

ESPP Funding Opportunities: December 18, 2012

OPPORTUNITIES FOR STUDENTS AND RECENT GRADUATES

NSF Graduate Research Fellowship Program (GRFP) Graduate Research Opportunities Worldwide (GROW) - Dear Colleague Letter NSF 13-022

Request Window: December 5, 2012 - February 1, 2013.

NSF Fellows may submit GROW travel requests through the GRFP FastLane module, adhering to the NSF submission guidelines specified in this Dear Colleague Letter. GRFP Coordinating Officials must approve the Fellow requests in the GRFP FastLane module by February 1, 2013; university approvals for these submissions are provided in the signed Authorized Organizational Representative (AOR) Certification form submitted with the application. GRFP Coordinating Officials must approve the submissions before NSF receives the applications.

Through GRFP's Graduate Research Opportunities Worldwide (GROW), NSF Graduate Fellows are provided an international travel allowance to engage in research collaborations with investigators in partner countries located outside the United States. For the last four years, GRFP has offered a pilot international research opportunity in cooperation with counterpart funding organizations in Norway, Finland, Denmark and Sweden, known as the Nordic Research Opportunity. GROW introduces new partnership opportunities in France, Japan, South Korea and Singapore. Details for each partner country differ and are available through links to their websites, grouped by geographic region, and accessed at:

<http://www.nsf.gov/grow>.

Eligible NSF Graduate Research Fellows must have completed at least one year of their graduate program at the time of application. They must be enrolled at U.S. institutions, making satisfactory progress towards their degrees, and have fulfilled all GRFP reporting requirements. The competition is open to MS - and PhD-seeking Fellows. GROW travel allowances to the Fellows are awarded based on an annual competition. The anticipated maximum number of Fellows to be supported by GROW is 400 in fiscal year 2013.

Atmospheric and Geospace Sciences Postdoctoral Research Fellowships (AGS-PRF) NSF 11-521

Full Proposal Deadline: February 02, 2013

Anticipated Type of Award: Fellowship

Estimated Number of Awards: 10 Ten Fellowships per year

Anticipated Funding Amount: \$1,720,000 - \$86,000 per year per Fellowship

The Division of Atmospheric and Geospace Sciences (AGS) awards Postdoctoral Research Fellowships (PRF) to highly qualified investigators within 3 years of obtaining their PhD to carry out an independent research program. The research plan of each Fellowship must address scientific questions within the scope of AGS disciplines. The program supports researchers for a period of up to 2 years with Fellowships that can be taken to the institution or national facility of their choice. The program is intended to recognize beginning investigators of significant potential, and provide them with experience in research that will broaden perspectives, facilitate interdisciplinary interactions and help establish them in leadership positions within the Atmospheric and Geospace Sciences community.

An important aspect of the Fellowship is that Fellows are organized into a cohort and are expected to attend a workshop at the end of the first year to discuss their research and to

explore connections across various science disciplines. Fellows may also be provided with the opportunity to serve as NSF proposal reviewers or panelists.

Agriculture and Food Research Initiative (AFRI): NIFA Fellowships Grant Program

Closing Date for Applications: March 7, 2013

Estimated Total Funding: \$6,000,000

Cost Sharing or Matching Requirement: No

The FY 2013 AFRI National Institute of Food and Agriculture (NIFA) Fellowship RFA focuses on developing the next generation of research, education, and extension professionals in the food and agricultural sciences who will lead agriculture into the future by solving current and future challenges facing our society. The AFRI NIFA Fellowships Grant Program targets talented, highly-motivated doctoral candidates and postdoctoral trainees that demonstrate remarkable promise and the potential to become gifted education, extension, and research professionals in the United States. The NIFA Fellows are individuals who have the potential for remarkable accomplishments in agricultural science. The Program seeks to develop the technical and academic competence of doctoral candidates and the research independence and teaching competencies of postdoctoral students in the food, forestry and agricultural sciences, which are within NIFA's challenge areas, through well-developed and highly interactive mentoring and training activities. Project types supported by AFRI within this RFA include single-function Research, Education, and Extension Projects and multi-function Integrated Research, Education, and/or Extension Projects.

OPPORTUNITIES FOR FACULTY

Agriculture/Land Use

Critical Zone Observatories (CZO) - NSF 12-575

Full Proposal Deadline: February 05, 2013

Anticipated Type of Award: Cooperative Agreement

Estimated Number of Awards: 8

Anticipated Funding Amount: \$8,000,000

The awards will be up to \$5,000,000 over 5 years per CZO

NSF seeks proposals to establish a networked set of Critical Zone Observatories (CZOs) that will address pressing interdisciplinary scientific questions concerning geological, physical, chemical, and biological processes and their couplings that govern critical zone system dynamics. The CZOs are expected, collectively, to 1) measure and quantify the significant processes of the critical zone on appropriate time and space scales; 2) develop a unifying theoretical framework that integrates new understanding of coupled hydrological, geochemical, geomorphological, sedimentological and biological processes; and 3) develop, couple and validate system-level models to predict how the critical zone responds to external forces such as anthropogenic, climatic, and/or tectonic processes. Each observatory must contribute to strengthening the scientific basis for decision-making, particularly with regards to impacts on health, safety, and environment due to observed and predicted changes in the critical zone. An overarching goal of the critical zone observatory network, which will be comprised of US-based sites (50 states plus territories), is to offer scalable and transferable information that could enhance the scale and scope of the knowledge building and societal benefits that will accrue beyond where the specific CZOs are located. Amongst the strategies contemplated in

this program are diversifying the coverage of observatories in terms of geography, geology, and types of environments; leveraging existing infrastructure and legacy data; coordinating observations, data management, modeling, and educational activities among CZOs; and coordinating activities that address common questions at multiple observatories. All CZOs will be expected to collect a common set of measurements in addition to site-specific measurements describing the geological, physical, chemical, hydrological, and biological characteristics of the site. In addition, it is anticipated that the CZOs will adhere to common data management policy and use common data management tools. The network of CZOs will additionally serve as a community resource to engage investigators beyond the CZO awardees in critical zone research.

Climate Change

Sedimentary Geology and Paleobiology (SGP) - Dear Colleague Letter for NSF 12-608

Full Proposal Due: February 22, 2013
Approximate Award Funding: 4 awards at \$1,000,00 – 1,500,000
6 awards at \$500,000 max.
PI or Co-PI Limit: may serve on only ONE proposal for Track 2

The Sedimentary Geology and Paleobiology (SGP) program is pleased to announce a revised funding opportunity. This program is Track 2 of the SGP solicitation NSF 12-608 and can be found on the SGP website: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13691. "Earth-Life Transitions" (ELT) will support fundamental research into Earth system dynamics, focusing on scientific questions at the frontiers of climate change and biogeosciences. The goals of the ELT program are: 1) to develop the synergistic activities and capabilities of multi-disciplinary scientists to address critical questions about Earth-Life interactions in deep time and 2) to enable team-based interdisciplinary projects to understand the major linked events of environmental, climate and biotic change at a mechanistic level. These projects may involve stratigraphy, sedimentology, paleontology, calibration and application studies, geochronology, and climate modeling at appropriately resolved scales of time and space. Pending availability of funds, the program will be offered every other year in the Spring - 2013, 2015, and 2017. Proposals should be prepared in accordance with guidance in the SGP solicitation, [NSF 12-608](#), and the NSF Grant Proposal Guide (GPG) or NSF Grants.gov Application Guide.

Conservation and Ecosystem Management

Migratory Bird Conservation in the Upper Midwest – USFWS F13AS00041

Closing Date for Applications: February 15, 2013
Expected Number of Awards: 25
Estimated Total Program Funding: \$620,000
Award Ceiling: \$75,000
Award Floor: \$5,000
Cost Sharing or Matching Requirement: No

The U.S. Fish and Wildlife Service's (USFWS's) Upper Midwest Migratory Bird Conservation Program will provide grants for the conservation of birds that are protected under the Migratory Bird Treaty Act but not Federally listed as Endangered or Threatened under the Endangered Species Act. Proposals should address projects in the geographic area that includes Illinois,

Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin; nonbreeding season areas important for birds breeding in these states; or broad scale actions that will have tangible benefits that include birds in these states.

Ecology/Biology

Long Term Research in Environmental Biology (LTREB) – NSF 12-501

Preliminary Proposal Deadline: January 10, 2013
January 10, Annually Thereafter

Full Proposal Deadline: August 1, 2013
August 1, Annually Thereafter

Through the LTREB program, the Division of Environmental Biology (DEB) and the Division of Integrative Organismal Systems (IOS) encourage the submission of proposals that generate extended time series of biological and environmental data to address ecological and evolutionary processes and resolve important issues in organismal and environmental biology. Researchers must have collected at least six years of previous data to qualify for funding, and these data must motivate the proposed research. The proposal also must present a cohesive conceptual rationale or framework for ten years of research. Questions or hypotheses outlined in this conceptual framework must guide an initial 5-year proposal as well as a subsequent, abbreviated renewal. Together, these will constitute a decadal research plan appropriate to begin to address critical and novel long-term questions in organismal and environmental biology. As part of the requirements for funding, projects must show how collected data will be shared broadly with the scientific community and the interested public.

All proposals submitted to the LTREB program are co-reviewed by participating Clusters in the two participating Divisions: Ecosystem Science, Population and Community Ecology, and Evolutionary Processes in DEB, and Behavioral Systems and Physiological and Structural Systems in IOS. Proposals must address topics supported by these programs.

Other

Law and Social Sciences (LSS) – NSF 12-507

Full Proposal Deadline: January 15, 2013
January 15, Annually Thereafter

Full Proposal Deadline: July 15, 2013
July 15, Annually Thereafter

Anticipated Type of Award: Standard Grant or Continuing Grant or Cooperative Agreement

Estimated Number of Awards: 75

Anticipated Funding Amount: \$5,000,000

The Law & Social Sciences Program considers proposals that address social scientific studies of law and law-like systems of rules. The program is inherently interdisciplinary and multi-methodological. Successful proposals describe research that advances scientific theory and understanding of the connections between law or legal processes and human behavior. Social scientific studies of law often approach law as dynamic, made in multiple arenas, with the

participation of multiple actors. Fields of study include many disciplines, and often address problems including though not limited to:

1. Crime, Violence and Punishment
2. Economic Issues
3. Governance
4. Legal Decisionmaking
5. Legal Mobilization and Conceptions of Justice
6. Litigation and the Legal Profession

LSS provides the following modes of support:

1. Standard Research Grants and Grants for Collaborative Research
2. Doctoral Dissertation Research Improvement Grants
3. Interdisciplinary Postdoctoral Fellowships
4. Workshop and Conference Proposals

Energy for Sustainability – PD 13-7644

Full Proposal Window: January 15, 2013 - February 19, 2013

This program supports fundamental research and education that will enable innovative processes for the sustainable production of electricity and transportation fuels. Processes for sustainable energy production must be environmentally benign, reduce greenhouse gas production, and utilize renewable resources. Current interest areas in sustainable energy technologies are highlighted below.

- Biomass Conversion, Biofuels & Bioenergy.
- Photovoltaic Solar Energy.
- Wind Energy.
- Advanced Batteries for Transportation.

Environmental Engineering – PD 13-1440

Full Proposal Window: January 15, 2013 - February 19, 2013

The **Environmental Engineering** program supports fundamental research and educational activities across the broad field of environmental engineering. **The goal of this program is to encourage transformative research which applies scientific and engineering principles to avoid or minimize solid, liquid, and gaseous discharges, resulting from human activity, into land, inland and coastal waters, and air, while promoting resource and energy conservation and recovery.** The program also fosters cutting-edge scientific research for identifying, evaluating, and monitoring the waste assimilative capacity of the natural environment and for removing or reducing contaminants from polluted air, water, and soils. Major areas of interest and activity in the program include:

- Environmental engineering implications of energy and resource consumption
- Availability of high quality water supplies
- Fate and transport of contaminants of emerging concern in air, water, and soils

Environmental Health and Safety of Nanotechnology – PD 13-1179

Full Proposal Window: January 15, 2013 - February 19, 2013

The **Environmental Health and Safety of Nanotechnology (Nano EHS)** program provides support to examine and mitigate the environmental effects of nanotechnologies. Fundamental research is sought to understand, evaluate, and lessen the impact of nanotechnology on the environment and biological systems.

The program emphasizes engineering principles underlying the environmental health and safety impacts of nanotechnology. Innovative methods related to clean nanomaterials production processes, waste reduction, recycling, and industrial ecology of nanotechnology are also of interest.

Current areas of support include:

- Understanding, measuring, mitigating, and preventing adverse effects of nanotechnology on the environment and biological systems
- Nanotechnology environmental health and safety impacts
- Predictive methodology for the interaction of nanoparticles with the environment and with the human body, including predictive approaches for toxicity
- Fate and transport of engineered nanoparticles and their by-products
- Risk assessment and management of the effect of nanomaterials in the environment

Environmental Sustainability – PD 13-7643

Full Proposal Window: January 15, 2013 - February 19, 2013

The **Environmental Sustainability** program supports engineering research with the goal of promoting sustainable engineered systems that support human well-being and that are also compatible with sustaining natural (environmental) systems. These systems provide ecological services vital for human survival. The long-term viability of natural capital is critical for many areas of human endeavor. Research in Environmental Sustainability typically considers long time horizons and may incorporate contributions from the social sciences and ethics.

This program supports engineering research that seeks to balance society's need to provide ecological protection and maintain stable economic conditions. There are four principal general research areas which are supported, but others can be proposed by contacting the program director by email at: bhamilto@nsf.gov

- Industrial Ecology
- Green Engineering
- Ecological Engineering
- Earth Systems Engineering

Topics of interest in **Industrial Ecology** include advancements in modeling such as life cycle assessment, materials flow analysis, input/output economic models, and novel metrics for measuring sustainable systems. Innovations in industrial ecology are encouraged. In **Green Engineering**, research is encouraged to advance the sustainability of manufacturing processes, green buildings, and infrastructure. **Ecological Engineering** topics should focus on the engineering aspects of restoring ecological function to natural systems. **Earth Systems Engineering** considers aspects of large scale engineering research that involve mitigation of greenhouse gas emissions, adaptation to climate change, and other global scale concerns.

Water

NOAA Regional Ocean Partnership Funding Program (ROPFP) - NOAA-NOS-CSC-2013-2003510

Full Proposal Due: February 11, 2013
Total Anticipated Funding: \$4,000,000

Focus Area 1 Awards: 2 to 4 approx.
Focus Area 2 Awards: up to 10
Focus Area 1 Award Funding: \$250,000 - \$500,000 approx. per award per year
Focus Area 2 Award Funding: \$100,000 - \$200,000 approx. per award per year

There is no limit on the number of proposals from each region. Applicants may bundle multiple projects into one proposal, or may submit single projects; however, NOAA will evaluate all projects for readiness and feasibility for completion within the time frame of the anticipated award. Non-Tribal Applicants must note the requirement detailed in Section III.C for demonstration of coordination with the relevant Regional Ocean Partnerships (ROP) projects.

The ROPFP is intended to support development or implementation of regional ocean governance priorities that also advance the national priorities, especially marine and Great Lakes planning efforts. ROPs have been established to facilitate the effective management of ocean and coastal resources across jurisdictional boundaries by improving communications, aligning priorities, and enhancing resource-sharing between states with support and involvement from Federal agencies as well as other levels of government and a wide array of partners. For the purposes of this funding opportunity, **NOAA will consider the following regions eligible for funding proposals:** Northeast, Mid-Atlantic, South Atlantic, **Great Lakes**, Caribbean, Gulf of Mexico, West Coast, Hawai'i, Pacific Islands, and Alaska/Arctic. The ROPFP will support two categories of activities:

- 1) Focus Area 1:** Implementation of activities that address both regional ocean governance priorities identified by ROPs in public documents and advance national priorities, especially marine and Great Lakes planning efforts; and
- 2) Focus Area 2:** Development and governance support for operations of existing and new ROPs, including development of plans and management of ROP activities.