



NASA Astrobiology Institute (NAI)

NAI CAN Cycle-8
Pre-proposal Briefing
March 10, 2017

***Overview of Cooperative Agreement
Notice***

Mary Voytek
Head of the Astrobiology Program



Who is Eligible to Apply

Participation in this solicitation is open to all categories of organizations, domestic and non-U.S., including industry, educational institutions, nonprofit organizations, NASA centers, and other Government agencies. Proposals involving multiple organizations should be submitted by a single Principal Investigator (PI) through the business office of the PI's institution which becomes the Lead Institution.

The intent of this solicitation is to provide funding to U.S. institutions; non-U.S. organizations are eligible to propose, but are not eligible to receive research funding from NASA (see Section 3.3).

Participation by Minority-Serving Institutions is encouraged.



Scope of Opportunity

- . . . an opportunity for the submission of team-based proposals for membership in the NASA Astrobiology Institute (NAI). Proposals should clearly articulate an innovative, interdisciplinary, astrobiology research program, together with plans to advance the full scope of NAI objectives as defined in the Institute's Mission Statement.

The proposed research should fall within the scope of the 2015 Astrobiology Strategy, which describes the scientific goals and objectives of NASA's Astrobiology Program

(see <https://astrobiology.nasa.gov/research/astrobiology-at-nasa/astrobiology-strategy/>)



These are Cooperative Agreements

A Cooperative Agreement implies that a substantial involvement is expected between NASA and the recipient during the performance of the proposed and selected activity.

Proposals must put forth specific plans of how the proposed team will integrate with the overall NASA Astrobiology Institute – its members, programs, and objectives – to further expand the scope and impact of the astrobiology community.



Submission Procedure

- NASA is soliciting proposals to this CAN via a two-step proposal process.
- NASA is requiring a binding Step-1 proposal that must include a project title, and the names of the Principal Investigator, Co-Investigators and essential collaborators.
- The Step-1 proposals will be subject to a preliminary evaluation, which will result in the encouragement or discouragement of full proposals.
- Step-2 proposals must contain the same scientific goals and Principal Investigator, Co-Investigators and essential collaborators proposed in the Step-1 proposal.



Team PI and Members

Every organization submitting a proposal in response to this CAN must designate a single Principal Investigator (PI) who will be responsible for the quality and direction of the entire proposed investigation and for the use of all awarded funds.

Co-Investigators (Co-I's) may be identified who are critical for the successful completion of an investigation through the contribution of unique expertise and/or capabilities. A Co-I must have a well-defined role in the investigation that is explicitly defined in the Research and Management Plan section of the proposal.

Note: Co-Is who have either insignificant or unjustified roles will be considered a weakness for purposes of the evaluation of the proposal.



Scope of Research Plan

Proposals should include interdisciplinary investigations, of the highest quality, of a focused, compelling question that addresses one or more aspects of the Astrobiology Strategy.

A proposal will be considered responsive to this solicitation whether its compelling question addresses a single Strategy goal or multiple Strategy goals, provided that the proposal provides an interdisciplinary approach to conducting the research.

Research that complements but does not duplicate ongoing activities of the seven NAI teams selected in 2014 is desirable



Funding Available

It is anticipated that \$9-10 M will be available for this selection in the first award year, leading to the award of 5-7 Cooperative Agreements, each of five years duration.

If the appropriated funds available are less than anticipated, then fewer awards may be made. It is also anticipated that the same amount of funding as the first year will be available in the subsequent award years.

Note that all funding awards are contingent upon the availability of appropriated funds.



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Evaluation Criteria

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Step 1 Evaluation Criteria

- *Criterion 1:* The compelling nature of the focus of the proposed research program and the appropriateness of its scope.
- *Criterion 2:* The relevance of the proposed research program to the goals of the Astrobiology Program, as contained in the 2015 Astrobiology Strategy.
- *Criterion 3:* The demonstrated degree of interdisciplinarity of the proposed research program.
- *Criterion 4:* The complementarity of the proposed research program to the research programs of the NAI teams selected through NAI CAN Cycle 7.
- The four criteria will be given approximately equal weight.



- **Multidisciplinary research** - research in which individuals in different disciplines work independently or sequentially, each from his or her own disciplinary-specific perspective, to contribute additively to the solution of a common problem.
- **Interdisciplinary research** - research in which individuals in different disciplines work jointly, but from each of their respective disciplinary perspectives, providing interactive contributions to the solution of a common problem.



CAN 8 Step-1 Example Evaluation

It was determined that:

1. The compelling nature of the proposed research program and the appropriateness of its scope **failed to meet expectations.**
2. The relevance of the proposed research program to the goals of the Astrobiology Program, as contained in the 2015 Astrobiology Strategy **failed to meet expectations.**
3. The degree of interdisciplinarity of the proposed research program (including across-team integration) **met expectations.**
4. The complementarity of the proposed research program to the research programs of the NAI teams' elected through NAI CAN Cycle 7 **met expectations.**



Proposal Evaluation Criteria

The five criteria for evaluation of proposals in response to this CAN are:

- Merit of the Research Plan, 50%
- Merit of the Science Management Plan, 10%
- Merit of the Data and Sample Management Plan, 5%
- Merit of the Plan to Support Other Institute Objectives, 20%
and
- Relevance to NASA, 15%.

Successful proposals must be highly responsive to all five evaluation criteria.



Research Plan (50%)

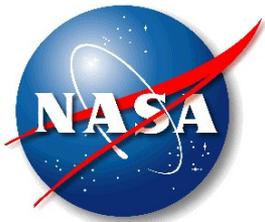
This criterion addresses:

- Expected significance of the proposed research – its potential impact to astrobiology and the broader scientific community,
- Extent to which the research is innovative, asking new questions and proposing new ways to answer them,
- Extent to which the entire proposal is integrated towards answering a unifying and compelling question in astrobiology,
- Degree to which the proposal is interdisciplinary – that is, the degree to which it includes and credibly applies and integrates the perspectives, skills, tools, and approaches of multiple disciplines toward addressing the question,
- Detail and soundness of the technical approach and methodology to be employed in conducting the proposed research,
- Quality of scientific staff, and
- Probability of success based on the period of performance.



Science Management Plan (10%)

- A structure for administering personnel,
- A definition of the roles and responsibilities of each participant,
- A specific plan, when multiple institutions are involved in the proposal, for bringing separate elements together into a well-functioning unit,
- An outline of the general plan of work, including anticipated key milestones for accomplishments,
- A plan for maintaining communication among team members, and
- An assessment of cost – whether it is realistic and reasonable.



Increasing Access to the Results of Scientific Research

Data Management: NASA-funded extramural and intramural researchers receiving grants, cooperative agreements, and contracts for research are required to follow NASA's policy to develop data management plans as part of their NASA funding proposals that describe how they will provide for long-term preservation of, and access to, their unclassified scientific data in digital format in NASA-approved repositories. For more information see <https://www.nasa.gov/open/researchaccess> and the *NASA Guidebook for Proposers*.

Publication Management: NASA-funded authors and co-authors (both civil servant and non-civil servant) will be required to deposit copies of their peer-reviewed scientific publications and associated data into NASA's publication repository called [NASA PubSpace](https://www.nasa.gov/open/researchaccess/pubspace), that's managed by the NIH's Pubmed Central. This excludes patents, publications that contain material governed by personal privacy, export control, proprietary restrictions, or national security law or regulations. For more information see <https://www.nasa.gov/open/researchaccess/pubspace>.



Data and Sample Management Plan (5%)

- Types and volume of data, samples, and other materials to be produced in the course of the project.
- Standards to be used for data and metadata format and content.
- Policies for providing access and enabling sharing.
- Provisions for reuse, redistribution, and the production of derivatives.
- Plans for archiving and preserving access to data and materials.



Relevance to NASA (15%)

Relevance of the overall, integrated proposal to astrobiology and strategic relevance to NASA.

Proposals of high relevance must articulate and demonstrate understanding of how the proposed research relates to and will influence the field of astrobiology

Strategic relevance would be demonstrated by, but is not limited to, the following:

- support of current or future space missions directed at astrobiological targets,
- technology or instrument development (application) related to the astrobiological exploration of these targets,
- fundamental research having clear and critical but longer-term implications for acquiring or interpreting data from these targets,
- synergistic collaboration with other funding agencies, or between the Astrobiology Program and other NASA science programs, for example, the Earth Science Program.



Plan to Support Other Institute Objectives (20%)

- This criterion addresses the merits of the proposed activities that will contribute to the objectives of the NAI as a collaborative consortium with recognized responsibilities to the astrobiology community.
- Every Team and every Member of the NAI is expected to be an active participant in the Institute's cooperative endeavors.
- These activities are in addition to and distinct from the scientific and technical research plan.
- The activities should exemplify the NAI's commitment to interdisciplinary education, to the expansion of the professional community, and to the training of early career scientists.
- This activities also represent the importance of institutional commitment from the proposing organizations.



Other Institute Objectives (*cont.*)

Possible Sub-elements

- **Training:** development of upper division undergraduate and/or graduate courses, degree programs, or other formalized curricula - and/or postdoctoral training, internships, short courses, early career training programs, etc.
- **Teaming with Minority Institutions:** efforts to include underrepresented groups in a broad cross-section of team activities, e.g. research, training, E/PO
- **Development of Future Mission Leadership:** providing opportunities for developing the skills necessary to hold leadership roles in future NASA missions.
- **Professional Community Development:** staffing or activities that strengthen and support the development of the profession of astrobiology.
- **Information Technology:** innovative and effective ways to use modern communication technologies.
- **Staff:** faculty or staff time dedicated to the discipline of astrobiology, including personnel for support of E/PO and IT.
- **Facilities:** resources (laboratory, samples, curation, etc.) that can be made available to researchers from other institutions.
- **Other:** any other additional evidence of commitment to building a strong astrobiology community and enhancing the effectiveness of the NAI.



Education, Outreach, and Communications in NAI CAN 8

Daniella Scalice

NAI Education, Outreach, and
Communications Lead

10 March 2017



NAI's Mission Includes Education and Communications

- supporting education and outreach by providing scientific content for K-12 education programs, teaching undergraduate classes, and communicating directly with the public.

CAN8, page 1



Definitions: Education and Communications

- **Education:** Comprises those activities designed to enhance learning in science, technology, engineering, and mathematics (STEM) content areas using NASA's unique capabilities
- **Communications:** Comprises the comprehensive set of functions necessary to effectively convey—and provide an understanding of—the program, and its objectives and benefits to target audiences, the public, and other stakeholders. This includes a diverse, broad, and integrated set of efforts. These efforts are intended to promote interest and foster participation in NASA's endeavors and to develop exposure to—and appreciation for—STEM, and include:
 - Media services
 - Multimedia products and services (including Web, social media, and nontechnical publications)
 - Public engagement (outreach) activities and events

CAN8, page 3; per NPDs 1380.1 and 1388.1



Education

- A 2015 NASA SMD reorganization has centralized funding for education and distributed it via 27 cooperative agreements to professional education organizations to implement projects and programs on a national scale.
- This reorganization also resulted in a change of moniker from Education and Public Outreach (E/PO) to Education and Communications (E&C).
- These teams are in their 2nd year of 5-year agreements.
- They are looking to NASA's scientific communities to act as content providers, aka "Subject Matter Experts," (SME's).
- NAI CAN8 awardees are expected (on a volunteer basis) to respond to calls for input to support the work of these teams as they develop and implement their programs (i.e., participating in events, reviewing curricula, providing data, etc.).
- **Proposals to NAI CAN8 should not include education plans or budgets.**



Communications

Ideas for Communications activities are solicited in CAN8 as part of “Other Institute Objectives,” but they are not required. If proposed, plans and budgets are required.

NASA will consider any proposed communications plans and budgets of CAN8 awardees, but is under no obligation to fund them. A comprehensive Communications Plan is being developed at the NASA Astrobiology Program level, and CAN8 awardees may be engaged to participate in it.

- Communications activities in the **Public Engagement/Outreach** category shall be tightly coordinated NAI Central to avoid duplication.
- Communications activities in the **Multimedia Products and Services** category shall be tightly coordinated NAI Central to avoid duplication. Individual CAN8 team websites are encouraged.
- In terms of Communications activities in the **Media Services** category, CAN8 teams will work in parallel with both their institutions’ public affairs offices and NAI Central to coordinate reporting of scientific results and other news via NAI’s newsletters, reports to stakeholders, press releases, etc.



Teaming with Minority Institutions

With respect to “Support Other Institute Objectives” (CAN8, page 20), any activities proposed under “Teaming with Minority Institutions” (CAN8, page 21) must refer to post-secondary institutions enrolling populations with significant percentages of undergraduate minority students, as defined by the US Department of Education.

<https://www2.ed.gov/about/offices/list/ocr/edlite-minorityinst.html>



Schedule

CAN Release Date:	February 27, 2017
Pre-proposal Conference:	March 10, 2017
Step 1 Proposals Due:	April 12, 2017
Questions Due:	Up to 10 days prior to proposal due date
Step 2 Proposals Due:	July 6, 2017, 11:59 pm Eastern Time

For this procurement, NASA anticipates making selections during Fall 2017. Upon making selection, NASA's goal for making initial awards under this CAN is January 2018.



Questions about the CAN

Following this briefing, programmatic questions regarding this solicitation should be submitted in writing or via E-mail no later than 10 days prior to the proposal due date to:

Dr. Mary Voytek
Senior Scientist for Astrobiology
Science Mission Directorate, NASA HQ
E-mail: mary.voytek-1@nasa.gov
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Note that where appropriate, questions and answers will be made publicly available at the web site on which this CAN is posted. It is the responsibility of interested proposers to check for such information prior to the submission of their proposals.



Q&A