“NASA Space Technology Fellows will perform innovative space technology research while building the skills necessary to become future technological leaders.”

July 27, 2011
RELEASE : 11-246
NASA Awards Space Technology Research Fellowship Grants
Space Technology Research Grants - Program Overview

Level II Program Office: GRC

Objective: Accelerate the development of push technologies through innovative efforts with high risk/high payoff

- **Early Stage Innovation - Space Technology Research Opportunities (ESI-STRO):** Low TRL technology portfolio for groundbreaking research in advanced space technology
- **NASA Space Technology Research Fellowships (NSTRF):** Competitive selection of U.S Citizen / permanent resident graduate students developing promising technologies in support of future NASA missions and strategic goals

Acquisition Strategy

- **ESI-STRO:** NRA solicitation expected annually. Awards are grants, cooperative agreements, contracts or intra-agency transfers.
- **NSTRF:** Annual solicitation consistent with academic calendar. Awards are training grants to accredited U.S. universities. Selected candidates perform graduate student research on their respective campuses, at NASA Centers and not-for-profit Research and Development (R&D) labs.

Awards

- **ESI-STRO:** Typical 12 months awards at $250K. 100+ per year.
- **NSTRF:** 80 Fellows in inaugural year. NSTRF12 released on 11-4-11

Collaboration

- **ESI-STRO:** Proposals welcome from all sources, including academia, industry, all U.S. government agencies and non-profit organizations; teaming encouraged
- **NSTRF:** Each student is matched with a professional advisor at NASA Centers or R&D Lab
The “Pieces” of the NASA Space Technology Research Fellowships
The Solicitation - Introduction

The solicitation is available by
> opening the NASA Research Opportunities homepage at http://nspires.nasaprs.com/,
> selecting “Solicitations,”
> then selecting “Open Solicitations,” and,
> finally, selecting “NSTRF12.”

Minimum Eligibility Requirements for NSTRF12

1. Pursuing or seeking to pursue advanced STEM degrees.
2. U.S. citizens or permanent residents of the U.S.
3. Have or will have a Bachelor’s degree prior to the fall of 2012.
4. Are or will be enrolled in a full-time Master’s or Doctoral degree program at an accredited U.S. university in fall 2012 (awards may not be deferred).
5. Have completed no more than twenty-four months of full-time graduate study as of August 1, 2011. Full-time graduate study is as defined by the universities attended. Applicants who have completed part-time graduate study must have completed no more than 30 semester hours or 45 quarter hours, or their equivalent, as of August 1, 2011; this credit hour limit applies to part-time graduate students.

NSTRF11 (inaugural year) documents are available at http://tinyurl.com/NSTRF11-OCT.
The Solicitation – Application Components

The student shall be the principal author of the Educational Research Area of Inquiry and Goals, with minimal assistance from the current/prospective faculty advisor.

1. Educational Research Area of Inquiry and Goals
   - summary of educational program objectives
   - research interests with associated relevant hypotheses and possible approaches
   - benefits of proposed research
   - benefits of on-site R&D lab experience

2. Schedule of degree program
   - proposed start and completion dates
   - anticipated milestones

3. Curriculum Vitae (one page)
   - faculty advisor
   - student

4. Statement from faculty advisor (one page)
   - planned use of faculty advisor allowance
   - If applicable, brief description of ongoing or pending research awards from NASA that are related to the student’s Educational Research Area of Inquiry and Goals.

5. Three signed letters of recommendation
   - from academic advisor
   - from other faculty members or professionals with detailed knowledge of student’s abilities

6. Transcripts
   - undergraduate
   - graduate

7. GRE general test scores
All eligible fellowship applications will undergo a review by technical experts.

Criteria for Evaluation

**Merit** of the Applicant’s Proposed Educational Research Area of Inquiry and Goals
- technical merit as appropriate to the candidate’s educational level
- research area description, knowledge of relevant research literature and plans for student/advisor/mentor partnership

**Relevance** of the proposed research to NASA’s Space Technology Roadmaps

**Academic excellence and Potential**
- Organizational and analytical skills
- scientific curiosity, creativity, acumen, and success in research appropriate to his/her educational level

**NOTE:** Subsequent to the technical review, candidates deemed excellent will be submitted to the Office of the Chief Technologist at NASA Headquarters for final consideration and selection.
### Annual Award Values

<table>
<thead>
<tr>
<th>Category</th>
<th>Maximum value *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Stipend</td>
<td>$36,000</td>
</tr>
<tr>
<td>Faculty Advisor Allowance</td>
<td>$9,000</td>
</tr>
<tr>
<td>On-site NASA Center/R&amp;D lab experience Allowance</td>
<td>$10,000</td>
</tr>
<tr>
<td>Health Insurance Allowance</td>
<td>$1,000</td>
</tr>
<tr>
<td>Tuition and Fees Allowance</td>
<td>$10,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$66,000</strong></td>
</tr>
</tbody>
</table>

* from NSTRF12 solicitation

- A fellowship award is issued as a training grant to the student’s host university.
- Separate from the awards, the Program has allocated resources to cover mentor time and costs associated with hosting/interacting with the Fellow.
Completing the Vision: Mentors

Lining the future space technology
stars up with the best mentors...
Space Technology Research Fellowships: A Nationwide Community of University Students, Professors, and R&D Lab Mentors
Tying it All Together: Research Training Plan

NSTRF Research Training Plan for NASA Grant #NNX0000000

Title

University Name

Space Technology Fellow
First Last

Academic Advisor (PI)
First Last

Mentor
First Last
NASA Center

Key Elements of Research Training Plan

- Cover page (including Abstract)
- Research Description
  - Introduction
  - Goal
  - Background
  - Approach/Methodology
  - Expected Outcome(s)
  - References
- Relevance to NASA
- On-site Experience(s)
- Conferences
- Schedule

Example (from Game Changing Program Briefing) of how NSTRF advisors and students might appear as team members on NASA projects.

This section is expected to have significant input from the mentor in identifying and elaborating on the ties to not just the Technology Areas and Grand Challenges, but also documenting relevance to ongoing activities in NASA’s Mission Directorates.

Research Training Plan: Required by a NASA Space Technology Research Fellowship (NSTRF)

Purpose:
Will be used by the Program for both internal (to NASA) and external reporting and advocacy.

Sharing portions of these plans fosters an awareness of the variety of activities that are being sponsored within each technology area.

Instructions and Considerations

> Should be developed collaboratively by the student Fellow, Academic Advisor, and NASA mentor.
> Should be based on the original proposal.
> Intended to tie the student’s research being performed on campus, as part of his/her degree program, with the research to be conducted at the NASA Center or R&D lab.
> Submitted (by student) before end of the fall academic term.
NNSRTF11 Results

http://tinyurl.com/NNSRTF11-OCT
National Asset: The Inaugural Class of NSTRF

80 Students - 37 Universities - 22 States and U.S. Territories

University of Washington

Stanford University

Brigham Young University

University of Colorado

University of California, Santa Barbara

California Institute of Technology

University of California, Irvine

Michigan State University

University of Minnesota

Case Western Reserve University

University of Illinois

University of Wisconsin

Purdue University

Ohio State University

University of Virginia

Virginia Tech

University of Texas

Auburn University

University of Florida

University of Puerto Rico

Carnegie Mellon University

University of Maryland

University of Texas at Austin

Southern California University

Princeton University

University of Massachusetts
Find Out More About the NSTRF11 Awards

Developing the technological foundation for NASA’s future science and exploration missions...providing the nation with a pipeline of highly skilled engineers and technologists to improve U.S. competitiveness.

The full listing of NSTRF11 awarded proposals with abstracts is available on the NASA OCT website at http://www.nasa.gov/offices/oct/early_stage_innovation/grants/2011_inaugural_class.html
Summary

- Inaugural class is in place – *impressive credentials*
- Roadmaps are the basis for collaboration
- Research partnerships are being formed
- NSTRF12 solicitation is open – we look forward to welcoming the next class of Space Technology Research Fellows