitment.

From: "Fox, Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov>

Date: Wednesday, May 26, 2021 at 5:04 PM

To: "Glaze, Lori S. (HQ-DG000)" <lori.s.glaze@nasa.gov>, "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>, "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov>,
"Voytek, Mary A. (HQ-DG000)" <mary.voytek-1@nasa.gov>, "Ianson, Eric (HQ-DG000)" <eianson@nasa.gov>

Cc: "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>,
"O'Connor, Courtney M (HQ-1862)[MORI ASSOCIATES INC]" <courtney.m.oconnor@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>

Subject: Re: URGENT REVIEW: Re: HEADS UP - Washington Post OpEd -- Technosignatures/ UAPs

Thanks for the quick turnaround responses! Michael provided some good edits. Here's a clean version based on his comments. I'll wait a few minutes before sharing with the Administrator -- send me deal breakers if you have them!

And then, as Alana said, we'll put together a more formal set of RTQs that we can have in our back pocket with more details, as well.

Talking Points: Unidentified Aerial Phenomenon

b5



--

Karen C. Fox

Senior Science Communications Officer

Office of Communications

From: "Glaze, Lori S. (HQ-DG000)" <lori.s.glaze@nasa.gov>

Date: Wednesday, May 26, 2021 at 4:58 PM

To: "Fox, Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov>, "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>, "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov>, "Voytek, Mary A. (HQ-DG000)" <mary.voytek-1@nasa.gov>, "Ianson, Eric (HQ-DG000)" <eianson@nasa.gov>

Cc: "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>, "O'Connor, Courtney M (HQ-1862)[MORI ASSOCIATES INC]" <courtney.m.oconnor@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>

Subject: Re: URGENT REVIEW: Re: HEADS UP - Washington Post OpEd -- Technosignatures/ UAPs

Thanks Karen.

I think I'm ok with the statements but if Mary and/or Michael can comment quickly, I'd appreciate their perspective.

Lori

On: 26 May 2021 16:53, "Fox, Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov> wrote:

(And for just a teeny bit more context – It is understood that this is a little further out of our swim lane than we normally go, but if the Administrator feels strongly about talking about it, we want to make sure we're giving him concepts we feel ok with! This will not be shared verbatim or publicly.)

--

Karen C. Fox

Senior Science Communications Officer

Office of Communications

From: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>

Date: Wednesday, May 26, 2021 at 4:49 PM

To: "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov>, "Glaze, Lori S. (HQ-DG000)" <lori.s.glaze@nasa.gov>, "Voytek, Mary A. (HQ-DG000)" <mary.voytek-1@nasa.gov>, "Ianson, Eric (HQ-DG000)" <eianson@nasa.gov>

Cc: "Fox, Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>, "O'Connor, Courtney M (HQ-1862)[MORI ASSOCIATES INC]" <courtney.m.oconnor@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>

Subject: URGENT REVIEW: Re: HEADS UP - Washington Post OpEd -- Technosignatures/ UAPs

Hello!

Please review the talking points below – NOTE- these are meant to be VERY high level, with the goal of sharing it with the Administrator within the half hour.

b5



b5

We are drafting a much more detailed product to share with a wider group but want to run these initial four bullets by you.

Thank you!

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>

<<https://gcc02.safelinks.protection.outlook.com/?url=https://bit.ly/mars-landing-media&data=04|01|michael.h.new@nasa.gov|ab7729a30dfc4323b4bc08d9208ac359|7005d45845be48ae8140d43da96dd17b|0|0|637576602612445045|Unknown|TWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Ikh1aWwiLCJXVCi6Mn0=|1000&sdata=k5Hwv48t7zrRtb4yxLi8laZdQyE0/XoCQtScSYjy6Ac=&reserved=0>>.

Alana R. Johnson

Senior Communications Specialist, PAAC V Contract

Planetary Science Division

alana.r.johnson@nasa.gov

o: (202) 358-1501 | c: b6

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<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.asrcfederal.com/&data=04|01|michael.h.new@nasa.gov|ab7729a30dfc4323b4bc08d9208ac359|7005d45845be48ae8140d43da96dd17b|0|0|637576602612445045|Unknown|TWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Ikh1aWwiLCJXVCi6Mn0=|1000&sdata=zO5Au9ZLYmStcd2wdF2+7KVDhfi8zuqLwaN0qfWbPlo=&reserved=0>>|Purpose Driven. Enduring Commitment.

From: "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov>

Date: Wednesday, May 26, 2021 at 4:16 PM

To: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>, "Glaze, Lori S. (HQ-DG000)" <lori.s.glaze@nasa.gov>, "Voytek, Mary A. (HQ-DG000)" <mary.voytek-1@nasa.gov>, "Ianson, Eric (HQ-DG000)" <eianson@nasa.gov>

Cc: "Fox, Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>, "O'Connor, Courtney M (HQ-1862)[MORI ASSOCIATES INC]" <courtney.m.oconnor@nasa.gov>

Subject: Re: HEADS UP - Washington Post OpEd -- Technosignatures/ UAPs

You should also include b5 "technosignatures" are the ultimate biosignature and some work on technosignatures has been funded over the years by the Exobiology and Astrobiology Science and Technology for Instrument Development (ASTID) programs. The ASTID Program was absorbed into PICASSO and MatISSE but Exobiology continues and still accepts technosignature proposals (I believe).

Also, FYI, I was the official SMD rep to the Technosignatures Workshop that we sponsored a few years ago. Please keep me in the loop on technosignatures issues.

Michael

--

Michael H. New, PhD

Deputy Associate Administrator for Research

Science Mission Directorate

Mary W. Jackson NASA Headquarters Building

300 Hidden Figures Way SW, Washington, DC 20546-0001

Phone: (202) 358-1766

Pronouns: he/him/his

From: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>

Date: Wednesday, May 26, 2021 at 4:12 PM

To: "Glaze, Lori S. (HQ-DG000)" <lori.s.glaze@nasa.gov>, Mary Voytek <mary.voytek-1@nasa.gov>, "New, Michael H. (HQ-DG000)" <michael.h.new@nasa.gov>, "Ianson, Eric (HQ-DG000)" <eianson@nasa.gov>

Cc: "Fox, Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>, "O'Connor, Courtney M (HQ-1862)[MORI ASSOCIATES INC]" <courtney.m.oconnor@nasa.gov>

Subject: HEADS UP - Washington Post OpEd -- Technosignatures/ UAPs

Hello!

I wanted to give you a heads up that the Washington Post is publishing an OpEd piece written by GSFC's Ravi Kopparapu later today online, and in tomorrow's print issue. Michael New and the lead PAO for Aeronautics Research Mission Directorate reviewed the OpEd, not having concerns about the content.

The topic is technosignatures and Unidentified Aerial Phenomenon (UAPs), the latter being keyed up lately by recent media coverage.

Apparently, the Administrator has been looking for an opportunity to talk about this, so I've been asked to pull together talking points ASAP.

I've asked Astrophysics to provide anything they may have on technosignatures.

We will run these by you as soon as developed but wanted you to be aware.

Thank you,

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>

<<https://gcc02.safelinks.protection.outlook.com/?url=https://bit.ly/mars-landing-media&data=04|01|michael.h.new@nasa.gov|ab7729a30dfc4323b4bc08d9208ac359|7005d45845be48ae8140d43da96dd17b|0|0|637576602612455002|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=DI0f+B5Fee1zpNKtSTBrAR5nFWhwUHvQVell1TVZuaA=&reserved=0>>.

Alana R. Johnson

Senior Communications Specialist, PAAC V Contract

Planetary Science Division

alana.r.johnson@nasa.gov

o: (202) 358-1501 | c: b6

NASA Headquarters, 300 E. St SW, Washington, DC. 20546

[asrcfederal.com](https://www.asrcfederal.com)

<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.asrcfederal.com/&data=04|01|michael.h.new@nasa.gov|ab7729a30dfc4323b4bc08d9208ac359|7005d45845be48ae8140d43da96dd17b|0|0|637576602612455002|Unknown|TWFPbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjojV2luMzliLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=sQqiFta sLL0D3avHLuFqICkYQvgzptxRXbK34EbdDCg=&reserved=0>>|Purpose Driven. Enduring Commitment.

FW: UAPA Virtual Event with [REDACTED], "Extreme Acceleration by UAPs", introduction by [REDACTED], Tue, Oct 6, 3-4pm EST

From: Gold, Michael N. (HQ-AA000) <michael.n.gold@nasa.gov>
To: Gillen, Suzanne M. (HQ-VA000) <suzanne.m.gillen@nasa.gov>
Sent: September 28, 2020 4:47:21 PM EDT
Received: September 28, 2020 4:47:22 PM EDT

This one actually looks really interesting...

From: [REDACTED] >
Sent: Monday, September 28, 2020 3:36 PM
Subject: [EXTERNAL] UAPA Virtual Event with [REDACTED] "Extreme Acceleration by UAPs", introduction by [REDACTED]
[REDACTED] Tue, Oct 6, 3-4pm EST

Dear UAPA Colleague:

Please join us on Tuesday, October 6th from 3-4pm EST for an Unidentified Aerial Phenomena Association virtual event with [REDACTED] of the Scientific Coalition for UAP Studies (SCU).

We will be joined by [REDACTED], who will be delivering introductory remarks.

During our session, [REDACTED] will be discussing "Extreme Acceleration by UAPs and Sensors for Detection". He will also be exploring a few relevant cases, including Stephenville and Puerto Rico. [REDACTED] has been an important leader, for some years now, among those seeking to bring serious scientific expertise and processes to bear on the UAP phenomenon.

All our friends in propulsion will not want to miss this one!

If this UAPA Virtual Event is not a priority for you, please forward this invitation to colleagues in your company, or other colleagues, who would find this of interest.

A Q&A session will follow the presentation. Please find full bios at the end of this email.

As always with our telecons and small group meetings, this session is off the record and Chatham House rules.

To join the meeting, please use the Teams link below.

UAPA Virtual Event w/ [REDACTED], Tue, Oct 6, 3-4pm EST <[https://urldefense.proofpoint.com/v2/url?u=https-3A__teams.microsoft.com_\[REDACTED\]](https://urldefense.proofpoint.com/v2/url?u=https-3A__teams.microsoft.com_[REDACTED])>

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Please RSVP directly to this email.

We hope you find this of interest!

Best regards,

b6

b6

President

b6

Vice President

Unidentified Aerial Phenomena Association

Email: b6

Mobile: b6

Event ID: 353

b6 has a BS in Chemistry and is a former collegiate debater. He has 28 years experience in engineering management in the semiconductor industry. While working at Advanced Micro Devices he has taken numerous internal courses related to device physics, design of experiments, and statistical analysis. He helped Advanced Micro Devices develop its first flash memory technology that is used in today's flash cards for cameras, PCs, video cameras, and other products. His experience includes managing a state-of-the-art chemistry laboratory and managing a Research and Development group that worked on nanotechnology using atomic force microscopes, near-field optical microscopy, and other techniques. b6 is also a co-holder of four patents related to nanotechnology. b6 has been b6 from 2007-2017 and b6 in 2012. He is one of two authors of b6

b6 is also a member of the Society for Scientific Exploration, the UFODATA project, and the National Space Society. b6 is active with FOIA requests to various government organizations to obtain information on historical cases and is a co-author of a book published in July 2012: b6 currently resides in Austin, Texas.

A descendant of b6 served as b6. For over a dozen years, b6 worked on national security issues on Capitol Hill, including many years b6, where he ultimately served as b6. b6 is the team's government liaison, using his access and relationships with high-level officials to prompt the government to take action on what he believes is a serious threat to national security.

Re: Jurzyk talking points

From: Zurbuchen, Thomas H. (HQ-DA000) <thomas.h.zurbuchen@nasa.gov>
To: Connelly, Sandra (HQ-DA000) <sandra.connelly@nasa.gov>
Sent: January 8, 2021 3:25:15 PM EST
Received: January 8, 2021 3:25:16 PM EST

Added some things are re-ordered

SMD/AA Tagup Jan 8, 2021

1. Clipper issues – JB
2. Ice-Mapper Pre ASM
 1. Why move to agency?
3. Perseverance landing
 1. What is 9th floor plan/desires?
4. Sharing overguide materials?
 1. Pressure in planetary
5. Status of RPS Review Chair/Deputy chair selection letter
6. UFO's
7. OCOMM Situation
8. Personnel Update
 1. Joel Kearns
 2. HPD Associate for Flight,
 3. NMO

From: "Connelly, Sandra (HQ-DA000)" <sandra.connelly@nasa.gov>
Date: Friday, January 8, 2021 at 3:18 PM
To: "Zurbuchen, Thomas H. (HQ-DA000)" <thomas.h.zurbuchen@nasa.gov>
Subject: Jurzyk talking points

See attached.

Sandra Connelly

Deputy Associate Administrator

Science Mission Directorate

NASA Headquarters

300 E Street SW

Washington, DC 20546

(w) 202-358-4731

(c) b6 [REDACTED]

Sandra.Connelly@nasa.gov

untitled

From: Fox, Karen C. (HQ-1300) <karen.c.fox@nasa.gov>
To: Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>
Sent: June 23, 2021 8:45:15 AM EDT
Received: June 23, 2021 8:45:15 AM EDT

Hi Paul! Happy to keep the UAP convo going. . . Was your point that when someone mentions UFOs we shouldn't say "oh, we ARE searching for extraterrestrial life" as if we're confirming that the UFOs were extraterrestrial life too?

From: [Lal, Bhavya \(HQ-AA000\)](#)
To: [Turner, Ron](#)
Subject: Re: [EXTERNAL] RE: National Academy review of UAP report
Date: Thursday, June 10, 2021 5:11:33 PM

Copy! It'll be a few days before we have thoughts in this.

Bhavya Lal, Ph.D.

b6

On: 10 June 2021 17:09, "Turner, Ron" b6 > wrote:

I will be away from my email tonight and Friday afternoon. If you have questions, I will be available but best to reach me by Text.

From: Turner, Ron
Sent: Thursday, June 10, 2021 1:15 PM
To: 'Lal, Bhavya (HQ-AA000)' <bhavya.lal@nasa.gov>; Turner, Ron (HQ-UA000)[MIPSS SME] <ron.turner@nasa.gov>
Subject: RE: National Academy review of UAP report

Awesome. Text or email if you have questions.

b6

Ron T.

From: Lal, Bhavya (HQ-AA000) <bhavya.lal@nasa.gov>
Sent: Thursday, June 10, 2021 1:13 PM
To: Turner, Ron (HQ-UA000)[MIPSS SME] <ron.turner@nasa.gov>
Cc: Turner, Ron b6
Subject: RE: National Academy review of UAP report

~~*** WARNING — This message originated from an external source. Do not click any links or open any attachments unless you trust the sender and know the content is safe. ***~~

Thanks Ron. Discussing this with the leadership here...

From: Turner, Ron (HQ-UA000)[MIPSS SME] <ron.turner@nasa.gov>
Sent: Thursday, June 10, 2021 11:54 AM
To: Lal, Bhavya (HQ-AA000) <bhavya.lal@nasa.gov>
Cc: Turner, Ron b6
Subject: National Academy review of UAP report

Deletion Page

2 pages containing duplicate information are held in the file. The pages consist of emails NASA already processed.

From: [Lal, Bhavya \(HQ-IA000\)](#)
To: [Cruz, Randy C. \(HQ-AA000\)\[Affiliate\]](#)
Subject: RE: UAP brief in your JWICS acct
Date: Thursday, May 20, 2021 10:43:48 AM

Thanks Randy! I will go down at lunchtime.

From: Cruz, Randy C. (HQ-AA000)[Affiliate] <randy.c.cruz@nasa.gov>
Sent: Thursday, May 20, 2021 10:38 AM
To: Lal, Bhavya (HQ-IA000) <bhavya.lal@nasa.gov>
Subject: UAP brief in your JWICS acct

Bhavya,

The brief should be in your email now. Let me know if you have any questions.

V/r,
Randy

Randy Cruz
Senior Advisor to the Administrator
NASA Headquarters
Office: (202) 358-1445
Cell: b6 [REDACTED]

[EXTERNAL] Just a thought

From: b6 [REDACTED]@aura-astronomy.org>
To: Thomas Zurbuchen <thomas.h.zurbuchen@nasa.gov>, Zurbuchen, Thomas H. (HQ-DA000) <thomas.h.zurbuchen@nasa.gov>
Sent: June 11, 2021 9:39:32 AM EDT
Received: June 11, 2021 9:39:43 AM EDT

Hi Thomas,

If what Politico Space is reporting (below) is true, maybe pinning b6 [REDACTED] to lead some study would be fun. He is a deep skeptic of such sightings, and knows the Air Force lot quite well - it's like using a magician to investigate a "spiritualist". b6 [REDACTED] also bored...and everyone would trust what he comes up with.

How are you doing?

Cheers

b6 [REDACTED]

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."

Sent from my iPhone

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

From: Jones, Nancy N. (GSFC-1300) <nancy.n.jones@nasa.gov>
To: Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS] <alana.r.johnson@nasa.gov>, Fox, Karen C. (GSFC-1300) <karen.c.fox@nasa.gov>, Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS] <joshua.a.handal@nasa.gov>, Hautaluoma, Grey (HQ-NA020) <grey.hautaluoma-1@nasa.gov>, New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>
Sent: May 18, 2021 12:32:41 PM EDT
Received: May 18, 2021 12:32:43 PM EDT

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> 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>
<<https://gcc02.safelinks.protection.outlook.com/?url=https://bit.ly/mars-landing-media&data=04|01|michael.h.new@nasa.gov|c844ab771f6a4a3383ea08d91a1a8eca|7005d45845be48ae8140d43da96dd17b|0|0|637569523639806519|Unknown|TWFPbGZsb3d8eyJWljoiMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTil6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=rK0oPmKUgz+epqpGW1cU/BLK1zRKfBQv83pUk9qODrY=&reserved=0>>.

Alana R. Johnson

Senior Communications Specialist, PAAC V Contract

Planetary Science Division

alana.r.johnson@nasa.gov

o: (202) 358-1501 | c: (b6)

NASA Headquarters, 300 E. St SW, Washington, DC. 20546

asrcfederal.com

<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.asrcfederal.com/&data=04|01|michael.h.new@nasa.gov|c844ab771f6a4a3383ea08d91a1a8eca|7005d45845be48ae8140d43da96dd17b|0|0|637569523639816472|Unknown|TWFPbGZsb3d8eyJWljoimc4wLjAwMDAiLCJQIjoiv2luMzliLCJBTiI6IkhWwiLCJXVCi6Mn0=|1000&sdata=WjjaOxzjz9i9PBZjLuaKSQBMtD2ffpjUeFUgsLjiPQ=&reserved=0>>|Purpose Driven. Enduring Commitment.

From: "Jones, Nancy N. (GSFC-1300)" <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>, "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>, "Hautaluoma, Grey (HQ-NA020)" <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>

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

Date: 18 May 2021 11:08

To: "Deily, Mary-Ellen" <Mary- <mailto:b6 >

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

Hi Mary-Ellen,

That is good. My phone number is b6

Thanks

Ravi

From: "Deily, Mary-Ellen" <Mary- <mailto:b6 >

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?

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

Sent: Tuesday, May 18, 2021 11:06 AM

To: Deily, Mary-Ellen <b6 [REDACTED]>

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]

<[https://gcc02.safelinks.protection.outlook.com/?url=https://urldefense.com/v3/__https://www.scientificamerican.com/article/unidentified-aerial-phenomena-better-known-as-ufos-deserve-scientific-investigation/__;!!M9LbjjnYNg9jBDflsQ!RNogk-D3JuC1MJd_9noFbKySXQVLGOgllkyDzSdfgPmOEQyIR5ouEvkowsRRg91kSdSQ5x6-\\$&data=04|01|michael.h.new@nasa.gov|c844ab771f6a4a3383ea08d91a1a8eca|7005d45845be48ae8140d43da96dd17b|0|0|637569523639816472|Unknown|TWfPbGZsb3d8eyJWljoimC4wLjAwMDAiLCJQljoiv2luMzliLCJBTil6lk1haWwILCJXVCI6Mn0=|1000&sdata=892jNITz6JIFnuqOpJQjhvrlVViuSzcU7gWA3PTnS3g=&reserved=0](https://gcc02.safelinks.protection.outlook.com/?url=https://urldefense.com/v3/__https://www.scientificamerican.com/article/unidentified-aerial-phenomena-better-known-as-ufos-deserve-scientific-investigation/__;!!M9LbjjnYNg9jBDflsQ!RNogk-D3JuC1MJd_9noFbKySXQVLGOgllkyDzSdfgPmOEQyIR5ouEvkowsRRg91kSdSQ5x6-$&data=04|01|michael.h.new@nasa.gov|c844ab771f6a4a3383ea08d91a1a8eca|7005d45845be48ae8140d43da96dd17b|0|0|637569523639816472|Unknown|TWfPbGZsb3d8eyJWljoimC4wLjAwMDAiLCJQljoiv2luMzliLCJBTil6lk1haWwILCJXVCI6Mn0=|1000&sdata=892jNITz6JIFnuqOpJQjhvrlVViuSzcU7gWA3PTnS3g=&reserved=0)>

I am free today except from 2-3pm.

Ravi

From: "Deily, Mary-Ellen" <Mary- <mailto:b6 [REDACTED]>

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 b6 [REDACTED]. (I'm working from home.)

Thank you,

Mary-Ellen Deily

Multiplatform editor

The Washington Post, Opinions department

From: [Potter, Sean \(HQ-NA020\)](#)
Subject: Daily Report for Tuesday, June 15
Date: Tuesday, June 15, 2021 7:30:54 AM
Attachments: [DAILY REPORT 06-15-2021.docx](#)

Good morning.

Attached and below is today's Communications Daily Report.

Thank you,
Sean Potter

NASA Communications Daily Report

Tuesday, June 15

Activities

- 7 to 8 am – Administrator Nelson on GLEX Panel
 - Administrator Nelson participating in a virtual panel with other space agency leaders during the Global Space Exploration Conference (GLEX) 2021 that will take place in St. Petersburg, Russia. Roscosmos, the Canadian Space Agency (CSA), ESA (European Space Agency), Italian Space Agency (ASI), the UAE/Mohammed Bin Rashid Space Centre (MBRSC), Norwegian Space Agency (NOSA), South African National Space Agency (SANSA), and the Turkish Space Agency (TUA) will also be represented on the panel, with IAF President Pascale Ehrenfreund moderating.
- 9 am – Brazil Signs Artemis Accords
 - Brazil will sign the Artemis Accords during a ceremony at the Brazilian Presidency in Brasilia. Ceremony broadcast live (in Portuguese) at: <https://tvbrasil.ebc.com.br/tags/ao-vivo>
- 9:35 am – Minotaur 1 launch from Wallops
 - Launch of a Northrop Grumman Minotaur 1 launch for the U.S. Space Force carrying 3 payloads for the National Reconnaissance Office (NRO). Live coverage on the [Wallops YouTube](#) page begins at 9:05 am.
- 1:30 to 2 pm – Virtual NASASpaceflight Interview with Stennis Green Run Test Conductor, focusing on Green Run wrap-up
- 2 pm – Administrator Nelson testifies before Senate Appropriations Committee (CJS subcommittee) on NASA's FY 2022 Budget Request
- Webb Launch Readiness Exercise #4 (internal NASA meeting)
- Interview: Science Channel with Goddard's Ravi Kumar Kopparapu about biosignatures, based on the upcoming report on UFO/UAPS
- Astronaut Victor Glover for Cal Poly Black Commencement in San Luis Obispo, California
- Astronaut Don Pettit for Project Moon Hut Foundation Age of Infinite Interview Podcast Series in Manlius, New York
- Birthday: Former Administrator Jim Bridenstine

NASA Television

On Air

- 2 pm – Administrator Nelson testifies before Senate Appropriations Committee on NASA's FY 2022 Budget Request

NASA HQ In-Studio Shoots, Productions:

- Pulling Soundbites from the above hearing related to: China Value of NASA, DEI/RFI, and Competition, announcement for Lander under services agreement

Social Media Activity

Agency

- Live coverage of the Minotaur I Launch will be available beginning at 6:30 am EDT on the Wallops YouTube channel. The stream will be embedded on nasa.gov/live and promoted on flagship social media accounts. Liftoff is targeted for 7 am EDT.

Humans in Space

- Purposeful Passengers Tumblr showcasing the "Name the Artemis Moonikin Challenge." Flagship social media accounts will share communications products in reference to the Purposeful Passengers Challenge
- NASA Knowledge: TDRS Miles Above Earth / Johnson

Moon to Mars

- Tweets about Brazil signing Artemis Accords from @SenBillNelson and @NASAArtemis accounts

HQ Products

Release

- NASA Launches Mission Equity, Seeks Public Input to Broaden Access
 - As an agency focused on exploring the cosmos and understanding our own planet, NASA is uniquely positioned to inform, inspire, and provide opportunity through outreach, research, and partnerships. Our outstanding challenge is to ensure NASA information and opportunities reach historically underrepresented and underserved communities.

Web Articles

- 9:30 am – Spinoff Feature: Communicating via Long-Distance Lasers
 - A NASA partnership made lasers viable for satellite communications
- 10 am – Name the Artemis I Moonikin Campaign Explainer
 - This web feature outlines the Name the Artemis I Contest starting June 16 and ending June 28.
- 10 am – Moonikin Background Features
 - Three web features provide background on the names featured in the Name the Artemis I Moonikin contest (Julius Montgomery, Arturo Campos, Michael Wargo)
- Brazil Signs Artemis Accords

Center Products

Image/Video

- 10 am – Apollo to Artemis Then & Now: Core Stage Stacking / Kennedy
 - Newest image for the Then & Now page for Apollo to Artemis will be of core stage lift and mate

Web Articles

- KSC Indian River Bridge Utility Design / Kennedy
 - NASA Engineering is performing the utility design work for the new Indian River Bridge project. The bridge is a vital accessway to Kennedy Space Center.
- 1:30 pm – A Probing Question: How Do You Fly the X-59 Accurately? / Glenn
 - Web feature story on the completion of X-59 testing in Glenn's 8' x 6' supersonic wind tunnel
- 3 pm – Joint NASA, NOAA Study Finds Earth's Energy Imbalance Has Doubled / Langley
 - Scientists at NASA and NOAA compared data from NASA's Clouds and the Earth's Radiant Energy System (CERES) suite of satellite sensors that measure how much energy enters and leaves Earth's system, with data from a global array of ocean floats, called Argo, that enable an accurate estimate of the rate at which the world's oceans are heating up, and determined that Earth's energy imbalance approximately doubled during the 14-year period from 2005 to 2019. A paper on these results will publish soon in Geophysical Research Letters.
- FlyTEC Demonstration / Langley
 - FlyTEC is a joint FAA-NASA pilot-in-the-loop simulation study to develop and assesses candidate flight-test maneuvers to be used by certification test pilots to assess whether the response of an eVTOL aircraft to pilot commands is safe and is expected to be part of the tests the FAA uses to certify this new class of aircraft.

NASA Communications Daily Report

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- Live coverage of the Minotaur I Launch will be available beginning at 6:30 am EDT on the Wallops YouTube channel. The stream will be embedded on nasa.gov/live and promoted on flagship social media accounts. Liftoff is targeted for 7 am EDT.

Humans in Space

- Purposeful Passengers Tumblr showcasing the "Name the Artemis Moonikin Challenge." Flagship social media accounts will share communications products in reference to the Purposeful Passengers Challenge
- NASA Knowledge: TDRS Miles Above Earth / Johnson

Moon to Mars

- Tweets about Brazil signing Artemis Accords from @SenBillNelson and @NASAArtemis accounts

HQ PRODUCTS

Release

- NASA Launches Mission Equity, Seeks Public Input to Broaden Access
 - As an agency focused on exploring the cosmos and understanding our own planet, NASA is uniquely positioned to inform, inspire, and provide opportunity through outreach, research, and partnerships. Our outstanding challenge is to ensure NASA information and opportunities reach historically underrepresented and underserved communities.

Web Articles

- 9:30 am – Spinoff Feature: Communicating via Long-Distance Lasers
 - A NASA partnership made lasers viable for satellite communications
- 10 am – Name the Artemis I Moonikin Campaign Explainer
 - This web feature outlines the Name the Artemis I Contest starting June 16 and ending June 28.
- 10 am – Moonikin Background Features
 - Three web features provide background on the names featured in the Name the Artemis I Moonikin contest (Julius Montgomery, Arturo Campos, Michael Wargo)
- Brazil Signs Artemis Accords

CENTER PRODUCTS

Image/Video

- 10 am – Apollo to Artemis Then & Now: Core Stage Stacking / Kennedy
 - Newest image for the Then & Now page for Apollo to Artemis will be of core stage lift and mate

Web Articles

- KSC Indian River Bridge Utility Design / Kennedy

- NASA Engineering is performing the utility design work for the new Indian River Bridge project. The bridge is a vital accessway to Kennedy Space Center.
- 1:30 pm – A Probing Question: How Do You Fly the X-59 Accurately? / Glenn
 - Web feature story on the completion of X-59 testing in Glenn's 8' x 6' supersonic wind tunnel
- 3 pm – Joint NASA, NOAA Study Finds Earth's Energy Imbalance Has Doubled / Langley
 - Scientists at NASA and NOAA compared data from NASA's Clouds and the Earth's Radiant Energy System (CERES) suite of satellite sensors that measure how much energy enters and leaves Earth's system, with data from a global array of ocean floats, called Argo, that enable an accurate estimate of the rate at which the world's oceans are heating up, and determined that Earth's energy imbalance approximately doubled during the 14-year period from 2005 to 2019. A paper on these results will publish soon in Geophysical Research Letters.
- FlyTEC Demonstration / Langley
 - FlyTEC is a joint FAA-NASA pilot-in-the-loop simulation study to develop and assesses candidate flight-test maneuvers to be used by certification test pilots to assess whether the response of an eVTOL aircraft to pilot commands is safe and is expected to be part of the tests the FAA uses to certify this new class of aircraft.

Items for Monday's Thomas tag up

From: Evans, Daniel A. (HQ-DA000) <daniel.a.evans@nasa.gov>
To: New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>
Sent: August 6, 2021 8:59:24 AM EDT
Received: August 6, 2021 8:59:24 AM EDT

Hi Michael,

I have some items for Monday's Thomas tag up – listed below.

Thanks!

Dan

UAP independent study team

October AI/ML workshop retreat

AAAS SEA Change initiative

Commercial suborbital update

Lagrange instrument AO next steps

From: [Lal, Bhavya \(HQ-AA000\)](#)
To: [Zurbuchen, Thomas H. \(HQ-DA000\)](#)
Subject: Re: National Academy review of UAP report data/findings
Date: Friday, June 11, 2021 6:20:53 PM

Bhavya Lal, Ph.D.

b6


On: 11 June 2021 17:53, "Zurbuchen, Thomas H. (HQ-DA000)"
<thomas.h.zurbuchen@nasa.gov> wrote:

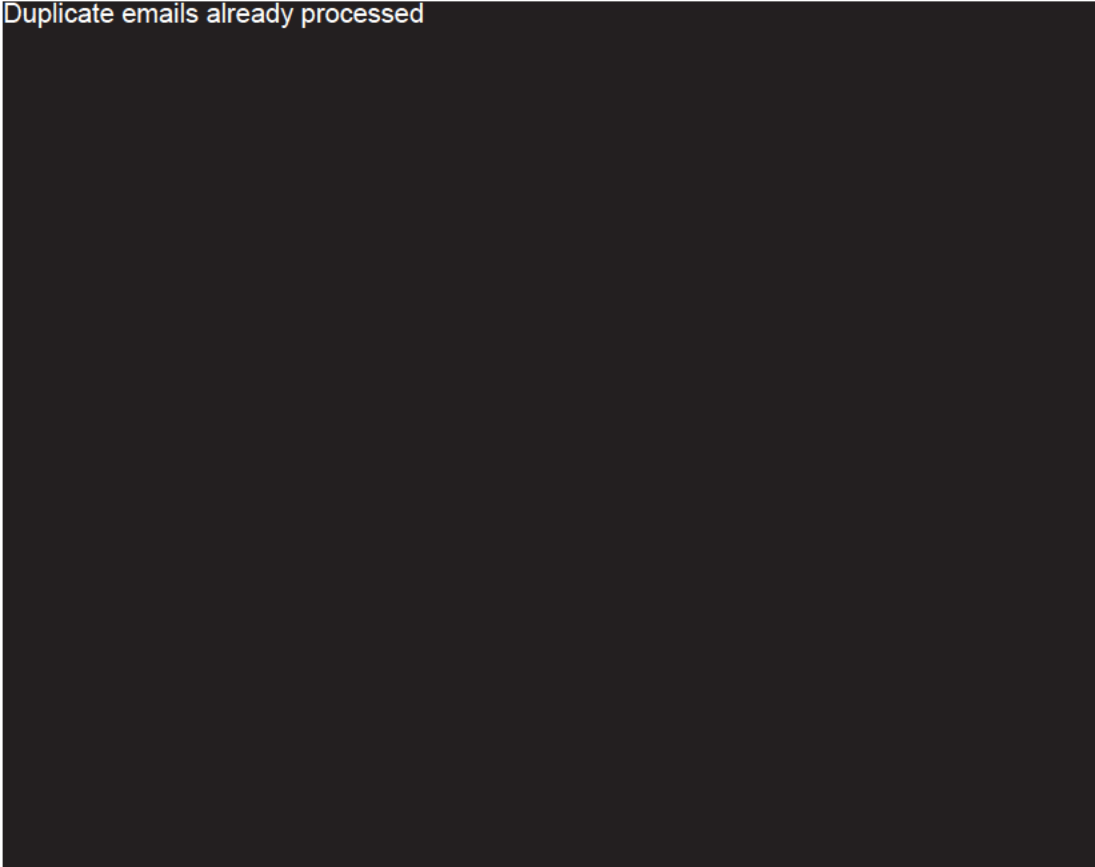
Bhavya – will get back on MON, ok? I am totally swamped due to my trip to PA and will send both, thoughts on this and China on MON. I know I owe you both...

THZ

From: "Lal, Bhavya (HQ-AA000)" <bhavya.lal@nasa.gov>
Date: Thursday, June 10, 2021 at 3:15 PM
To: "Zurbuchen, Thomas H. (HQ-DA000)" <thomas.h.zurbuchen@nasa.gov>
Subject: National Academy review of UAP report data/findings

Do you think it would be a good idea?

Duplicate emails already processed



Deletion Page

1 page containing duplicate information is held in the file. The page consists of an email NASA already processed.

Re: Technosignature query - Vice

From: Michael New <michael.h.new@nasa.gov>, New, Michael H. (HQ-DA000) <michael.h.new@nasa.gov>
To: Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS] <alana.r.johnson@nasa.gov>
Cc: Chou, Felicia (HQ-NA001) <felicia.chou@nasa.gov>, Hautaluoma, Grey (HQ-NI000) <grey.hautaluoma-1@nasa.gov>, Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS] <elizabeth.r.landau@nasa.gov>, Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS] <joshua.a.handal@nasa.gov>
Sent: July 2, 2020 11:45:03 AM EDT
Received: July 2, 2020 11:45:03 AM EDT

Is Lindsay unable to participate?

--

Michael H. New, PhD

Deputy Associate Administrator for Research

Science Mission Directorate

NASA Headquarters

Phone: (202) 358-1766

Email: michael.h.new@nasa.gov

From: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>
Date: Thursday, July 2, 2020 at 10:25 AM
To: Michael New <michael.h.new@nasa.gov>
Cc: "Chou, Felicia (HQ-NA001)" <felicia.chou@nasa.gov>, "Hautaluoma, Grey (HQ-NB000)" <grey.hautaluoma-1@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>
Subject: Re: Technosignature query - Vice

Thank you, Michael.

Same topic, different publication:

The astronomy correspondent for Science magazine reached out to Lindsay Hays. I contacted the writer, but he prefers a phone interview over written responses. Are you interested in talking with him early next week? Or, would you rather provide written responses? His particular questions are below for your consideration:

I would prefer a live interview, if that's possible. The responses sound more natural. I can extend the deadline into the first half of next week, if that helps. But if not, here are some of the questions I wanted to ask. Some are to confirm things that people have told me, others are for new information.

--NASA funding for radio SETI searches was stopped by Congress in 1992, I understand. Excluding the recent NASA grant to Adam Frank et al., were there any other NASA funded efforts on SETI/technosignatures in the intervening

years?

--Was there explicit language in funding calls, especially in astrobiology and astrophysics, that excluded SETI/technosignatures proposals, prior to 2018?

--What prompted the very-rapidly-organized NASA Technosignatures Workshop in Houston in 2018?

--Was the language in funding calls changed after the workshop to allow or even encourage proposals related to SETI and technosignatures?

--Are radio SETI searches still excluded from funding calls?

--Is the grant to Frank et al. on characterizing atmospheric technosignatures a sign that there will be other similar grants in this area in the near future?

--Does NASA have any plans to actively encourage research into technosignatures, as it has done for astrobiology and biosignatures?

Thank you,

Alana

--

Alana R. Johnson
Public Affairs Officer
NASA Headquarters
Planetary Science Division
O: 202.358.1501 | C b6
<https://solarsystem.nasa.gov/>

From: "New, Michael H. (HQ-DA000)" <michael.h.new@nasa.gov>
Date: Thursday, July 2, 2020 at 9:41 AM
To: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>
Cc: "Chou, Felicia (HQ-NA001)" <felicia.chou@nasa.gov>, "Hautaluoma, Grey (HQ-NI000)" <grey.hautaluoma-1@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>
Subject: Re: Technosignature query - Vice

Dear Alana,

Here is my first attempt at answering the questions regarding atypical technosignatures within or near Earth's atmosphere. Really, the three questions are restatements of the same question but I have tried to vary my answers.

Michael

1. Does NASA presently collect data identifying atypical technosignatures, within or in proximity to earth's atmosphere?

NASA, through its Earth-observing satellites, 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 atypical

technosignatures, they are publicly available and anyone may use them to search for atypical technosignatures.

2. If dictated by subsequent legislation, does NASA currently have the ability to detect atypical or anomalous technosignatures occurring within or in proximity to the earth's atmosphere?

NASA-collected data about the Earth is publicly available and NASA would rely on the broad scientific community — including independent scholars — to search for and identify atypical or anomalous technosignatures should legislation direct NASA to investigate these phenomena.

3. Considering the strong congruence between the mainstream scientific community's analysis of SETI "technosignatures" and the reports of UAPs that the Navy is encountering, would NASA consider, if provided adequate funding and support, examination of potential technosignatures could be effective in trying to provide scientific support towards answering the UAP question being posed by the Navy, or the greater public as a whole?

NASA is always open to collaborating with other agencies on areas of common interest.

--

Michael H. New, PhD

Deputy Associate Administrator for Research

Science Mission Directorate

NASA Headquarters

Phone: (202) 358-1766

Email: michael.h.new@nasa.gov

From: "Johnson, Alana R. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <alana.r.johnson@nasa.gov>

Date: Wednesday, July 1, 2020 at 3:37 PM

To: Michael New <michael.h.new@nasa.gov>

Cc: "Chou, Felicia (HQ-NA001)" <felicia.chou@nasa.gov>, "Hautaluoma, Grey (HQ-NB000)" <grey.hautaluoma-1@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>, "Handal, Joshua A. (HQ-DG000)[ASRC FEDERAL SYSTEM SOLUTIONS]" <joshua.a.handal@nasa.gov>

Subject: FW: Technosignature query - Vice

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2 pages containing duplicate information are held in the file. The pages consist of emails NASA already processed.

RE: SETI -- astro-funded research?

To: Jang-Condell, Hannah (HQ-DH000)[NASA IPA] <hannah.jang-condell@nasa.gov>, Hudgins, Douglas M. (HQ-DH000) <douglas.m.hudgins@nasa.gov>, Fox, Karen C. (GSFC-1300) <karen.c.fox@nasa.gov>
Cc: Fisher, Alise M. (HQ-NA020) <alise.m.fisher@nasa.gov>, Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS] <elizabeth.r.landau@nasa.gov>
Sent: June 7, 2021 1:17:10 PM EDT
Received: June 7, 2021 1:17:10 PM EDT

Ignore my "we never received any proposals" answer! Karen, I hope the answers are what you need.

Paul

Paul Hertz (paul.hertz@nasa.gov) (he/him/his)

Director, Astrophysics Division, Science Mission Directorate

Mary W. Jackson NASA Headquarters Building

300 Hidden Figures Way SW, Washington, DC 20546-0001

Voice: 202-358-0986; Sec'y: 202-358-2150

From: Jang-Condell, Hannah (HQ-DH000)[NASA IPA] <hannah.jang-condell@nasa.gov>
Sent: Monday, June 7, 2021 12:51 PM
To: Hudgins, Douglas M. (HQ-DH000) <douglas.m.hudgins@nasa.gov>; Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>; Fox, Karen C. (GSFC-1300) <karen.c.fox@nasa.gov>
Cc: Fisher, Alise M. (HQ-NA020) <alise.m.fisher@nasa.gov>; Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS] <elizabeth.r.landau@nasa.gov>
Subject: Re: SETI -- astro-funded research?

We received 2 proposals related to technosignatures for XRP 2021. Reviews will take place in July.

-Hannah

Dr. Hannah Jang-Condell (she/her/hers)

Program Scientist

Astrophysics Division, Science Mission Directorate

NASA Headquarters, Washington, DC

202-329-2478

From: "Hudgins, Douglas M. (HQ-DH000)" <douglas.m.hudgins@nasa.gov>
Date: Monday, June 7, 2021 at 12:43 PM

To: "Hertz, Paul (HQ-DH000)" <paul.hertz@nasa.gov>, "Fox, Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov>, "Jang-Condell, Hannah (HQ-DH000)[NASA IPA]" <hannah.jang-condell@nasa.gov>
Cc: "Fisher, Alise M. (HQ-NA020)" <alise.m.fisher@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>
Subject: Re: SETI -- astro-funded research?

Under XRP 2020, we received 3 proposals that addressed the search for technosignatures, and 2 of those proposals were selected for funding. They are:

"From exocomets to technosignatures: hidden occulters in planetary systems"; PI: Cody, Ann Marie, SETI Institute

"A search for technosignatures around newly discovered exoplanets"; PI: Margot, Jean-Luc, UCLA

Under 2XRP 2018, we received 2 proposals that addressed the search for technosignatures, but neither was selected for funding.

This year, we received 2 proposals that address the search for technosignatures. Their status is TBD pending the proposal review in July.

Hope this info helps!

Doug

From: "Hertz, Paul (HQ-DH000)" <paul.hertz@nasa.gov>
Date: Monday, June 7, 2021 at 12:10 PM
To: "Fox, Karen C. (GSFC-1300)" <karen.c.fox@nasa.gov>, "Jang-Condell, Hannah (HQ-DH000)[NASA IPA]" <hannah.jang-condell@nasa.gov>, "Hudgins, Douglas M. (HQ-DH000)" <douglas.m.hudgins@nasa.gov>
Cc: "Fisher, Alise M. (HQ-NA020)" <alise.m.fisher@nasa.gov>, "Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS]" <elizabeth.r.landau@nasa.gov>
Subject: RE: SETI -- astro-funded research?

Karen –

As far as I know, nobody has proposed any SETI research, so we have not funded any SETI research.

Copying Hannah Jang-Condell and Doug Hudgins, who manage the Exoplanet Research Program (XRP).

The XRP call in ROSES states, "Observational, archival, theoretical, and modeling proposals focused on the detection of technosignatures are within the scope of XRP." Although technosignature (SETI) proposals were allowed for a long time, we added that explicit language at the time Congress directed us to host a workshop on technosignatures in 2018

<<https://gcc02.safelinks.protection.outlook.com/?url=https://www.hou.usra.edu/meetings/technosignatures2018/agenda/&data=04|01|paul.hertz@nasa.gov|2cd96e3e9d2645c4841508d929d46958|7005d45845be48ae8140d43da96dd17b|0|0|637586814556062745|Unknown|TWfPbGZsb3d8eyJWljoimc4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Ik1haWwiLCJXVCi6Mn0=|1000&sdata=xzphXoCZ1QL/DBUq8FQoaeopgle8pN0RXRM/A10COBQ=&reserved=0>>. As far as I know, we have still not received any proposals for funding.

Paul

Paul Hertz (paul.hertz@nasa.gov) (he/him/his)

Director, Astrophysics Division, Science Mission Directorate

Mary W. Jackson NASA Headquarters Building

300 Hidden Figures Way SW, Washington, DC 20546-0001

Voice: 202-358-0986; Sec'y: 202-358-2150

From: Fox, Karen C. (GSFC-1300) <karen.c.fox@nasa.gov>

Sent: Monday, June 7, 2021 11:59 AM

To: Hertz, Paul (HQ-DH000) <paul.hertz@nasa.gov>

Cc: Fisher, Alise M. (HQ-NA020) <alise.m.fisher@nasa.gov>; Landau, Elizabeth R (HQ-1864)[ASRC FEDERAL SYSTEM SOLUTIONS] <elizabeth.r.landau@nasa.gov>

Subject: SETI -- astro-funded research?

Cheers, Paul –

Talking to Thomas this morning, he said that you had let him know that astro does have a call/opportunity for SETI research . . . So the next question is: Have we funded any recently?

If you could let me know – or point me to the right person to find out -- about any current (or interesting past?) NASA-funded SETI research, I'd love to get a bit of a list.

(I'm being asked to codify a bit of a UAP's/UFOs comms plan by the end of this week. . .)

Thanks!

--Karen

--

Karen C. Fox

Senior Science Communications Officer

Office of Communications

NASA Headquarters

Karen.fox@nasa.gov