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Pre-Proposal Briefing:
ARMD Seedling Solicitation

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Seedling Key Information

- Award Information
  - Expected Number of Awards: 4
  - Max Award Size: $750K per Team for Phase I
  - Phase I Period of Performance: 11/1/2014 to 10/31/2015
- Proposal Schedule
  - Due Date for NOI (3-page Proposal): 07/14/2014
  - Announcement of Selected NOIs: 08/18/2014
  - Due Date for 20-page Proposal: 09/08/2014
  - Recommended proposers Q&A with Seedling Panel: 10/15/2014
  - Award Announcement: 10/23/2014
- NOI and Proposal Submission Website
  - https://armd-seedling.arc.nasa.gov/
- Next year the Seedling tasks will become a part of the Convergent Aeronautics Solutions (CAS) project within the ARMD Transformative Aeronautics Concepts (TAC) Program
- E-mail Questions to: arc-armd-seedling@mail.nasa.gov

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Background

- CAS invests in innovative, early-stage, and potentially revolutionary aeronautical concepts and technologies
- NARI is a virtual institute 'without walls.' Has three major, coordinated portfolio items
  - Seedling: for primarily NASA civil servant developed concepts
  - Leading Edge Aeronautics Research for NASA (LEARN): no civil servant participation in Phase I
  - Challenges and Prizes
- This briefing is only for the currently open Seedling solicitation.
- For more info: http://nari.arc.nasa.gov
  - Upcoming events and solicitations
  - Past awards

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Scope

- Innovative concepts and novel solutions of strategically important aeronautics technical challenges with potential for significant impact
  - A research area is not sufficient, need a proposed concept as a solution for the technical challenge in that research area
- Needs to address one or more of the six NASA Aeronautics Strategic Thrusts

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Scope (2)

- The focus should be on “big questions” and introduce a significantly unique or innovative concept
- Team-based, multidisciplinary, integrated research addressing multifaceted questions
  - Teams are expected to bring together broadly based expertise from more than a single center and technical discipline
  - Conduct collaborative, cross-disciplinary research, and enhance innovative communication between geographically disparate researchers through use of information technology
- After two phases, the proposed research should result in a strong desire for ARMD or Industry to develop/continue the concept

Example Research Questions

- How can the National Airspace System be significantly improved to be better optimized for efficiency, safety, and convenience?
- How could aircraft be custom build or modified “on-demand” for specific market and/or mission requirements at low cost?
- How can the three key environmental barriers to public acceptance of commercial supersonic flight, sonic boom, emissions, and community noise, be overcome?
- How can General Aviation be made simultaneously safe, convenient, and affordable for a greater portion of the population?
- What is the optimum combination of low cost, environmentally benign, light weight, efficient, compact electrical power generation for either propulsion or onboard systems?
- How can trust in autonomous systems be established?

The solicitation provides context for these and other examples to show the nature and scope to be addressed by proposed research

Eligibilities and Funding

- Principal Investigator (PI) must be a NASA civil servant from any NASA center
- Proposals, despite involving multiple centers, should be submitted by the PI who will lead the team
- 4 team awards of up to $750K for Phase I (one-year)
  - 50% of funds must be spent on NASA civil servant labor. Will be multiple people.
  - Smaller award amounts may be proposed
  - All proposed budgets must be justified
  - Phase II (18 months): 2 awards up to $1M per award
- Cost sharing by external organizations is not required, but will accept cost sharing if voluntarily offered

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Evaluation Criteria

- Outside scope NOIs are not assessed
- Evaluation Criteria for NOIs and Proposals:
  - Relevance and Impact (weight 20%)
  - Technical Merit (weight 35%)
  - Effectiveness of the Proposed Work Plan (weight 20%)
  - Cost (weight 15%)
  - Collaboration (weight 10%)

  More details in the solicitation document
- Because of 3-page restriction, NOIs will only have limited information available for the Step-1 assessment

Step 1 - Notice of Intent (NOI)

- NOI Format and Contents: Max 3 pages
  - Title, Name and Organization of PI and team members
  - Objectives and technical approach for Phase I effort
  - Description of what is innovative or novel in the proposed concept and research
    - ARMD strategic thrust addressed
  - Potential impact on NASA or national aeronautics challenges if concept is successful
  - Summary of work plan and Total budget (no breakdown needed)
- Due July 14, 2014 in https://armd-seedling.arc.nasa.gov/
- NOIs will be reviewed and selected for full proposal development (Step-2) by the PI's Center in consultation with supporting Centers
- Announcement of selected NOIs: August 18, 2014

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Step 2 – Full Proposal

- Format and Contents
  - See details of topics to be covered in solicitation document
  - Main Body is max 20 pages
  - Appendix (no page limit) contains budget, resumes, commitment letters
- Due Sep 8, 2014 in https://armd-seedling.arc.nasa.gov/
- Proposals will be reviewed by ARMD Technical Review Panel consisting of experts from AFRC, ARC, GRC, and LaRC
  - Recommended (two categories: with and without reservations) and Not Recommended

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Step 3 – Seedling Panel Briefing

- Format
  - American reality TV show *Shark Tank* like
  - Half hour for each proposal
  - Panel Members: ARMD Program Directors and Aeronautics Research Directors or their representatives
    - Panel has Step 2 technical review feedback
  - PIs pitch their Seedling concepts to the panel (10 minutes)
  - Panel Q&A with PI (20 minutes)
  - Virtual meeting via Adobe Connect
- On Oct 15, 2014 in https://armd-seedling.arc.nasa.gov/
- Seedling Panel meets another day to discuss and recommend proposals to be awarded
- Selecting Official is the TAC Program Director

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Reporting Requirements

- Midterm technical and schedule status report
- A final written technical report (NASA TM format) within ninety days after the conclusion of Phase I
- PI participation during monthly “virtual” Team meetings using Internet-based video conferencing tools.
- PI presenting status and findings during a “virtual” NARI seminar near the end of the period of performance (TBD)
- Copy of any conference or journal publication and/or invention disclosure

Out of Scope Examples

- Using Google Glass as an inexpensive Heads Up Display (existing technology)
- Detailed experimental characterization of selected aerospace composite structures (lacking a concept)
- Performing human factors system study to come up with a concept (lacking a concept)
- Design data and Computational Fluid Dynamics model development for a specific design (narrow focus)
- A new way of measuring the combustor exit/turbine inlet temperatures (narrow focus)

https://armd-seedling.arc.nasa.gov/ Q&A Tab

- Answers to a number of questions raised previously. Please refer to link above:
  - What if my proposed concept conflicts with a research element in an ARMD Project?
  - We are planning to respond to Seedling Fund solicitation. Some of our contractor partners are planning to propose to the LEARN NRA. Are we allowed to communicate with them on any proposal plans whether for LEARN or Team-Based Seedling Fund?
  - I heard that Seedling topics should be system-based studies. Can you comment on the desirability of system-based topics?
- Q&A will be updated through the solicitation process for questions of general interest

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Q&A

Seedling: arc-armd-seedling@mail.nasa.gov

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