



Transformative Aeronautics Concepts Program

University Leadership Initiative Applicant's Workshop

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Richard Barhydt
Transformative Aeronautics Concepts Program
Aeronautics Research Mission Directorate (ARMD)





Applicant's Workshop Overview

- Purpose – Provide information on NASA Aeronautics University Leadership Initiative (ULI) solicitation and cover Q&A
- Agenda
 - ULI solicitation overview
 - Q&A submitted earlier
 - Additional Q&A (as time permits)
- Materials available:
 - Solicitation and Q&A (ROA General and solicitation-specific) currently available: <https://nspires.nasaprs.com/external/>
 - From NSPIRES, choose Solicitations, D.5 University Leadership Initiative, Research Opportunities in Aeronautics (ROA) - 2016
 - Slides, aural recording, written Q&A will be available at ULI site: <https://nari.arc.nasa.gov/uli>
 - NRA Proposer's Guidebook available at <http://www.hq.nasa.gov/office/procurement/nraguidebook/>
- Notice
 - Material presented at this forum reflects best known information
 - In case there are any differences between the solicitation and material presented at this forum, the solicitation will take precedence.
 - This session, including all questions and answers will be recorded and posted.

NASA Aeronautics

NASA Aeronautics Vision for Aviation in the 21st Century



6 Strategic Thrusts



Safe, Efficient Growth in Global Operations



Innovation in Commercial Supersonic Aircraft



Ultra-Efficient Commercial Vehicles



Transition to Low-Carbon Propulsion



Real-Time System-Wide Safety Assurance



Assured Autonomy for Aviation Transformation

Each thrust leads toward community-based outcomes in three time periods: Near-Term (2015-2025), Mid-Term (2025-2035), Far-Term (Beyond 2035)

NASA Aeronautics Strategic Implementation Plan
<http://www.aeronautics.nasa.gov/strategic-plan.htm>



ARMD Organization

MISSION PROGRAMS

Airspace Operations and Safety Program

 **AOSP**

Safe, Efficient Growth in Global Operations

Real-Time System-Wide Safety Assurance

Assured Autonomy for Aviation Transformation

Advanced Air Vehicles Program

 **AAVP**

Ultra-Efficient Commercial Vehicles

Innovation in Commercial Supersonic Aircraft

Transition to Low-Carbon Propulsion

Assured Autonomy for Aviation Transformation

Integrated Aviation Systems Program

 **IASP**

Flight research-oriented, integrated, system-level R&T that supports all six thrusts

X-planes/ test environment

SEEDLING PROGRAM

Transformative Aeronautics Concepts Program

 **TACP**

High-risk, leap-frog ideas that support all six thrusts

Critical cross-cutting tools and technologies development



University Leadership Initiative

ULI Objectives



- Promote transformative, innovative research that can help advance six aeronautics strategic thrusts.
- Develop parallel research paths that contribute to the same strategic outcomes as those pursued by internal NASA research (near-term, mid-term, or far-term timeframe).
- Create new ideas involving interaction across a wide range of disciplines, including traditional and non-traditional aeronautics (“technology convergence”).
- Invest in the next generation of engineers to enable continued U.S. leadership in aviation.
- Promote broader participation across the university community.

ULI Attributes



Through ULI, universities will:

- Independently define the most critical technical challenges that must be solved to achieve a given strategic thrust
 - Technical challenges represent distinct barriers that must be overcome.
 - Internal NASA teams have developed technical challenges aligned to NASA-defined roadmaps in each thrust. Summaries of these technical challenges are provided in solicitation.
 - NASA looking for universities to propose different technical challenges – should be based on what proposer believes are important barriers to overcome (not compatibility with existing NASA technical challenges)
- Propose independent, innovative research projects to solve the technical challenges, including developing the success criteria, progress indicators (milestones), and technical approach;
 - Follows similar planning process to that used by internal NASA teams
 - Proposal teams will track progress toward their own technical challenges and apply methods for peer review
- Bring forward system-level, revolutionary ideas:
 - Research products could include technologies, operational concepts, methods, design tools, models, or other technical advancements
 - Capabilities should incorporate multi-disciplinary integration, considering contributions from aero and non-aero disciplines (“technology convergence”).
 - Proposal teams encouraged to explore high technical risk approaches that open avenues for accelerated progress.

ULI Teaming



- University leadership is essential to producing graduates with the skills needed to lead U.S. into future.
- To meet this need, lead organizations for ULI proposals must be accredited, degree-granting U.S. colleges or universities.
- Universities asked to develop teams that bring together best and brightest minds from many disciplines and perspectives.
- Lead organizations encouraged to include team members that are less-established or have less prior experience working on NASA Aeronautics projects. Effective integration and mentoring of these team members represents an important part of leadership role.
- Team members may include:
 - Other departments at the principal investigator (PI)'s institution
 - Other colleges or universities
 - Industry members
 - Non-profit organizations
 - Other U.S.-based entities.
- Historically Black Colleges and Universities (HBCU) and other minority-serving institutions strongly encouraged to apply.

Proposal Review Process



- Two-step proposal review:
 - Step-A abbreviated proposal focusing on proposed objectives and overall approach (due June 7, 2016)
 - Some proposers will be invited to submit Step-B proposal – full proposal with completed technical challenges, research activities, and detailed approach (due 45 days from notification to submit Step-B; around mid-late August timeframe)



Selection Criteria

- Step-A (5 pages for Scientific/Technical/Management section)
 - Relevance to ARMD objectives (60%)
 - Technical merit (40%)
- Step-B (25 pages for Scientific/Technical Management section)
 - Relevance to ARMD objectives (30%)
 - Technical merit (25%)
 - Teaming (15%)
 - Effectiveness of proposed work plan (20%)
 - Cost (10%)



Summary of Key Information

Expected annual program budget for new awards	Nominally \$2M per award, depending on scope
Number of new awards pending adequate proposals of merit	2-4
Maximum duration of awards	5 years
Due date for Notice of Intent	May 5, 2016
Due date for Step-A proposals	June 7, 2016
Due date for Step-B proposals	45 days after request for Step-B proposals issued
Detailed instructions for the preparation and submission of proposals	See the Guidebook for Proposers Responding to a NASA Research Announcement – 2016 at http://www.hq.nasa.gov/office/procurement/nraguidebook/
Page limit for the central Science-Technical-Management section of proposal	5 pages for Step-A; 25 pages for Step-B
Submission medium	See the Guidebook for Proposers Responding to a NASA Research Announcement – 2016 at http://www.hq.nasa.gov/office/procurement/nraguidebook/
Web site for submission of proposal via NSPIRES	http://nspires.nasaprs.com (help desk available at nspires-help@nasaprs.com or (202) 479-9376)
Expected award type	Cooperative Agreements
Funding opportunity number	NNH16ZEA001N-ULI
NASA points of contact (POC)	E-mail questions to: < HQ-UnivPartnerships@mail.nasa.gov > Written responses will be posted on the solicitation website.
NASA will post any Q&A on-line (in the TACP section of NSPIRES) so that all proposers will have access to the same information.	Facilities: See Section D.5.3.7



Previously-Submitted Questions and Answers

- 1. We have recently been advised that several Federal customers do not wish to include Micro-Air vehicles in their research. Is Micro-Air vehicles and related attributes included within the scope of NASA ULI intent or is this an excluded area of research?**
 - Research into different sizes of aircraft is within scope of the ULI effort, consistent with addressing the strategic thrusts discussed in the Strategic Implementation Plan (<http://www.aeronautics.nasa.gov/strategic-plan.htm>).
- 2. Does NASA ULI program allow FFRDC competition?**
 - ARMD does not allow Federally-Funded Research and Development Centers (FFRDC) to participate as team members. For further information, see Section III(a) of the solicitation and Question #39 of Research Opportunities in Aeronautics (ROA) - 2016 Questions and Answers, <https://nspires.nasaprs.com/external/viewrepositorydocument/cmdocumentid=506672/solicitationId=%7B5F7EC42E-136B-FA21-515A-FFA32C228454%7D/viewSolicitationDocument=1/ROA-2016%20General%20Q&A.pdf>

Previously-Submitted Questions and Answers



- 3. Can a non-US citizen, living in the US and working at a university, be included on the team? Or do all team members have to be US citizens/green card holders?**
 - Yes, although there may be export control considerations. Please see Question #10 of ROA-2016 Questions and Answers.

- 4. One of my collaborators is changing institutions this summer. With the NOI due 5 May and the Step-A proposal due 7 June, should we proceed using his current institution? Depending on the outcome of our Step-A proposal, if recommended to submit a Step-B proposal, that submission may occur after my colleague is at his new institution. (All his work for this proposal would be conducted from the new institution, of course.)**
 - Please list the institution that is current at the time the proposal is submitted. A different affiliation may be provided for Step-B, if needed.

- 5. We are building a team for the NASA ULI program. We have a company that is interested in joining. However, they are concerned that the cooperative agreement will not allow profit. Can a team member receive a subcontract from the leading institution with profit?**
 - As noted in the solicitation, NASA anticipates using cooperative agreements as the funding vehicle. Cooperative agreements do not restrict lead organizations from including a subcontractor on a for-profit basis. This is at the discretion of the vendor.



Previously-Submitted Questions and Answers

- 6. Are researchers allowed to be members of multiple teams with different lead institutions responding to the same ARMD strategic thrust?**
 - Yes, but they must be identified as team members in each proposal they participate in. (See ROA-2016 Questions and Answers #27).

- 7. Are researchers allowed to be members of multiple teams with different lead institutions responding to different ARMD strategic thrusts?**
 - Yes – see Question #6 above.

- 8. Can the same institution be the lead institution for separate proposals responding to different ARMD strategic thrusts?**
 - Yes, see Question #1 in ROA-2016 Questions and Answers.

- 9. If a principal researcher on a team changes institutions between the Step A and Step B proposal stages, are they allowed to remain as part of the team, or is it rigidly connected to the affiliated university?**
 - Yes, a person who changes institutions between the Step A and Step B proposal stages may remain as part of the team. Any change in role must be updated in the proposal. See also Question #4 above.



Previously-Submitted Questions and Answers

- 10. Can a foreign company be used as vendor? We have a special product that only a foreign company can make it. If they have an office in US but the headquarters is in Europe, is that company still considered as a foreign entity?**
 - This is not an easy question to address. It depends on the circumstances. The questioner should consult with an attorney regarding export control and other applicable statutes and regulations.

- 11. If our team plans to purchase time in an experimental facility at another university, does that university need to be included as part of the proposal team?**
 - No, if the proposer only wishes to purchase time in an experimental facility at another institution and that institution does not collaborate on the research, it does not need to be included as part of the proposal team.

- 12. If we plan to make use of a paid consultant, is that permissible, or does that consultant need to be part of the proposal team?**
 - A paid consultant is necessarily part of the proposal team. Consistent with Section 2.3.10 of the NASA Guidebook for Proposers, proposers must include a detailed cost breakdown and detailed sub-contract/sub-award budgets.

- 13. Do you encourage industry partnerships with the University as the lead?**
 - Proposers are invited to include U.S. companies as part of their team, provided an accredited degree-granting U.S. college or university serves as the lead organization.



Previously-Submitted Questions and Answers

- 14. Please provide an indication as to the weighting that will be given to engineering educational efforts in the proposal evaluation?**
 - The teaming element is weighted at 15% for Step-B proposals. For further information, please see Section D.5.3.5 in the solicitation.

- 15. And, what weighting will be given to outreach efforts such as K-12?**
 - Please see Question #14.

- 16. Aside from the restrictions on NASA units participating, does the program have a preference for the entities on a team structure? EG, is there a preferred balance of university and industry team members, or are the teams free to select their own based on what we believe will yield the best research progress?**
 - Proposers are free to organize their teams as they wish. Please see solicitation sections D.5.3.2, and D.5.3.5 for further discussion on teaming and selection criteria.

- 17. Will industrial partners be allowed to be funded through this mechanism?**
 - Yes, at the discretion of the vendor, proposals may include sub-contracts for U.S. based companies. As noted earlier, the lead organization must be an accredited, degree-granting U.S. college or university.

Previously-Submitted Questions and Answers



- 18. Could we have some info regarding the evaluation process in the different stages?**
- Section D.5.3.5 in the solicitation summarizes the evaluation process and provides selection criteria. A two-stage process will be used (Step-A and Step-B).
- 19. Will the reviewers be specialists in a particular discipline?**
- Proposal reviewers have not yet been finalized. Reviewers are expected to include representatives from various programs and offices at NASA Headquarters and the research centers. Reviewers will be technically capable and competent.
- 20. Is "Assured Autonomy for Aviation Transformation" a valid focus for a proposal to the ULI solicitation?**
- Yes, this topic or any other listed in Section D.5.2 in the solicitation is a valid focus for proposals. Topics correspond to strategic thrusts within the ARMD Strategic Plan.
- 21. Do all partners on a proposal need to be on the NOI response? Or, can additional partners be added either during the step A or B proposals?**
- No, all partners do not need to be on a Notice of Intent (NOI) response. Yes, partners can be added or removed for Step-A and Step-B proposals.

Previously-Submitted Questions and Answers



22. Is an NOI mandatory?

- No, an NOI is optional.

23. Will NOIs be shared with the proposing community or held within NASA?

- NOIs will not be shared with the proposing community.



Additional Questions



Thanks for participating!