NASA Earth and Space Science Fellowship (NESSF) Program - 2011

NASA received a total of 526 applications in 2011 to the NASA Earth and Space Science (NESSF) Fellowship Program announced in November 2010 among Earth Science Research, Heliophysics Research, Planetary Science Research, and Astrophysics Research – the four research programs of the Science Mission Directorate (SMD) at NASA Headquarters.

These four SMD science divisions make respective selection of applications for award on a competitive basis. Criteria for evaluation included: (a) the scientific merit of the proposed research; (b) the relevance of the proposed research to NASA’s objectives in Earth or space science; and (c) academic excellence based upon an applicant's transcripts, the letter of recommendation by the student's academic advisor, and the degree to which it supported the proposed research. Evaluation was conducted via either mail or panel review, or both, or by the relevant expertise in the science divisions of SMD.

The purpose of the NESSF is to ensure continued training of a highly qualified workforce in disciplines required to achieve NASA’s scientific goals. Awards resulting from the competitive selection are made in the form of training grants to the respective universities and educational institutions, with the faculty advisor serving as the principal investigator.

NESSF awards are made initially for one year and may be renewed for no more than two additional years, contingent upon satisfactory progress, as reflected in academic performance, research progress, and recommendation by the faculty advisor, and the availability of funds. An award is $30,000 per annum, including $24,000 student stipend and an allowance of up to $6,000, consisting of $3,000 for student expenses and $3,000 for university expenses.

The student allowance may be used for tuition; fees; travel in support of the research investigation to conferences, symposia, or collaborative meetings; books; expendable laboratory supplies; page charges for journal articles; printing of a thesis; health insurance; and other similar expenses related to the proposed research investigation. The university allowance may be used for tuition or research expenses, if agreed upon by the student and faculty advisor; it may also support research-related travel for the advisor (i.e. to accompany the student to a scientific meeting, oversee the student’s research, etc.); or by the student. The budget in these two allowance categories may be exchanged, as long as the total sum for the two combined allowance categories does not exceed $6,000.

An individual accepting this award may not concurrently receive other Federal fellowships or traineeships. However, NASA may allow an applicant to receive supplements from other U.S. Federal agencies to cover expenses not covered by NASA's graduate fellowships; for example, the purchase of equipment, which is not permitted through a NASA fellowship.

The names of the students and their faculty advisors, institutions, and proposal titles of the 2011 NESSF selections are listed below by each of the four SMD science divisions.

The announcement for 2012 NESSF is anticipated in November 2011. The release will be posted at http://nspires.nasaprs.com/external/, and the deadline for submission of new applications to NASA will be February 1, 2012.

Inquiries about the program may be directed to:
Program Manager for NESSF Earth Science Research – Dr. Ming-Ying Wei at (202) 358-0771 or by E-mail at mwei@nasa.gov.

Program Manager for NESSF Heliophysics Research, Planetary Science Research, and Astrophysics Research – Dolores Holland at (202) 358-0734 or by E-mail at hq-nessf-space@nasa.gov.

**Astrophysics**

NASA received a total of 88 applications in Astrophysics Research and selected 10 for award, pending acceptance by each applicant and their respective institution; they are:

Tyler Anderson (Student); Stephane Coutu (Advisor); Pennsylvania State University
*Spectra and Composition of Heavy Energetic Cosmic Rays with the CREAM Mission*

Lia Corrales (Student); Frederik Paerels (Advisor); Columbia University
*High Energy Studies of Astrophysical Dust*

Kyle Crabtree (Student); Benjamin McCall (Advisor); University of Illinois at Urbana-Champaign
*Indirect TeraHertz/Sub-Millimeter Spectroscopy of CH5+ in Support of Herschel and SOFIA*

Joy Didier (Student); Amber Miller (Advisor); Columbia University
*Towards Measuring the Polarization of the CMB: the EBEX Science Flight and the Development of Polarization Sensitive Bolometer Arrays*

Jim Fuller (Student); Dong Lai (Advisor); Cornell University
*Dynamical Tides in Compact White Dwarf Binaries and in Exoplanetary Systems*

Erika Hamden (Student); David Schiminovich (Advisor); Columbia University
*A Novel Photon-Counting Detector for Ultraviolet Astronomy and Beyond*

Kari Helgason (Student); Massimo Ricotti (Advisor); University of Maryland at College Park
*Isolating the Earliest Light in the Cosmic Near-IR Background Fluctuations with JWST*

Kelsey Morgan (Student); Dan McCammon (Advisor); University of Wisconsin
*High Spectral Resolution Study of the Diffuse X-ray Background*

Thomas Rogers (Student); Webster Cash (Advisor); University of Colorado
*Characterizing the Solar Wind Charge Exchange with High Resolution Soft X-ray Spectroscopy*
Aaron Spector (Student); Guido Mueller (Advisor); University of Florida

Analysis of Back-reflected and Scattered Light for LISA