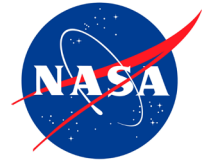


National Aeronautics and Space Administration

Headquarters

Washington, DC 20546-0001



July 13, 2020

Reply to attn. of: Office of Communications

John Greenwald
27305 W Live Oak Rd.
Suite 1203
Castaic CA 91384

Re: FOIA Tracking Number 20-HQ-F-00617

Dear Mr. Greenwald:

This is our final response to your Freedom of Information Act (FOIA) request to the National Aeronautics and Space Administration (NASA), dated June 24, 2020, and received in this office on June 25, 2020. You seek:

In the January 10, 2017, Congressional record, it was printed:

"A \$1 million NASA project is preparing the world's religions for the possible discovery of extraterrestrial life forms..."

This can be seen here, in full:

<https://www.congress.gov/crec/2017/01/10/modified/CREC-2017-01-10-pt1-PgS187-2.htm>

I respectfully request a copy of records, electronic or otherwise, of the following: A copy of all documents relating to this project, as referenced in the Congressional record. I ask for all contracts, grant papers, reports, deliverables, etc. that were generated for this project referenced.

In response to your request we conducted a search of the 2016-2017 grant file pertaining to the Center for Theological Inquiry (CTI) within NASA's Science Mission Directorate (SMD). That search identified records responsive to your request. During our search, it was determined that most records responsive to your request were released in a previous FOIA request, under tracking number 16-HQ-F-00616. We are providing those records to you, in addition to subsequently created records. We reviewed the responsive records under the FOIA to determine whether they may be disclosed to you. Based on that review, this office is providing the following:

29 page(s) are released in full (RIF);¹

¹ All page counts are approximate numbers.

2 page(s) are released in part (RIP);
 14 page(s) are withheld in full (WIF);

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

Exemption 3, 5 U.S.C. § 552(b)(3)

Exemption 3 concerns matters that are “specifically exempted from disclosure by statute if that statute (i) requires that the matters be withheld from the public in such a manner as to leave no discretion on the issue; or (ii) establishes particular criteria for withholding or refers to particular types of matters to be withheld.” 5 U.S.C. § 552(b)(3). Pursuant to 41 U.S.C. § 253b(m)(1), NASA withholds contractor proposals, submitted in response to a solicitation, that were not set forth or incorporated by reference into the contract. NASA has withheld CTI’s proposal in full, and withheld two quotations of this proposal subsequently made by CTI.

Fees

Provisions of the FOIA allow us to recover part of the cost of complying with your request. In this instance, because the cost is below the \$50 minimum, there is no charge.

Appeal

You have the right to appeal my action regarding your request. Your appeal must be received within 90 days of the date of this response. Please send your appeal to:

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

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

Assistance and Dispute Resolution Services

If you have any questions, please feel free to contact me at Stephen.g.rowe@nasa.gov. For further assistance and to discuss any aspect of your request you may contact:

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

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 myself, 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,

Stephen Rowe

Stephen Rowe
FOIA Public Liaison

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>

Title of Grant / Cooperative Agreement:	Astrobiology, Religion, and Society
Type of Report:	Summary of Research
Name of Principal Investigator:	William Storrar
Period Covered by Report:	July 1, 2015- June 30, 2017
Name and Address of recipient's institution:	Center of Theological Inquiry, 50 Stockton Street, Princeton, NJ 08540-6813
NASA Grant / Cooperative Agreement Number:	NNX14AR81G

Reference 14 CFR § 1260.28 Patent Rights (abbreviated below)

The Recipient shall include a list of any Subject Inventions required to be disclosed during the preceding year in the performance report, technical report, or renewal proposal. A complete list (or a negative statement) for the entire award period shall be included in the summary of research.

Subject inventions include any new process, machine, manufacture, or composition of matter, including software, and improvements to, or new applications of, existing processes, machines, manufactures, and compositions of matter, including software.

Have any Subject Inventions / New Technology Items resulted from work performed under this Grant / Cooperative Agreement?	No <input checked="" type="radio"/>	Yes <input type="radio"/>
If yes a complete listing should be provided here: Details can be provided in the body of the Summary of Research report.		

Reference 14 CFR § 1260.27 Equipment and Other Property (abbreviated below)

A Final Inventory Report of Federally Owned Property, including equipment where title was taken by the Government, will be submitted by the Recipient no later than 60 days after the expiration date of the grant. Negative responses for Final Inventory Reports are required.

Is there any Federally Owned Property, either Government Furnished or Grantee Acquired, in the custody of the Recipient?	No <input checked="" type="radio"/>	Yes <input type="radio"/>
If yes please attach a complete listing including information as set forth at § 1260.134(f)(1).		

Attach the Summary of Research text behind this cover sheet.

Reference 14 CFR § 1260.22 Technical publications and reports (December 2003)

Reports shall be in the English language, informal in nature, and ordinarily not exceed three pages (not counting bibliographies, abstracts, and lists of other media).

A Summary of Research (or Educational Activity Report in the case of Education Grants) is due within 90 days after the expiration date of the grant, regardless of whether or not support is continued under another grant. This report shall be a comprehensive summary of significant accomplishments during the duration of the grant.

Title of Grant: ASTROBIOLOGY, RELIGION, AND SOCIETY: A SYMPOSIUM SERIES TO SUPPORT RESEARCH ON THE SOCIETAL IMPLICATIONS OF ASTROBIOLOGY

Type of report: Summary of Research

Principal Investigator: Dr. William Storrar

Recipient Institution:
Center of Theological Inquiry
50 Stockton St.
Princeton, NJ 08540
Grant number: NNX14AR81G

A. Significant Accomplishments during the duration of the grant

(1) Creating a New Cohort of Scholars in the "Astrobiological Humanities"

As stated in its grant proposal, **b3**

[REDACTED]
[REDACTED]
[REDACTED] In the two years of the project, CTI has successfully engaged in the transmission of this scientific knowledge to an international team of Humanities scholars in theology, ethics, philosophy, anthropology, and literature through a residential symposium series in Princeton, New Jersey. These scholars in turn have conducted a rigorous interdisciplinary dialogue across the relevant sciences and humanities. The result is that 25 senior scholars and 15 young scholars in the Humanities have been in residence at the Center in a sustained conversation with visiting astrobiologists on the implications of their work for society and humanity's future. The most significant achievement of the grant in support of this symposium series is therefore the creation of a cohort of 40 prominent and promising scholars in the Humanities who have now worked at the highest level on the societal and humanistic implications of the current science in the multi-disciplinary field of astrobiology. They have eschewed speculation about extraterrestrial civilizations for the demanding interdisciplinary exercise of understanding the latest research on the potential of the universe to harbor life beyond Earth. They have been among the pioneers of what we may now rightly call the new interdisciplinary field of the astrobiological humanities.

(2) Attracting Additional Funding of \$1.7 million for the Symposium Series

The NASA grant of \$1.1 million funded 6 fellowships per year at CTI for two years in 2015-16 and 2016-17. NASA core funding for this project attracted additional support in a grant of \$1.7 million from the John Templeton Foundation, funding a further 6 resident fellowships per year for two years, and an additional non-resident fellowship in the second year, 2016-17. Therefore, the NASA grant to CTI recruited not the 12 research scholars promised, but a total of 25 scholars in the symposium series, 2015-17.

(3) Engaging with Leading Astrobiologist and Scholars in the Humanities

The resident fellows in the symposium series enjoyed regular presentations on the science of astrobiology and its societal and humanistic implications from leading scientists and scholars in the Humanities, including: David Grinspoon, planetary scientist and inaugural holder of the Baruch S. Blumberg NASA Library of Congress Chair in Astrobiology at the Library of Congress; Frank Rosenzweig, biologist, Georgia Institute of Technology; Sara Walker, physicist, Arizona State University; Ed Turner, astrophysicist, Princeton University; Michael Hecht, chemist, Princeton University; Adam Frank, physicist and astronomer, University of Rochester; Eric Smith, physicist, Georgia Institute of Technology; Caleb Scharf, astrobiologist, Columbia University; Nicolaas Rupke, historian of science, Washington and Lee University; David Fergusson, theologian and member of the British Academy, University of Edinburgh; Andrea Hairston, dramatist and Africanist, Smith College; Seth Perry, religion scholar, Princeton University; Frederick Ware, theologian, Howard University; William Barry, Chief Historian, NASA; Carl Pilcher, former director, NASA Astrobiology Institute; Catharine Conley, Planetary Protection Officer, NASA.

(4) Cultivating Emerging Scholars in the Astrobiological Humanities

Two Young Scholar Workshops were held in conjunction with this grant, in June of 2016 and June of 2017. In both cases the workshops were led by CTI members Frederick Simmons and Lucas Mix. By way of illustration, participating in the June 2017 workshop were an international group of 11 doctoral and postdoctoral scholars in various fields, including cognitive science, philosophy of science, technology studies, philosophy of religion, and theology. The workshop was judged a resounding success by the participants, as a diverse group of emerging scholars in various fields reflected on how the new science of astrobiology impacted research in their given fields. In particular, the gender balance of the workshop was noted as one of its strengths, with 6 women and 5 men, as well as the international range of students, including participants from Uganda, Finland, the United Kingdom, and Germany, as well the United States and Canada.

5. Dissemination of Research

This report marks the conclusion of the second year of a two-year project. The scholars who participated in Year 1 did an exemplary job preparing the way for the second year of the project, above all by refining the questions we should ask regarding astrobiology and society. The 2016-2017 CTI Fellows, who come from variety of disciplinary backgrounds (philosophy, anthropology, literature, ethics, and theology) have built on the work of the first year and undertaken groundbreaking research on the societal implications of astrobiology. As was presented in the concluding Spring Symposium, the 2016-2017 research team has focused on three primary areas of research: planetary protection and questions of value, scientific knowledge and cultural understanding, and theological appraisals of scientific discoveries.

The results of this Inquiry continue to be disseminated widely through the CTI Blog (blog.ctinquiry.org) and through CTI's Fresh Thinking Podcast, which has featured conversations this year with NASA Chief Historian William Barry, dramatist Andrea Hairston, physicist Eric Smith, theologian Andrew Davison, and astrobiologist Carl Pilcher, among others. The podcast was created in October 2015; as of September 2017, it has been listened to over 4,300 times.

Philosopher Susan Schneider organized a panel on Astrobiology and Society with Adam Frank (Professor of Physics and Astronomy, Univ. of Rochester) at the April 2017 meeting of the American Philosophical Association in Seattle, WA.

Biblical scholar William Brown has recently published a book based in his CTI research titled *A Handbook to Old Testament Exegesis* (Westminster/John Knox Press, 2017). This book on interpreting ancient texts draws on his CTI study of astrobiological themes in the Book of Job.

Evolutionary biologist Lucas Mix led a panel titled "What's It All About? Social and Conceptual Issues in Astrobiology" at the Astrobiology Science Conference, Mesa, AZ, April 2017.

Theologian and philosopher Olli-Pekka Vainio has published three articles online on the topic of astrobiology in his native Finland:

<https://www.areiopagi.fi/2017/04/reformaattorit-epailivat-ja-edistivat-aurinkokeskistamaailmankuvaa/>

<https://www.areiopagi.fi/2017/01/kardinaali-cusanuksen-kumma-kosmos/>

<https://www.areiopagi.fi/2016/11/loisiko-jumala-multiversumin/>

The Inquiry on the Societal Implications of Astrobiology received attention recently in the Guardian, resulting in increased traffic on the CTI website:

<https://www.theguardian.com/commentisfree/2017/apr/26/discovery-of-alien-life-religionwill-survive>

Many CTI members in both years plan to incorporate their immersion in astrobiology into their teaching at their home institutions, e.g. Ulrike Auga's course at the Humboldt University in Berlin. Others have proposed and held panels on astrobiology and society at various scholarly conferences, including the American Academy of Religion (CTI pre-meeting, November 2017).

As CTI Outreach Officer, Joshua Mauldin hosted a podcast conversation with two participants in the 2017 Young Scholar Workshop— Joanna Leidenhag (doctoral student in theology at University of Edinburgh) and Sarah Reynolds (doctoral student in the history and philosophy of science at Indiana University), along with Lucas Mix, CTI

Member and co-leader of the workshop. Listen to the podcast here:
<https://soundcloud.com/8ltxez6g7yqq/emerging-scholars-workshop-1>

The Concluding Conference of the Inquiry on the Societal Implications of Astrobiology, 2015-2017, was held at St George's House, Windsor, UK, June 28-July 1, 2017. It considered the impact of both astrobiology and digital media on our understanding and experience of nature and human nature. The event brought together scientists and scholars in astrobiology and society, including biologist Frank Rosenzweig (Georgia Institute of Technology) theologian Douglas Ottati (Davidson College), anthropologist Timothy Jenkins (University of Cambridge), theologian Andrew Davison (University of Cambridge) ethicist Frederick Simmons (Center of Theological Inquiry), theologian Peter Scott (University of Manchester), astronomer Amaury Triaud (University of Cambridge), Richard Cheetham (theologian and Bishop of Kingston), philosopher of religion Willem Drees (Tilburg University), physicist Tom McLeish (Durham University), and theologian Ola Sigurdson (University of Gothenburg). Also joining the conversation were media professionals Krista Tippett (Host/Executive Producer, Krista Tippett Public Productions), Andrew Brown (Leader Writer, the Guardian) and Catherine Pepinster (former editor of the Tablet), along with digital media experts Ian Dodgeon (Wellcome Foundation), Jane Gregory (freelance science education consultant), Francesca De Chiara (digital studies researcher, Bruno Kessler Foundation, Trento, Italy), and Beth Singler (research fellow, Faraday Institute for Science and Religion, Cambridge).

Recent Publications from the Inquiry on Astrobiology, Religion, and Society

William Brown, "Knowing Creation in the Light of Job and Astrobiology." Thomas H. McCall and Andrew B. Torrance (ed.), *Knowing Creation: Perspectives from Theology, Philosophy, and Science* (Grand Rapids: Zondervan Academic, 2018).

<http://www.zondervan.com/knowing-creation>

Andrea Losch, (Ed.) *What is Life? On Earth and Beyond* (Cambridge University Press, 2017).

Gerald McKenny, *Biotechnology, Human Nature and Christian Ethics*. Peer-reviewed monograph accepted and forthcoming from Cambridge University Press, 2017.

Lucas Mix, "Philosophy and Data in Astrobiology." *International Journal of Astrobiology*, July 2017.

Lucas Mix (2016) Life-value narratives and the impact of astrobiology on Christian ethics. *Zygon* 51(2):520-535.

Erik Persson, "The Axiological Basis of Planetary Protection," Lecture at Astrobiology Science Conference, Meza, AZ, April 24, 2017; Persson gave a second lecture on April 25, titled "A Family Resemblance Definition of Life."

Anne Marie Reijnen, Review Essay, "David Catling, *Astrobiology*; Freeman Dyson, *Dreams of Earth and Sky*; J. Richard Gott, *The Cosmic Web*, in "De Stem van het Boek" (Brussels), XXVII/1, March 2016.

Susan Schneider, "Superintelligent AI and the Postbiological Cosmos," in Losch (Ed.), *What is Life? On Earth and Beyond* (Cambridge University Press, 2017).

Andrea Vicini, "L'astrobiologia e noi: Le implicazioni sociali e politiche di una scienza 'nuova' (Astrobiology and Us: The Social and Political Implications of a 'New' Science)," *La Civiltà Cattolica* II, no. 4003 (2017): 3-15.

<http://www.laciviltacattolica.it/articolo/astrobiologia-e-noi/>

English version: Andrea Vicini, "Astrobiology and Us: Social and Political Implications of a 'New' Science," *La Civiltà Cattolica* I, no. 5 (2017): 29-41.

Manuscripts in Press or under review from Fellows in the Symposium Series

Olli-Pekka Vainio, *Cosmology in Theological Perspective* (Baker Academic. Forthcoming Spring 2018). Peer-reviewed monograph.

Adam Pryor, monograph on the theological and social significance of microbial life, currently being considered for review with Fordham University Press.

B. Expected Accomplishments after the duration of the grant

The additional grant from the John Templeton Foundation is funding a third outreach year in CTI's Inquiry on the Societal Implications of Astrobiology, 2017-2018. This concluding year will consist of a series of five consultations on "Planetary Thinking in Astrobiology, Religion, and Society," towards the publication of an interdisciplinary and interreligious volume under that provisional title. An initial correspondence has been held with an editor at Cambridge University Press as a possible publisher. The Center has also agreed to launch a new series of open access e-books with Amherst College Press, aimed at scholars, students, and readers in the liberal arts, and starting with a long essay on the astrobiological humanities. Further peer-reviewed journal articles and monographs from the 25 scholars in residence in the CTI astrobiology inquiry, 2015-17, will be monitored and reported by the Center for wider dissemination in coming years. All these publications from CTI and its 25 scholars will expand the body of literature in the emerging field of the astrobiological humanities, and in turn inform the thinking of astrobiologists who are concerned to understand the societal and humanistic implications of their research from fellow experts in theology and the humanities.

Title of Grant: ‘ASTROBIOLOGY, RELIGION, AND SOCIETY: A SYMPOSIUM
SERIES TO SUPPORT RESEARCH ON THE SOCIETAL IMPLICATIONS OF
ASTROBIOLOGY

Type of report: Progress Report
Principal Investigator: Dr. William Storrar

Period covered by the report: July 2015-June 2016

Recipient Institution:
Center of Theological Inquiry
50 Stockton St.
Princeton, NJ 08540

Grant number: NNX14AR81G

1. Achievements, Goals, Objectives

As stated in CTI’s proposal for this grant, (b) (3)
(b) (3) The first year of the grant has involved such transmission, as a group of humanities scholars have been immersed for nine months in the science of astrobiology. This work is grounded in a residential symposium program. The CTI fellows arrived in Princeton at the beginning of September 2015 and made CTI their regular place of work until the end of May 2016. This work involved not only individual study but a weekly colloquium in which fellows discussed their work in progress. The program included three symposia in which visiting scientists gave presentations on their research in astrobiology. Among these visiting scientists were David Grinspoon, Aaron Goldman, Sara Walker, Frank Rosenzweig, and Michael Hecht. Edwin Turner (Princeton University) presented his work to the CTI fellows during a special session of the weekly colloquium, and he also attended the spring Symposium. Frank Rosenzweig and Michael Hecht were present for both the Winter and Spring symposia, allowing for extended conversation with the fellows at CTI. Having already presented his work to the CTI fellows, Edwin Turner returned to CTI for the spring symposium, allowing for further interdisciplinary engagement. The conversations at the spring symposium were enriched also by the presence of Connie Bertka (Smithsonian Institution) and Daniella Scalise (NASA Astrobiology Program). These events, combined with the weekly colloquia in which the fellows presented their ongoing research on astrobiology and its societal implications, provided the scientific input necessary for this interdisciplinary project to succeed.

This progress report marks the conclusion of the first year of a two-year project. The scholars who participated in Year 1 did an exemplary job preparing the way for the second year of the project, above all by refining the questions we should ask with regard to astrobiology and society. The CTI Fellows, who come from variety of disciplinary backgrounds (philosophy, theology, ethics, textual studies, cultural theory) converged on

the idea that scientific discoveries do not exist in a vacuum; rather, these discoveries are always filtered through the practices, norms, and beliefs that characterize a particular culture. Thus there are no universe implications of astrobiology; instead there are various ways that cultural traditions can and will interpret these findings. Furthermore, science itself is informed by cultural traditions, such that scientific discoveries are always already laden with social, cultural, and normative beliefs. The upshot of all this is that interdisciplinary conversation between astrobiology and the humanities/social sciences is best seen as one of mutual interchange in which each discipline learns from the other, rather than a strictly deductive relationship. There is no doubt that the discovery of life beyond Earth would impact religious and cultural traditions; but what this impact looks like will vary according to cultural tradition, and in any case socio-cultural practices and beliefs already inform the scientific endeavor itself. For the fellows this year, these methodological considerations were important for framing the interdisciplinary discussion.

In June 2016, CTI will hold the first of two Young Scholar Workshops. This workshop will be led by two CTI fellows from 2015-2016: Lucas Mix and Frederick Simmons. The second workshop will be held in the summer of 2017.

2. Dissemination of Research

The writing projects undertaken by the CTI fellows this year are book-length projects that will be completed in the coming year or two. Also Lucas Mix has published an article in the June 2016 edition of the journal *Zygon*; the article is titled “Life-Value Narratives and the Impact of Astrobiology on Christian Ethics.” *Zygon*, vol. 51, no. 2 (June 2016): 520-535.

Many of the fellows are planning to incorporate their immersion in astrobiology into their teaching at their home institutions. For example, Ulrike Auga will run a seminar on astrobiology and visual culture at the Humboldt University, Berlin, summer 2016. Others have proposed panels on astrobiology and society at various scholarly conferences.

The results of this project have already been disseminated through the CTI Blog (blog.ctinquiry.org) and through CTI’s Fresh Thinking Podcast, which has featured conversations with Mary Voytek, Edwin Turner, Frank Rosenzweig, and Caleb Sharf, along with the CTI fellows. The podcast was created in October 2015 and since that time it has been listened to more than 1,300 times. 12 episodes have already been published and 4 more episodes will be released this summer. A link to the CTI podcast with Frank Rosenzweig and Robin Lovin was also posted on the NASA Astrobiology Program website. The Kluge Center, Library of Congress, webpage also referenced CTI’s Inquiry.

3. Future Plans

An expanded leadership team for 2016-17 will include Senior Research Fellows Douglas Ottati (theology) and Frank Rosenzweig (astrobiology), along with CTI’s resident Senior Research Fellow Robin Lovin, who continues from the 2015-16 Inquiry. The larger leadership team will allow for more detailed planning, new opportunities for small

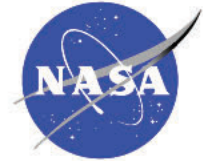
working groups to pursue specific issues, and a more integrated interdisciplinary response to individual research and writing projects. Robin Lovin will give special attention to planning for the three Symposium Conferences during the year, including orientation of additional scholarly participants, ongoing involvement of select members of the 2015-16 research team, and collaboration with CTI's Outreach Officer, Joshua Mauldin, on dissemination of work done during both years of the program.

In addition to the 10 Research Fellows who have signed research contracts to join the resident research team, CTI plans to expand the geographic, gender, and disciplinary diversity of the team by recruiting at least 3 Visiting Members for 2016-17. These scholars will receive regular briefings on the work of the research team, make occasional visits for periods of several days in residence, and participate in the Symposium Conferences during the year.

The weekly colloquium meetings of the research team will continue to be the central feature of the 2016-17 program. As in the first year, the weekly discussions will strike a balance between presentation and discussion of individual work in progress and collaborative work on the emerging issues that are central to a shared societal understanding of life and the search for life in the universe. Based on the success of the small working group model in spring 2016, the new leadership team expects to take up these emerging issues earlier in the 2016-17 year. In addition, relationships now established with scientists at Princeton University and elsewhere in the region will allow more regular scientific input into the research team's discussions, and we expect to make more use of videoconferencing technology for specific, focused scientific presentations on topics of immediate interest.

As indicated in our original proposal, the weekly colloquium meetings will be expanded at regular intervals through the year by an extended two or three day Symposium Conference that will bring an expanded group of scholars into discussion with the resident research team. The first of these conferences will come in September, at the conclusion of the research team's initial orientation. As in 2015-16, the main purpose of this first conference will be to introduce the resident team to current astrobiological research and give them an extended opportunity to interact with each other and the visiting scientists. As noted above, Visiting Members for 2016-17 may also be present, along with local scientists and some members of the 2015-16 research team. Two additional Symposium Conferences, to be scheduled in February and April, will provide opportunities for the research team to present selected examples their individual and collaborative work for wider discussion by an expanded interdisciplinary audience of scientists and scholars in the humanities and social sciences. Visiting Members and returning scholars from the 2015-16 research team will provide continuity in the discussion, but additional participants will be invited based on the directions taken by the resident research team during the year. It may also be possible to invite some of the journalists, religious leaders, and global humanities scholars who will be participating in a series of CTI consultations during 2017-18, so that the final two Symposium Conferences in the 2015-17 series anticipate further plans for disseminating the work of the two resident research teams.

National Aeronautics and
Space Administration
NASA Shared Services Center
Stennis Space Center, MS 39529



Reply to Attn of: **Procurement Division**

Ms. Shirah Metzgian
Center Of Theological Inquiry Inc
50 Stockton St
Princeton, NJ, 08540-6813

Subject: Grant Number NNX14AR81G

Dear Ms. Metzgian:

The NASA Shared Services Center (NSSC) has completed the award of the subject grant/cooperative agreement and looks forward to working with you in its administration. Please take time to read through the award documents and note the contact information for the Administrative Grant Officer entered in Section 15 of the NASA Form 1687. To facilitate efficient processing of grant awards, the NSSC utilizes its Customer Contact Center for answering recipient questions and requests. This enables the Grant Officer to effectively review and award grant packages and funding supplements in a timely manner.

The grant award and administration by the NSSC does not change the line of communication between your organization and the NASA scientific, technical and educational communities. To monitor the status of grants going through the award process, please access the NSSC Grant Status Query System at <http://nssc.nasa.gov/grantstatus/>.

Single Audit Requirements:

Recipients are reminded that if they expend \$500,000 or more in a year in Federal awards they shall be subject to the audit requirements contained in the Single Audit Act Amendments of 1996 (31 U.S.C. 7501-7507) and revised OMB Circular A-133.

Required Publications and Reports:

Recipients must submit the publications and reports by the due dates and to the personnel listed in the "Required Publications and Reports" section of the award documents. The contact information for these individuals is listed in the "Point of Contact" section of the award documents.

All reports related to the Grant Officer must be submitted to the NSSC Procurement Office by fax, e-mail or mail at the numbers or address below. Please include the Grant Number in the subject line.

Fax : (866) 779-6772
E-mail: nssc-grant-report@mail.nasa.gov

Mail: NASA Shared Services Center
Attn: Office of Procurement –SP
Building 1111, C Road
Stennis Space Center, MS 39529

Please submit the “Subject Inventions/Reportable Items Interim and Final Summary Report” electronically on the New Technology Reporting Web site (eNTRe) located at <http://invention.nasa.gov>.


All other final reports submitted for closeout (pursuant to the “Required Publications and Reports” section of the award documents) should be sent by e-mail to NSSC-closeout@mail.nasa.gov. You may also forward any questions regarding the closeout process to this e-mail address.

If you have any questions, or need further assistance, please contact us at 1-877-677-2123 (1-877-NSSC123) or by e-mail at nssc-contactcenter@nasa.gov.

Sincerely,

NSSC Grants Officer

Enclosure

 National Aeronautics and Space Administration		<h1>NASA Grant and Cooperative Agreement</h1>		CHOOSE ONE: <input type="checkbox"/> COOPERATIVE AGREEMENT <input checked="" type="checkbox"/> GRANT	
CHOOSE ONE: <input type="checkbox"/> EDUCATION <input type="checkbox"/> FACILITIES <input checked="" type="checkbox"/> RESEARCH <input type="checkbox"/> SDCR <input type="checkbox"/> TRAINING					
<i>NASA Grant and Cooperative Agreement Handbook Web Site: <http://ec.msfc.nasa.gov/hq/gcover.htm></i>					
1. GRANT/COOPERATIVE AGREEMENT NUMBER NNX14AR81G		2. SUPPLEMENT NUMBER		3. EFFECTIVE DATE 07/01/2015	4. COMPLETION DATE 06/30/2017
5. ISSUED TO NAME/ADDRESS OF RECIPIENT (No., Street, City/County, State, Zip) Center Of Theological Inquiry Inc 50 Stockton St Princeton NJ 08540-6813			6. ISSUED BY NASA/Shared Services Center Bldg. 1111, C Road Stennis Space Center MS 39529-6000		
7. TAXPAYER IDENTIFICATION NO. (TIN)		9. PRINCIPAL INVESTIGATOR/STUDENT/ORGANIZATION'S PROJECT OR PROGRAM MGR. (Name & Phone) William Storrar 609-683-4797			
8. COMMERCIAL & GOVERNMENT ENTITY (CAGE) NO. 75HQ9					
10. RESEARCH, PROJECT OR PROGRAM TITLE NRA: RESEARCH OPPORTUNITIES IN SPACE AND EARTH SCIENCES - 2014					
11. PURPOSE Astrobiology, Religion, and Society					
12. PERIOD OF PERFORMANCE (Approximately) 07/01/2015 through 06/30/2017					
13A. AWARD HISTORY		13B. FUNDING HISTORY			
PREVIOUS \$0.00		PREVIOUS \$0.00			
THIS ACTION \$1,110,000.00		THIS ACTION \$555,000.00			
TOTAL \$1,110,000.00		TOTAL \$555,000.00			
14. NASA ACCOUNTING AND APPROPRIATION DATA PR No.: 4200527838 0000510770/6100.4111/51/PC000000/811073.02.12.03.80/000/4100/51/SCEX22014D/515A/8014/150120/1/2					
15. NASA POINTS OF CONTACT REQUIRING CENTER: NASA/Headquarters					
	NAME	MAIL STOP	TELEPHONE	E-MAIL ADDRESS	
TECHNICAL OFFICER	Mary Voytek	3X63	202-358-3097	mary.voytek-1@nasa.gov	
NEGOTIATOR					
ADMINISTRATOR	Paula Martin		877-677-2123	nssc-contactcenter@nasa.gov	
PAYMENTS	NSSC Contact Center	XD010	877-677-2123	NSSC-ContactCenter@nasa.gov	
16. THIS AWARD IS MADE UNDER THE AUTHORITY OF 42 U.S.C. 2473(c)(5) AND IS SUBJECT TO ALL APPLICABLE LAWS AND REGULATIONS OF THE UNITED STATES IN EFFECT ON THE DATE OF THIS AWARD, INCLUDING, BUT NOT LIMITED TO: <input type="checkbox"/> 14 CFR PART 1274 (COOPERATIVE AGREEMENT WITH COMMERCIAL FIRMS). <input checked="" type="checkbox"/> 14 CFR PART 1280 (GRANTS AND COOPERATIVE AGREEMENT).					
17. APPLICABLE STATEMENT(S), IF CHECKED: <input type="checkbox"/> NO CHANGE IS MADE TO EXISTING PROVISIONS <input type="checkbox"/> FDP TERMS AND CONDITIONS AND NASA AGENCY-SPECIFIC REQUIREMENTS APPLY TO THIS GRANT			18. APPLICABLE ENCLOSURE(S), IF CHECKED: <input checked="" type="checkbox"/> PROVISIONS <input checked="" type="checkbox"/> SPECIAL CONDITIONS <input checked="" type="checkbox"/> REQUIRED PUBLICATIONS AND REPORTS		
THE UNITED STATES OF AMERICA NATIONAL AERONAUTICS AND SPACE ADMINISTRATION			RECIPIENT <input type="checkbox"/> (Recipient is required to sign this document and return _____ copies to the issuing office)		
NAME OF CONTRACTING/GRANT OFFICER Justin D. Dudenhefer			NAME AND TITLE OF AUTHORIZED REPRESENTATIVE (Type or print)		
SIGNATURE <i>Justin D. Dudenhefer</i>		DATE 09/12/2014	SIGNATURE		DATE



National
Aeronautics and
Space
Administration

NASA Grant and Cooperative Agreement

ITEM NO. (A)	ITEM OR SERVICE (Include Specifications and Special Instructions) (B)	QUANTITY (C)	UNIT (D)	ESTIMATED COST	
				UNIT PRICE (E)	AMOUNT (F)
001	INCO TERMS 1: FOB INCO TERMS 2: Destination Delivery: 06/30/2017 Delivery Location Code: GSFC NASA/Goddard Space Flight Center 8800 Greenbelt Road Greenbelt MD 20771 USA Cost Center: 0000510770 GL Account: 6100.4111 Order: FC000000 WBS Element1: 811073.02.12.03.80 Item Number: 000 Commitment Item: 4100 Funds Center: 51 Fund: SCEX22014D Functional Area: 515A Appropriation: 8014/150120 Astrobiology, Religion and Society,...YR2=\$555K 14-TWSC14-0019 Incrementally Funded Amount: \$555,000.00				1,110,000.00

GENERAL PROVISIONS

1260.21 Compliance with OMB Circular A-110.

1260.22 Technical publications and reports.

1260.23 Extensions. (OCT 2000)

1260.24 Termination and enforcement. (OCT 2000)

1260.25 Change in principal investigator or scope. (OCT 2000)

1260.26 Financial management. (AUG 2003)

1260.27 Equipment and other property. (FEB 2004)

1260.30 Rights in data. (AUG 2005)

1260.31 National security. (OCT 2000)

1260.32 Nondiscrimination. (APR 2004)

1260.33 Subcontracts. (OCT 2000)

1260.34 Clean air and water. (OCT 2000)

1260.35 Investigative requirements. (JAN 2004)

1260.36 Travel and transportation. (OCT 2000)

1260.37 Safety. (OCT 2000)

1260.38 Drug-free workplace. (OCT 2000)

1260.39 Buy American encouragement. (MAY 2003)

1260.40 Investigation of Research Misconduct. (MAY 2005)

THE PROVISIONS LISTED ABOVE ARE INCORPORATED BY REFERENCE.

Provisions incorporated by reference have the same force and effect as if they were given in full text. Source: 14 CFR Part 1260. Copies of Code of Federal Regulation volumes are available in many libraries and for purchase from the Superintendent of Documents, Government Printing Office, Washington, DC 20402. Code of Federal Regulations is also available at <http://www.gpoaccess.gov/cfr>. Copies of OMB Circulars referenced in the provisions may be obtained from the Office of Administration, Publications Unit, New Executive Office Building, Washington, DC 20503. An index of existing Circulars is contained in 5 CFR 1310 and is available at the <http://www.whitehouse.gov/omb/circulars>.

1260.28 Patent rights. (MAY 2006)

(a) Where the term "contract" or "Contractor" is used in the "Patent Rights" clause, the term shall be replaced by the term "grant" or "Recipient," respectively.

(b) In each instance where the term "Federal Agency," "agency," or "funding Federal agency" is used in the "Patent Rights" clause, the term shall be replaced by the term "NASA."

(c) The following item is added to the end of paragraph (f) of the "Patent Rights" clause:

"(5) The Recipient shall include a list of any Subject Inventions required to be disclosed during the preceding year in the performance report, technical report, or renewal proposal. A complete list (or a negative statement) for the entire award period shall be included in the summary of research."

(d) The term "subcontract" in paragraph (g) of the "Patent Rights" clause shall include purchase orders.

(e) The NASA implementing regulation for paragraph (g)(2) of the "Patent Rights" clause is at 48 CFR 1827.304-4(a)(i).

(f) The following requirement constitutes paragraph (l) of the "Patent Rights" clause:

"(l) Communications. A copy of all submissions or requests required by this clause, plus a copy of any reports, manuscripts, publications or similar material bearing on patent matters, shall be sent to the Center Patent Counsel and the NASA Grant Officer in addition to any other submission requirements in the grant provisions. If any reports contain information describing a "subject invention" for which the recipient has elected or may elect to retain title, NASA will use reasonable efforts to delay public release by NASA or publication by NASA in a NASA technical series until an application filing date has been established, provided that the Recipient identify the information and the "subject invention" to which it relates at the time of submittal. If required by the NASA Grant Officer, the Recipient shall provide the filing date, serial number and title, a copy of the patent application, and a patent number and issue date for any "subject invention" in any country in which the Recipient has applied for patents."

(g) NASA Inventions. NASA will use reasonable efforts to report inventions made by NASA employees as a consequence of, or which bear a direct relation to, the performance of specified NASA activities under this agreement and, upon timely request, will use reasonable efforts to grant the Recipient an exclusive, or partially exclusive, revocable, royalty-bearing license, subject to the retention of a royalty-free right of the Government to practice or have practiced the invention by or on behalf of the Government.

(h) In the event NASA contractors are tasked to perform work in support of specified activities under a cooperative agreement and inventions are made by Contractor employees, the Recipient will normally retain title to its employee inventions in accordance with 35 U.S.C. 202, 14 CFR Part 1245, and Executive Order 12591. In the event the Recipient decides not to pursue rights to title in any such invention and NASA obtains title to such inventions, NASA will use reasonable efforts to report such inventions and, upon timely request, will use reasonable efforts to grant the Recipient an exclusive, or partially exclusive, revocable, royalty-bearing license, subject to the retention of a royalty-free right of the Government to practice or have practiced the invention by or on behalf of the Government.

(End of provision)

Restrictions on Funding Activities with China for Awards Subject to 14 CFR § 1260

(a) Pursuant to The Department of Defense and Full-Year Appropriation Act, Public Law 112-10, Section 1340(a); The Consolidated and Further Continuing Appropriation Act of 2012, Public Law 112-55, Section 539; and future-year appropriations (hereinafter, "the Acts"), NASA is restricted from using funds appropriated in the Acts to enter into or fund any grant or cooperative agreement of any kind to participate, collaborate, or coordinate bilaterally with China or any Chinese-owned company, at the prime recipient level or at any subrecipient level, whether the bilateral involvement is funded or performed under a no-exchange of funds arrangement.

(b) Definition: "China or Chinese-owned Company" means the People's Republic of China, any company owned by the People's Republic of China, or any company incorporated under the laws of the People's Republic of China.

(c) The restrictions in the Acts do not apply to commercial items of supply needed to perform a grant or cooperative agreement.

(d) Subaward - The recipient shall include the substance of this provision in all subawards made hereunder.

[End of Provision]

Central Contractor Registration and Universal Identifier Requirements

I. Central Contractor Registration and Universal Identifier Requirements

A. Requirement for Central Contractor Registration (CCR)

Unless you are exempted from this requirement under 2 CFR 25.110, you as the recipient must maintain the currency of your

information in the CCR until you submit the final financial report required under this award or receive the final payment, whichever is later. This requires that you review and update the information at least annually after the initial registration, and more frequently if required by changes in your information or another award term.

B. Requirement for Data Universal Numbering System (DUNS) Numbers

If you are authorized to make subawards under this award, you:

1. Must notify potential subrecipients that no entity (see definition in paragraph C of this award term) may receive a subaward from you unless the entity has provided its DUNS number to you.
2. May not make a subaward to an entity unless the entity has provided its DUNS number to you.

C. Definitions

For purposes of this award term:

1. Central Contractor Registration (CCR) means the Federal repository into which an entity must provide information required for the conduct of business as a recipient. Additional information about registration procedures may be found at the CCR Internet site (currently at <http://www.ccr.gov>).
2. Data Universal Numbering System (DUNS) number means the nine-digit number established and assigned by Dun and Bradstreet, Inc. (D&B) to uniquely identify business entities. A DUNS number may be obtained from D&B by telephone (currently 866-705-5711) or the Internet (currently at <http://fedgov.dnb.com/webform>).
3. Entity, as it is used in this award term, means all of the following, as defined at 2 CFR Part 25, subpart C:
 - a. A Governmental organization, which is a State, local government, or Indian Tribe;
 - b. A foreign public entity;
 - c. A domestic or foreign nonprofit organization;
 - d. A domestic or foreign for-profit organization; and
 - e. A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.
4. Subaward:
 - a. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.
 - b. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see Sec. __.210 of the attachment to OMB Circular A-133, "Audits of States, Local Governments, and Non-Profit Organizations").
 - c. A subaward may be provided through any legal agreement, including an agreement that you consider a contract.
5. Subrecipient means an entity that:
 - a. Receives a subaward from you under this award; and
 - b. Is accountable to you for the use of the Federal funds provided by the subaward.

Requirements for Federal Funding Accountability and Transparency Act Implementation

I. Reporting Subawards and Executive Compensation.

a. Reporting of first-tier subawards.

1. Applicability. Unless you are exempt as provided in paragraph d. of this award term, you must report each action that obligates \$25,000 or more in Federal funds that does not include Recovery funds (as defined in section 1512(a)(2) of the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5) for a subaward to an entity (see definitions in paragraph e. of this award term).

2. Where and when to report.

i. You must report each obligating action described in paragraph a.1. of this award term to <http://www.fsrs.gov>.

ii. For subaward information, report no later than the end of the month following the month in which the obligation was made. (For example, if the obligation was made on November 7, 2010, the obligation must be reported by no later than December 31, 2010.)

3. What to report. You must report the information about each obligating action that the submission instructions posted at <http://www.fsrs.gov> specify.

b. Reporting Total Compensation of Recipient Executives.

1. Applicability and what to report. You must report total compensation for each of your five most highly compensated executives for the preceding completed fiscal year, if--

i. the total Federal funding authorized to date under this award is \$25,000 or more;

ii. in the preceding fiscal year, you received--

(A) 80 percent or more of your annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

(B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

iii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange

Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

2. Where and when to report. You must report executive total compensation described in paragraph b.1. of this award term:

- i. As part of your registration profile at <http://www.ccr.gov>.
- ii. By the end of the month following the month in which this award is made, and annually thereafter.

c. Reporting of Total Compensation of Subrecipient Executives.

1. Applicability and what to report. Unless you are exempt as provided in paragraph d. of this award term, for each first-tier subrecipient under this award, you shall report the names and total compensation of each of the subrecipient's five most highly compensated executives for the subrecipient's preceding completed fiscal year, if--

i. in the subrecipient's preceding fiscal year, the subrecipient received--

(A) 80 percent or more of its annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

(B) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts), and Federal financial assistance subject to the Transparency Act (and subawards); and

ii. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

2. Where and when to report. You must report subrecipient executive total compensation described in paragraph c.1. of this award term:

i. To the recipient.

ii. By the end of the month following the month during which you make the subaward. For example, if a subaward is obligated on any date during the month of October of a given year (i.e., between October 1 and 31), you must report any required compensation information of the subrecipient by November 30 of that year.

d. Exemptions

If, in the previous tax year, you had gross income, from all sources, under \$300,000, you are exempt from the requirements to report:

i. Subawards,

and

ii. The total compensation of the five most highly compensated executives of any subrecipient.

e. Definitions. For purposes of this award term:

1. Entity means all of the following, as defined in 2 CFR part 25:

i. A Governmental organization, which is a State, local government, or Indian tribe;

ii. A foreign public entity;

iii. A domestic or foreign nonprofit organization;

iv. A domestic or foreign for-profit organization;

v. A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.

2. Executive means officers, managing partners, or any other employees in management positions.

3. Subaward:

i. This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.

ii. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see Sec. __ .210 of the attachment to OMB Circular A-133, "Audits of States, Local Governments, and Non-Profit Organizations").

iii. A subaward may be provided through any legal agreement, including an agreement that you or a subrecipient considers a contract.

4. Subrecipient means an entity that:

i. Receives a subaward from you (the recipient) under this award; and

ii. Is accountable to you for the use of the Federal funds provided by the subaward.

5. Total compensation means the cash and noncash dollar value earned by the executive during the recipient's or subrecipient's preceding fiscal year and includes the following (for more information see 17 CFR 229.402(c)(2)):

i. Salary and bonus.

ii. Awards of stock, stock options, and stock appreciation rights. Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.

iii. Earnings for services under non-equity incentive plans. This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.

iv. Change in pension value. This is the change in present value of defined benefit and actuarial pension plans.

v. Above-market earnings on deferred compensation which is not tax-qualified.

vi. Other compensation, if the aggregate value of all such other compensation (e.g. severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds \$10,000.

Catalog Federal Domestic Assistance (CFDA)

The applicable Catalog of Federal Domestic Assistance (CFDA) number for this award is 43.001. The Federal Awardee/Recipient shall use this CFDA number for all Federal reporting, as required.

SPECIAL CONDITIONS**1260.52 Multiple year grant or cooperative agreement. (OCT 2000)**

This is a multiple year grant or cooperative agreement. Contingent on the availability of funds, scientific progress of the project, and continued relevance to NASA programs, NASA anticipates continuing support at approximately the following levels:

Second year \$555,000.00, Anticipated funding date 07/01/2016.

1260.53 Incremental funding. (OCT 2000)

(a) Only \$555,000.00 of the amount indicated on the face of this award is available for payment and allotted to this award. NASA contemplates making additional allotments of funds during performance of this effort. It is anticipated that these funds will be obligated as appropriated funds become available without any action required by the Recipient. The Recipient will be given written notification by the NASA Grant Officer.

(b) The recipient agrees to perform work up to the point at which the total amount paid or payable by the Government approximates but does not exceed the total amount actually allotted to this grant or cooperative agreement. NASA is not obligated to reimburse the Recipient for the expenditure of amounts in excess of the total funds allotted by NASA to this grant or cooperative agreement. The Recipient is not authorized to continue performance beyond the amount allotted to this award.

1260.55 Reports substitution. (OCT 2000)

Technical Reports may be substituted for the required Performance Reports. The title page of such reports shall clearly indicate that the substitution has been made and will show the period covered by the originally required Performance Report.

1260.56 Withholding. (AUG 2003)

If a Recipient fails to comply with the project objectives, the terms and conditions of this award, or reporting requirements under this or previous NASA awards, NASA may withhold advance payments under this award including its augmentations, and may also withhold advance payments under future awards to the Recipient, pending correction of the deficiency by the Recipient. Upon determination that the deficiency has been corrected, the cognizant NASA Financial Management Office shall resume advance payments and release of previously withheld amounts after coordination with the Grant Officer.

LIMITED RELEASE OF RECIPIENT CONFIDENTIAL BUSINESS INFORMATION

(a) NASA may find it necessary to release information submitted by the Recipient pursuant to the provisions of this grant/cooperative agreement to individuals not employed by NASA. Business information that would ordinarily be entitled to confidential treatment may be included in the information released to these individuals. Accordingly, by submission of this proposal, or signature on this grant/cooperative agreement, the Recipient hereby consents to a limited release of its confidential business information (CBI).

(b) Possible circumstances where the Agency may release the Recipient's CBI include, but are not limited to, the following:

(1) To other Agency contractors and subcontractors, and their employees tasked with assisting the Agency in handling and processing information and documents in the evaluation, the award or the administration of Agency contracts, such as providing both preaward and post award audit support and specialized technical support to NASA's technical evaluation panels;

(2) To NASA contractors and subcontractors, and their employees engaged in information systems analysis, development, operation and maintenance, including performing data processing and management functions for the Agency.

(c) Except where otherwise provided by law, NASA will permit the limited release of CBI under subparagraphs (1) or (2) only pursuant to non-disclosure agreements signed by the assisting contractor or subcontractor, and their individual employees who may require access to the CBI to perform the assisting contract.

(d) NASA's responsibilities under the Freedom of Information act are not affected by this clause.

(e) The Recipient agrees to include this provision, including this paragraph (e), in all subcontracts/subawards at all levels awarded pursuant to this grant/cooperative agreement that require the furnishing of confidential business information by the subcontractor/subrecipient.

(End of provision)

Trafficking in Persons

a. Provisions applicable to a recipient that is a private entity.

1. You as the recipient, your employees, subrecipients under this award, and subrecipients' employees may not--

i. Engage in severe forms of trafficking in persons during the period of time that the award is in effect;

ii. Procure a commercial sex act during the period of time that the award is in effect; or

iii. Use forced labor in the performance of the award or subawards under the award.

2. We as the Federal awarding agency may unilaterally terminate this award, without penalty, if you or a subrecipient that is a private entity --

i. Is determined to have violated a prohibition in paragraph a.1 of this award term; or

ii. Has an employee who is determined by the agency official authorized to terminate the award to have violated a prohibition in paragraph a.1 of this award term through conduct that is either--

A. Associated with performance under this award; or

B. Imputed to you or the subrecipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR part 180, "OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement)," as implemented by our agency at 2 CFR part 1880.

b. Provision applicable to a recipient other than a private entity.

We as the Federal awarding agency may unilaterally terminate this award, without penalty, if a subrecipient that is a private entity--

1. Is determined to have violated an applicable prohibition in paragraph a.1 of this award term; or

2. Has an employee who is determined by the agency official authorized to terminate the award to have violated an applicable prohibition in paragraph a.1 of this award term through conduct that is either--

i. Associated with performance under this award; or

ii. Imputed to the subrecipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR part 180, "OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement)," as implemented by our agency at 2 CFR 1880.

c. Provisions applicable to any recipient.

1. You must inform us immediately of any information you receive from any source alleging a violation of a prohibition in paragraph a.1 of this award term.

2. Our right to terminate unilaterally that is described in paragraph a.2 or b of this section:

i. Implements section 106(g) of the Trafficking Victims Protection Act of 2000 (TVPA), as amended (22 U.S.C. 7104(g)), and

ii. Is in addition to all other remedies for noncompliance that are available to us under this award.

3. You must include the requirements of paragraph a.1 of this award term in any subaward you make to a private entity.

d. Definitions. For purposes of this award term:

1. "Employee" means either:

i. An individual employed by you or a subrecipient who is engaged in the performance of the project or program under this award; or

ii. Another person engaged in the performance of the project or program under this award and not compensated by you including, but not limited to, a volunteer or individual whose services are contributed by a third party as an in-kind contribution toward cost sharing or matching requirements.

2. "Forced labor" means labor obtained by any of the following methods: the recruitment, harboring, transportation, provision, or

obtaining of a person for labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery.

3. "Private entity":

i. Means any entity other than a State, local government, Indian

tribe, or foreign public entity, as those terms are defined in 2 CFR 175.25.

ii. Includes:

A. A nonprofit organization, including any nonprofit institution of higher education, hospital, or tribal organization other than one included in the definition of Indian tribe at 2 CFR 175.25(b).

B. A for-profit organization.

4. "Severe forms of trafficking in persons," "commercial sex act," and "coercion" have the meanings given at section 103 of the TVPA, as amended (22 U.S.C. 7102).

(End of Provision)

ADDITIONAL TERMS

The period of performance for this grant is 24 months beginning 07/01/2015.

This award provides funding for year 1 of a 2-year proposal; therefore, a new technical proposal is not required. Annual progress reports are required. Renewal is based on satisfactory progress and availability of funds.

Year 1 is awarded and fully funded in the amount of \$555,000.00

Proper administration of this award requires access to the current edition of the NASA Grant and Cooperative Agreement Handbook (NPR 5800.1), which is incorporated by reference in the award provisions. The handbook, including running changes, is available at the following web site:

<http://prod.nais.nasa.gov/portals/pl/index.html>

All grant administration matters are to be addressed to the designated office cited in item 6 of your grant award. Also, you are requested to ensure the required reports are forwarded as stated in the attached (Required Publications and Reports).

PIV Card Issuance Procedures in accordance with Grant and Cooperative Agreement Handbook § 1260.35 Investigative Requirements (January 2004)

Purpose: To establish procedures to ensure that grantees and recipients of cooperative agreements are subject to essentially the same credentialing requirements as Federal Employees and Contractors when performance requires physical access to a federally-controlled facility or access to a Federal information system **for six consecutive months or more**. (Federally -controlled facilities and Federal information system are defined in FAR 2.101(b)(2). See: http://www.arnet.gov/far/current/html/Subpart%202_1.html#wp1145507

Background: Homeland Security Presidential Directive 12 (HSPD-12), "Policy for a Common Identification Standard for Federal Employees and Contractors", and Federal Information Processing Standards Publication (FIPS PUB) Number 201, "Personal Identity Verification (PIV) of Federal Employees and Contractors" require agencies to establish and implement procedures to create and use a Government wide secure and reliable form of identification NLT October 27, 2005. See:

<http://csrc.nist.gov/publications/fips/fips201-1/FIPS-201-1-chng1.pdf>.

In accordance with the requirements of Provision 1260.35, Investigative Requirements, which states in part that Recipients needing access to a NASA Center, facility, or computer system, or to NASA technical information shall comply with the requirements of this provision and shall ensure that individuals needing such access shall provide the personal background and biographical information requested by NASA.

If applicable, detailed procedures for the issuance of a PIV credential can be found at the following URL:

<http://prod.nais.nasa.gov/portals/pl/index.html>



Exhibit G

REQUIRED PUBLICATIONS AND REPORTS

RESEARCH GRANTS

IN ACCORDANCE WITH 14 CFR PART 1260 AND NPG 5800.1 NASA GRANT AND COOPERATIVE AGREEMENT HANDBOOK

The recipient shall submit the publications and reports indicated below:

	INTERIM REPORTS	REPORT DUE/FREQUENCY	RECIPIENT
X	Quarterly Federal Cash Transactions Reports (SF 425) <i>(Required for all Grants and Cooperative Agreements)</i>	Within 30 working days following the end of each quarter of the Federal fiscal year. <i>(Ref. 1260.26)</i>	HHS/PMS
X	Annual Inventory Report of Federally-Owned Property in Custody of the Recipient <i>(Required for all Grants and Cooperative Agreements, except Training Grants, and grants and agreements with commercial organizations.)</i>	No later than October 15 of each year. NOTE: Negative reports are not required. <i>(Ref. 1260.27)</i>	FMO, IPO
X	Progress Reports <i>(Required for all Grants and Cooperative Agreements, except Training Grants) (Not required if period is less than one year.)</i>	Annually, 60 days prior to the anniversary date of the grant/cooperative agreement (except final year). <i>(Ref. 1260.22 and 1260.151(d))</i>	TO, GO, NTO
	Educational Activity Report <i>(Education Grants only)</i>	Annually, 60 days prior to the anniversary date of the grant/cooperative agreement. <i>(Ref. 1260.22)</i>	TO, GO
X	Disclosure of Subject Inventions/Reportable Items <i>(Required for all Grants and Cooperative Agreements (except Education and Training Grants))</i>	Within 2 months after inventor discloses it to recipient. <i>(Ref. 1260.28 and 1260.57*)</i>	PO, TO, GO, NTO
X	Election of Title to a Subject Invention <i>(Required for all Grants and Cooperative Agreements)</i>	Within 2 years of disclosure of a subject invention being elected, except in any case where publication, on sale or public use of the subject invention being elected has initiated the one year statutory period wherein valid patent protection can still be obtained in the United States, at least 60 days prior to the end of the statutory period. <i>(Ref. 1260.28)</i>	PO, TO, GO
X	Subject Inventions/Reportable Items Interim Summary Report <i>(Required for all Grants and Cooperative Agreements (except Education and Training Grants))</i>	Every 12 months from the date of the grant/cooperative agreement. <i>(Ref. 1260.28 and 1260.57*)</i>	PO, TO, GO, NTO
X	Notification of Decision to Forego Patent Protection <i>(Required for all Grants and Cooperative Agreements)</i>	As applicable, not less than 30 days before the expiration of the response period required by the relevant patent office. <i>(Ref. 1260.28)</i>	PO, TO, GO
X	Utilization of Subject Invention/Reportable Items <i>(Required for all Grants and Cooperative Agreements (except Education and Training Grants))</i>	Every 12 months from the date a subject invention is elected. Note: Negative reports are required. <i>(Ref. 1260.28)</i>	PO, TO, GO
	Annual NASA Form 1018 Property in the Custody of Contractors <i>(Required for all Grants and Cooperative Agreements with commercial organizations)</i>	Due not later than October 15 of each year. Note: Negative reports are required. <i>(Ref. 1260.67)</i>	FMO, IPO
	FINAL REPORTS	REPORT DUE	RECIPIENT
X	Subject Inventions/Reportable Items Final Summary Report <i>(Required for all Grants and Cooperative Agreements (except Education and Training Grants))</i>	Within 90 days after the expiration date of the grant/cooperative agreement. <i>(Ref. 1260.28 and 1260.57*)</i>	PO, GO, NTO
X	Properly Certified Final Federal Cash Transaction Report, SF 425 <i>(Required for all Grants and Cooperative Agreements)</i>	Within 90 days after the expiration date of the grant/cooperative agreement. <i>(Ref. 1260.26)</i>	FMO, GO

X	Summary of Research <i>(Required for all Grants and Cooperative Agreements, except Training and Education Grants)</i>	Within 90 days after the expiration date of the grant/cooperative agreement. <i>(Ref. 1260.22)</i>	CASI, TO, GO, NTO
X	Final Inventory Report of Federally-Owned Property <i>(Required for all Grants and Cooperative Agreements, except Training Grants and grants and cooperative agreements with commercial organizations)</i>	Within 60 days after the expiration date of the grant/cooperative agreement. <i>(Ref. 1260.27)</i>	CC, IPO, GO
	Final Educational Activity Report <i>(Education Grants only)</i>	Within 90 days after the expiration date of the grant/cooperative agreement. <i>(Ref. 1260.22)</i>	TO, UAO, GO
	Faculty Advisor Survey <i>(Training Grants only)</i>	By Student's Faculty Advisor, due within 60 days after the expiration date of the grant/cooperative agreement.	TO, UAO, GO
	Summary of Research <i>(Training Grants only)</i>	By Student, due within 90 days after the expiration date of the Training Grant. <i>(Ref. 1260.75)</i>	TO, UAO, GO
	Final NASA Form 1018 NASA Property in the Custody of Contractors <i>(Required for Grants and Cooperative Agreements with commercial organizations)</i>	Within 30 days after the expiration of the grant or cooperative agreement. <i>(Ref. 1260.67)</i>	FMO, IPO

* Grants and cooperative agreements with colleges, universities, nonprofit organizations, and small businesses will reference §1260.28. Grants and cooperative agreements with large businesses will reference §1260.57.

AGO = ADMINISTRATIVE GRANT OFFICER

CASI = CENTER FOR AEROSPACE INFORMATION

CC = CLOSEOUT CONTRACTOR

FMO = FINANCIAL MANAGEMENT OFFICE

GO = NASA GRANT OFFICER

HHS/PMS = HEALTH AND HUMAN SERVICES PAYMENT MANAGEMENT SYSTEM

IPO = INDUSTRIAL PROPERTY OFFICER

NTO = NEW TECHNOLOGY OFFICE

PO = PATENT COUNSEL OFFICE

TO = TECHNICAL OFFICER

UAO = UNIVERSITY AFFAIRS OFFICER

HQ POINTS OF CONTACT

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Financial Management Office (<i>For commercial grants - invoices</i>)	Attn: FMD-Accounts Payable NASA Shared Services Center Building 1111, C Road Stennis Space Center, MS 39529 NSSC-AccountsPayable@nasa.gov Phone Number: 877-677-2123 (877-NSSC123) Fax Number: 866-779-6772
Financial Management Office (<i>For inquiries</i>)	Attn: FMD-Grants NASA Shared Services Center Building 1111, C Road Stennis Space Center, MS 39529 NSSC-ContactCenter@nasa.gov Phone Number: 877-677-2123 (877-NSSC123) Fax Number: 866-779-6772
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Recipients should submit the new technology interim and final report electronically via e-NTR at <http://invention.nasa.gov>.

Closeout (*for final reports*)

Recipients should submit final reports electronically to: NSSC-closeout@mail.nasa.gov

TECHNICAL EVALUATION/SELECTION STATEMENT/NASA CONCURRENCE
ON PROPOSAL/ IN RESPONSE TO PROPOSAL SUBMITTED TO AN NRA

PROPOSAL TITLE/PI/INSTITUTION/(GRANT):

Proposal Number: 14-TWSC14-0019

Proposal Title: Astrobiology, Religion, and Society

PI Name: William Storrar

Institution: CENTER OF THEOLOGICAL INQUIRY INC

TECHNICAL EVALUATION/SELECTION STATEMENT:

This proposal was one of 19 received in response to NRA- [NNH14ZDA001N-TWSC](#) Topical Workshops, Symposia, and Conferences, and is one of 10 selected for award. It was internally reviewed by NASA Planetary Science Division Discipline Scientists and an external review was provided by two experts in this field. A summary is as follows:

OVERALL EVALUTION: E (Excellent; Very Good; Good; Fair; Poor)

Explain the relevance of this research to this NASA program (or other programs):

The proposal highlights the unique opportunity to engage scholars from disciplines beyond the physical and natural sciences focusing on topics that are relevant to the Astrobiology roadmap and broader Exobiology program objectives. Understanding the societal impacts of Astrobiology is central to the success of NASA's mission to search for life elsewhere in the universe.

Describe the proposal's overall scientific or technical merit:

CTI has proven its ability to advance scholarly dialogue about science and religion and to manage projects such as the one proposed. Its capabilities are unique, including its connections with communities of scholars across many disciplines.

Scholarly discourse about the role and function of astrobiology in society, this discourse has stagnated in recent years, with a small group of people in the natural and social sciences and humanities rehashing old ideas and generating little fresh thinking. This project aims to revitalize and broaden this discourse. The variety of activities proposed to engage natural scientists, social scientists, and scholars in the humanities in dialogue, including workshops specifically for young scholars, promises to stimulate new ideas and result in the first credible treatment of these topics.

Comment on the cost elements:

Costs are well explained and justified. CTI proposes a reasonable in-kind contribution, in the form of personnel, administration, and facilities. CTI is, essentially, proposing to provide matching funds for this project.

RECOMMENDATION FOR AWARD:

 X GRANT -The principal purpose of accepting the proposal is for support or stimulation by increasing basic knowledge and understanding in aeronautics and space, and no substantial Federal involvement is anticipated. Grants involve the transfer of anything of value to the recipient to accomplish a public purpose of support or stimulation authorized by Federal statute.

 CONTRACT -The principal purpose of accepting the proposal is to acquire, for NASA's direct use or benefit, a well-defined, specific effort clearly required for the accomplishment of a scheduled NASA mission or project. There will be firm contract deliverable requirements for supplies or services.

 COOPERATIVE AGREEMENT –The principal purpose of accepting the proposal is for support or stimulation by increasing basic knowledge and understanding in aeronautics and space. Cooperative Agreements involve the transfer of anything of value to the recipient to accomplish a public purpose of support or stimulation authorized by Federal statute and they are distinguished from Grants based on the involvement by or collaboration with NASA.

 INTERAGENCY AGREEMENT – The principal purpose is to obtain needed supplies or services from another U.S. Government agency.

It is recommended that this proposal be supported by an award

It is recommended that this proposal be supported by an award.



Mary Voytek

July 24, 2014

SELECTION DECISION FOR 14-TWSC14-0019

Topical Workshops, Symposia, and Conferences

Name of Solicitation: NASA Research Announcement (NRA) NNH14ZDA001N-TWSC

Program Officer: Mary A. Voytek, Senior Scientist for Astrobiology

Date of Selection: July 25, 2014

Part 1: Portfolio Description

TWSC The Topical Workshops, Symposia, and Conferences program element (E.2) solicits proposals for topical workshops, symposia, conferences, and other scientific/technical meetings that advance the goals and objectives of only the Earth Science and Planetary Science Divisions. This program has no fixed due date or budget; proposals may be submitted at any time, but are dependent on the availability of funds in the specific program or focus area.

TWSC-14 received 49 proposals. Proposal 14-TWSC-0019 “Inquiry on the Societal Implications of Astrobiology” was one of two activities of the 5 proposals submitted to the program related to Astrobiology that has been selected for funding.

Area of Investment- Astrobiology in culture: social, ethical, geopolitical, theological and other considerations

NASA Astrobiology is contributing funding for three major initiatives that examine astrobiology in culture: the Baruch S. Blumberg NASA/Library of Congress Chair in Astrobiology, NASA/LOC Blumberg dialogues and NASA/George Washington University debates on the geopolitical and societal implications of finding extraterrestrial microbial life. The Princeton Center of Theological Inquiry’s (CTI’s) 2015-2017 study-in-residence project, “Inquiry on the Societal Implications of Astrobiology” would expand the discussion.

The Blumberg Chair was created to support scholars interested in the intersection of the sciences and humanities. The Chair creates an opportunity to study the range and complexity of issues related to how life begins and evolves and to examine the philosophical, religious, ethical, legal, cultural and other concerns arising from scientific research on the origin, evolution and nature of life. The first two Chairs were appointed for 2012-13 and 2013-14. The inaugural Chair, David Grinspoon, established a dialogue with House Science Committee Chairman Lamar Smith during his tenure at the Library. The second Chair, Steven Dick, gave testimony to the House Science Committee. The Chair for 2015-16 is Dr. Nathaniel Comfort, an

American historian specializing in the history of biology. He is an Associate Professor in the Institute of the History of Medicine at Johns Hopkins University.

The Blumberg Dialogues is a three part series in honor of late Nobel Laureate Baruch "Barry" Blumberg, founding director of the NASA Astrobiology Institute and former member of the Library of Congress Scholars Council. The first Blumberg Dialogue on Astrobiology, hosted by The John W. Kluge Center at the Library of Congress, will examine how recent discoveries about the origins and future of life in the universe may affect religious traditions and their various conceptions of humanity, the self, and our place in the cosmos. Scholars with expertise in a range of religious traditions, including Christianity, Judaism, Islam and Buddhism will participate, in addition to a planetary scientist and a planetary biologist. For the second Blumberg Dialogue, seven leading scholars from the humanities and the sciences will convene for a series of conversations about how recent scientific discoveries fit within the context of the longer trajectory of the history and philosophy of science. Scholars with expertise in a range of historical, philosophical and scientific disciplines will attend. For the third Blumberg Dialogue, nine leading scholars from the humanities and the sciences will convene for a series of conversations about how literature, media and the arts construct stories about life in the universe—in novels, short-stories, film, theatre and the news—and how these narratives influence the way we understand our own human role in the cosmos.

Supported by the NASA Astrobiology Program and implemented by The George Washington University, the NASA Astrobiology Debates would challenge students of all ages (middle school, high school and college) to research and debate the complex ethical and political questions raised by the 2015-16 NASA Astrobiology Debates topic, "Resolved: An overriding ethical obligation to protect and preserve extraterrestrial microbial life and ecosystems should be incorporated into international law." The discovery of extraterrestrial microbial life would change the nature and meaning of life itself. The NASA Astrobiology Debates are intended to engage present and future leaders in dialogue on the implications of such a discovery

Independent of Astrobiology, the NASA History Office has held meetings in recent years exploring the Societal Impact of Spaceflight, Cosmos and Culture and (most recently) Historical Studies in the Society Impact of Spaceflight, which have touched on potential ramifications of finding life beyond Earth:

<http://history.nasa.gov/sp4801.pdf> ; <http://history.nasa.gov/SP-4802.pdf> ;
http://www.nasa.gov/sites/default/files/atoms/files/historical-studies-societal-impact-spaceflight-ebook_tagged.pdf

Part 2: Review Procedure

The proposal was evaluated by members of a peer review panel assembled to evaluate the applicants for the Baruch S. Blumberg NASA/Library of Congress Chair in Astrobiology. In addition, an external review was sought from Dr. Linda Billings, a consultant to NASA's Near Earth Object Program and the Astrobiology Program. She

has a Ph.D. in mass communication, specializing in research, analysis, and commentary on mass communication, science communication, risk communication, space policy, and the history of rationales for space exploration.

The Review Panel was composed of : Jacqueline (Jack) Meszaros who is a Program Director at the NSF in the Social and Economic Sciences Division of the Directorate for Social, Behavioral, and Economic Sciences. Her Ph.D. was in Management and her post-Doctoral work was in Behavioral Economics at the Wharton School, University of Pennsylvania. Her primary research has been on individual and organizational decision making about low-probability, high-consequence risks. Marcelo Gleiser is a theoretical physicist specialized in cosmology, nonlinear physics, and astrobiology from Dartmouth College. James Trefil: Robinson Professor, George Mason University (previously University Professor and Professor of Physics at the University of Virginia), Trefil is a physicist known for his writing and his interest in teaching science to nonscientists., Derek Malone-France, Associate Professor of Philosophy and of Religion from George Washington University. His areas of expertise include: Philosophy of religion, metaphysics and ontology, political and social philosophy, process philosophy (esp. Whitehead). John Baross is a Professor of Oceanography and the Astrobiology Program at the University of Washington who specializes in the ecology, physiology, and taxonomy of microorganisms from hydrothermal vent environments and the origin and evolution of life and life on other planets and moons.

The reviewers were asked to evaluate the proposal on the basis of its intellectual merit, relevance to the astrobiology program and the qualifications of the proposers. Attached is the technical evaluation derived from the panel's discussions and additional input from an external reviewer.

Part 3: Rationale

Questions at the heart of astrobiology research today – Where did life come from? Where is it going? Does life exist beyond Earth? – are far older than the Space Age. In centuries B.C.E, ancient Greek and Roman philosophers considered these questions. Since then, natural philosophers, theologians, and scientists have continued to ponder them, devoting considerable attention to how the discovery of extraterrestrial life might affect human civilization. In the contemporary world, scholarly and public interest in the origin and evolution of life and the possibility of extraterrestrial life is enduring and widespread. The stated goals of NASA-sponsored astrobiology research – to understand the origins, evolution, extent and future of life on Earth and beyond – “raise fundamental philosophical, and theological questions.”* Thus NASA Astrobiology has taken a position and has a history of encouraging dialogue among scientists and others on these questions.

In 1960 NASA established an exobiology program to fund research into the origin and evolution of life on Earth and the possibility of extraterrestrial life. Today, NASA's astrobiology program, which encompasses exobiology and evolutionary biology, funds trans-disciplinary research into the origin, evolution, distribution,

and future of life in the universe. It is a multidisciplinary field drawing on knowledge and expertise in astronomy, biology, chemistry, earth and planetary sciences, physics and many hybrid or sub- disciplines. Astrobiology through the NASA Astrobiology Institute nodes (see below), also involves studies in the humanities and social sciences, which focus especially on the future of life, including the key question of how the discovery of extraterrestrial life might affect human civilization.

Since 1974, the Royal Society of London, the Vatican Observatory, and, most recently, the American Association for the Advancement of Science's (AAAS's) Dialogue on Science, Ethics, and Religion (DOSER) have organized discussions and published reports about how the discovery of extraterrestrial life might affect human civilization. In 1974, the Royal Society of London sponsored a discussion meeting on "the recognition of alien life." In 2010, The Society held a discussion meeting on "the detection of extraterrestrial life and the consequences for science and society." For years, the Vatican Observatory has sustained a dialogue between scientists and theologians on this issue. In 2010, the Vatican Observatory and the

** Workshop Report: Philosophical, Ethical and Theological Questions of Astrobiology, American Association for the Advancement of Science, Washington, D.C., 2007. For information on other DOSER events on life in the universe, see: <http://www.aaas.org/page/physics-cosmos-events>.*

Pontifical Academy of Sciences held a "study week on astrobiology" in Rome that drew many scientists and global media coverage. Also in 2010, the Royal Society held a discussion meeting on the detection of extraterrestrial life and the consequences for science and society, which also drew global media coverage. In 2014, the Observatory cosponsored a conference with the University of Arizona's Seward Observatory on "the search for life beyond the solar system." Also in 2014, Vatican Observatory Foundation President Brother Guy Consolmagno was awarded the American Astronomical Society's Carl Sagan Medal for Public Outreach in Planetary Sciences. AAAS's DOSER program,

The mid-1990s brought the creation of a NASA Astrobiology Institute, the establishment of an expanded Astrobiology Program at Headquarters, and the publication of claims of fossil evidence of past life in a martian meteorite fragment. In the face of growing scientific, political, and public interest in the possibility of extraterrestrial life, the NASA Astrobiology Program focused some of its attention on social, ethical, and philosophical questions relating to the discovery of extraterrestrial life, funding efforts to introduce astrobiology to the broader scientific community and to public audiences as well. The Program also cosponsored a series of workshops organized by AAAS's DOSER program on the philosophical, ethical, and theological implications of astrobiology, held in 2003-2004.

The astrobiology community published its first astrobiology roadmap in 1998, followed by updated roadmaps in 2003 and 2008. All of these roadmaps articulated four basic principles fundamental to the implementation of NASA's astrobiology program, including the principle that the astrobiology community recognizes a broad interest in its work, especially in areas such as the search for extraterrestrial

life, achieving a deeper understanding of life, the potential to engineer new life forms adapted to live on other worlds, the broader implications of discovering life beyond Earth, and envisioning the future of human life on Earth and in space.

By now, the astrobiology community has widely recognized the importance of thinking about science in its cultural context. The next iteration of the astrobiology roadmap – now called a science plan – forthcoming this year does not specifically identify a need to address social, cultural, ethical, and theological issues relating to the study of the origins of life and the search for evidence of extraterrestrial life because the community has embraced this endeavor as part of its ongoing work.

Astrobiology is, and will remain, a productive means of stimulating and sustaining scholarly and public dialogue on the intersections of science and culture.