

**NOTE: See previously-posted opportunities available on our [funding pages](#).**

Below please find recent grant and related announcements. Please send Jon MacDonagh-Dumler ([macdon47@msu.edu](mailto:macdon47@msu.edu)) information you think should be included, especially about interdisciplinary environmental conferences.

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## **ESPP Funding Opportunities: May 15, 2013**

### **OPPORTUNITIES FOR STUDENTS AND RECENT GRADUATES**

#### **NSF Earth Sciences Postdoctoral Fellowships [NSF EAR-PF 13-548](#)**

**Full Proposal Deadline:** **July 18, 2013**  
July 18, Annually Thereafter

**Anticipated Type of Award:** **Fellowship**  
**Estimated Number of Awards:** **10 fellowships per year**  
**Anticipated Funding Amount:** **\$87,000 per year per fellowship, FY 2014-2015.**

The Division of Earth Sciences (EAR) awards Postdoctoral Fellowships to recent recipients of doctoral degrees for research and training in topics relevant to Earth sciences. The fellows must develop and implement 1) research projects that seek to address scientific questions within the purview of EAR programs and 2) plans to broaden participation in Earth sciences. The program supports researchers for a period of up to 2 years with fellowships that can be taken to the institution of their choice (including facilities abroad). Because the fellowships are offered only to postdoctoral scientists early in their career, doctoral advisors are encouraged to discuss the availability of EAR postdoctoral fellowships with their graduate students early in their doctoral programs. Fellowships are awards to individuals, not institutions, and are administered by the Fellows.

A research plan whose focus falls within the scope of any of the EAR disciplines is eligible for support. The list of EAR programs can be found at <http://www.nsf.gov/div/index.jsp?div=EAR> and include EarthScope, Geobiology and Low Temperature Geochemistry, Geomorphology and Land Use Dynamics, Geophysics, Hydrologic Sciences, Petrology and Geochemistry, Sedimentary Geology and Paleobiology, and Tectonics.

### **OPPORTUNITIES FOR FACULTY**

#### **[Widening Implementation & Demonstration of Evidence-Based Reforms – NSF WIDER 13-552](#)**

**Full Proposal Deadline:** **July 03, 2013**

<b>Anticipated Type of Award:</b>	Standard Grant or Continuing Grant
<b>Estimated Number of Awards:</b>	30 to 50
Grants will be made in 4 tracks.	
1. Planning grants:	up to 20 awards
2. Institutional Implementation grants:	up to 12 awards
3. Community Implementation grants:	up to 12 awards
4. Research grants:	up to 10 awards
<b>Anticipated Funding Amount:</b>	<b>\$20,000,000</b>

The chief goal of WIDER is to transform institutions of higher education into supportive environments for STEM faculty members to substantially increase their use of evidence-based teaching and learning practices. Through this process, WIDER seeks to substantially increase the scale of application of highly effective methods of STEM teaching and learning in institutions of higher education, by employing instructional materials and methods that have a convincing evidentiary basis of effectiveness. In particular WIDER seeks this transformation for high enrollment, lower division courses required for many STEM majors and taken by many other students to fulfill general education distribution requirements.

Included in our broad definition of effective STEM teaching and learning are not only instructional practices in traditional learning environments, but also modern laboratory methods and field research, proven distance education methods (or hybrid designs incorporating both face-to-face and distance methods), and improved approaches to motivating student interest in STEM. In all cases, the primary goal of WIDER is to increase substantially the scale of these improvements within and across the higher education sector.

**Dear Colleague Letter: FY 2013 Career-Life Balance (CLB)-Faculty Early Career Development Program (CAREER) Supplemental Funding Requests NSF 13-075**

The purpose of this DCL is to announce the continuation of the supplemental funding opportunity initiated in FY 2012 for PIs supported in the CAREER program. CAREER Principal Investigators (PIs) are invited to submit supplemental funding requests to support additional personnel (e.g., research technicians or equivalent) to sustain research when the PI is on family leave. These requests may include funding for up to 3 months of salary support, for a maximum of \$12,000 in salary compensation. The fringe benefits and associated indirect costs may be in addition to the salary payment and therefore, the total supplemental funding request may exceed \$12,000.

**AGRICULTURE**

**Food Security – USDA-NIFA-AFRI-004192**

<b>Proposal Due Date:</b>	<b>July 17, 2013</b>
<b>Estimated Total Program Funding:</b>	<b>\$5,000,000</b>
<b>Range of Awards:</b>	<b>\$ 0 – 1,000,000</b>

For FY 2013, it is anticipated that approximately \$5 million will be made available to support new awards within the Food Security Challenge Area of AFRI. In FY 2013, only proposals that focus on reducing crop and livestock losses in U.S. agricultural systems will be considered for funding. Proposed projects should develop and extend sustainable, integrated management strategies that reduce pre and post-harvest losses caused by diseases, insects, and weeds in crop and animal production systems, while maintaining or improving product quality and production efficiency. Proposals should aim to develop approaches for managing losses throughout the whole food system (production, harvesting, storage, processing, distribution, and consumption), and should address the social, economic, and behavioral aspects of food security. Project types supported by AFRI within this Challenge Area will propose multi-function Integrated Research, Education, and/or Extension Projects, Food and Agricultural Science Enhancement (FASE) Grants, and conferences and/or workshops.

### **Carbon Cycle Science - USDA AFRI NNH13ZDA001N-CARBON**

<b>Letter of Intent Due Date:</b>	<b>May 1, 2013</b>
<b>Proposal Due Date:</b>	<b>July 31, 2013</b>
<b>Estimated Total Program Funding:</b>	<b>\$26,500,000</b>
<b>Range of Awards:</b>	<b>\$ 200,000 – 1,000,000</b>

#### **Applications must be submitted through NASA ROSES 2010.**

The carbon cycle plays a fundamental role in the forces driving global climate change as well as being impacted by a changing climate. This program, offered in partnership with the Research Opportunities in Space and Earth Sciences (ROSES) 2013 program of the National Aeronautics and Space Administration (NASA), the U.S. Department of Energys Office of Science (DOE), and the National Ocean and Atmospheric Administration (NOAA), contributes toward the goals of the U.S. Global Change Research Program (USGCRP) and its Carbon Cycle Science Program by providing critical scientific information about the movement of carbon in the environment and potential near- and long-term changes in the carbon cycle, including the role of and implications for societal actions. It follows from three previous joint USDA-NASA solicitations in 2004, 2007, and 2010, addressing questions of carbon stocks and fluxes as well as how carbon cycling might change and be managed in response to a changing climate, and the risks and benefits to society of management and adaptation options.

### **Multi-partner Call on Agricultural Greenhouse Gas Research**

<b>Letter of Intent Due Date:</b>	<b>March 27, 2013</b>
<b>Proposal Due Date:</b>	<b>September 3, 2013</b>
<b>Estimated Total Program Funding:</b>	<b>\$300,000</b>
<b>Range of Awards:</b>	<b>\$ 0 – 100,000</b>

This Multi-partner Request for Applications, joint between the National Institute of Food and Agriculture of the USDA, the Joint Programming Initiative on Agriculture, Food Security and Climate Change (FACCE-JPI), New Zealands Ministry for Primary Industries and Agriculture, and Agri-Food Canada, aims to bring together excellent research consortia to enhance international collaboration in the face of the global issue

of climate change mitigation. The research undertaken will contribute to improving the measurement of greenhouse gas emissions and carbon sequestration in soil in different agricultural systems as well as to propose, test and verify new practices, strategies and solutions to sustainably increase the carbon sequestration potentials of agricultural soils. Furthermore it seeks to transfer knowledge to farmers to enable them to be the lead actors in the reduction of greenhouse gas emissions in the agricultural sector.

## **BIOLOGY**

### **Long Term Research in Environmental Biology - NSF 12-501**

<b>Preliminary Proposal Due Date:</b>	<b>January 10, 2013</b>
<b>Full Proposal Due Date:</b>	<b>August 1, 2013</b>
<b>Anticipated Type of Award:</b>	<b>Standard Grant or Continuing Grant</b>
<b>Estimated Number of Awards:</b>	<b>6 to 8 per year</b>
<b>Anticipated Funding Amount:</b>	<b>\$3,000,000</b>

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. Researchers who are uncertain about the suitability of their project for the LTREB Program are encouraged to contact the cognizant program director.

## **CLIMATE CHANGE**

### **USEPA: Science for Sustainable and Healthy Tribes EPA-G2013-STAR-X1**

<b>Funding Instrument Type:</b>	<b>Cooperative Agreement Grant</b>
<b>Expected Number of Awards:</b>	<b>5</b>
<b>Estimated Total Program Funding:</b>	<b>\$6,000,000</b>
<b>Award Ceiling:</b>	<b>\$920,000</b>
<b>Award Floor:</b>	<b>\$0</b>

**Closing Date for Applications:** **Jun 25, 2013** Please refer to the full announcement, including Section IV, for additional information on submission methods and due dates.

The U.S. Environmental Protection Agency (EPA), as part of its Science to Achieve Results (STAR) program, is seeking applications proposing research on science for sustainable and healthy tribes. This solicitation is focused on research to develop sustainable solutions to environmental problems that affect tribes. The objectives of the awards to be made under this solicitation are to improve understanding of: 1) the health impacts of climate change on tribal populations; and 2) the health impacts of indoor air pollution exposures that derive from or are directly affecting traditional tribal life-ways and cultural practices. In both cases, projects should focus on impacts to vulnerable sub-populations of the Tribal communities. Proposals should also consider sustainable, culturally appropriate and acceptable pollution prevention, and adaptation/mitigation strategies.

## EDUCATION

### [EHR Core Research NSF 13-555](#)

**Full Proposal Target Date(s):** **July 12, 2013**  
February 04, 2014  
First Tuesday in February, Annually Thereafter

**Anticipated Type of Award:** Standard Grant or Continuing Grant

**Estimated Number of Awards:** 28

**Anticipated Funding Amount:** \$20,000,000

The EHR Core Research (ECR) program establishes a mechanism in the Directorate for Education and Human Resources to provide funding in foundational research areas that are broad, essential and enduring. EHR seeks proposals that will help synthesize, build and/or expand research foundations in the following core areas: STEM learning, STEM learning environments, workforce development, and broadening participation in STEM. We invite researchers to identify and conduct research on questions or issues in order to advance the improvement of STEM learning in general, or to address specific challenges of great importance. Two types of proposals are invited: **Core Research Proposals** (maximum 5 years, \$1.5 million) that propose to study a foundational research question/issue designed to inform the transformation of STEM learning and education and **Capacity Building Proposals** (maximum 3 years, \$300,000) intended to support groundwork necessary for advancing research within the four core areas.

## MODELING

### [Water Sustainability and Climate NSF 13-535](#)

**Full Proposal Deadline(s):** **September 10, 2013**

**Expected Number of Awards:** **10 to 24**

**Estimated Total Program Funding: \$26,000,000**  
**Award Ceiling: \$5,000,000**

Three categories of awards are anticipated for this solicitation.

**Category 1 Awards:** Small team synthesis, modeling, integration and assessment projects that will use existing data (or new measurements) to study entire watersheds and groundwater sites. Both NSF and USDA/NIFA funds will be used to support this category. Some projects may be funded directly by USDA/NIFA. Projects will have a duration of 2-4 years for a maximum of \$600,000 for each award. An estimated 4-8 awards are expected to be made for Category 1 proposals.

**Category 2 Awards:** Place-based modeling studies with new observations, 3 to 5 years in duration and in the range of \$2 million to \$4 million maximum for each project. An estimated 2-5 awards are expected to be made for Category 2 proposals.

**Category 3 Awards:** Synthesis, modeling and integration grants that will use only existing data to integrate and synthesize across watershed and groundwater sites. Both NSF and USDA/NIFA funds will be used to support this category. Some projects may be funded directly by USDA/NIFA. Project duration of 3-5 years and in the range of \$1 million to \$2.5 million maximum for each project. An estimated 6-8 awards are expected to be made for Category 3 proposals.

The goal of the Water Sustainability and Climate (WSC) solicitation is to understand and predict the interactions among the water system and climate change, land use (including agriculture and forest production systems), the built environment, and ecosystem function and services through place-based research and integrative models. Studies of a water system in its entirety using models and/or observations at specific sites, singly or in combination, that allow for spatial and temporal extrapolation, as well as integration across the different processes in that system are encouraged, especially to the extent that they advance the development of theoretical frameworks and predictive understanding.

### **Geospace Environment Modeling (GEM) NSF 10-510**

**Full Proposal Deadline: October 15, 2013**  
**October 15, Annually Thereafter**  
**Anticipated Type of Award: Standard Grant or Continuing Grant**  
**Estimated Number of Awards: 8 to 12 new awards in each year**  
**Anticipated Funding Amount: \$750,000 for new awards in each year**  
**Other Budgetary Limitations: Maximum award size is \$175,000 per year, with a maximum duration of 5 years.**

The Geospace Environment Modeling (GEM) program is the second in order of inception of three programs in Upper Atmospheric Research (CEDAR, GEM, and SHINE) designed to address the question of how the sun influences geospace and the upper atmosphere. The primary goal of GEM is to understand how energy, mass, and momentum flow in the solar wind is coupled into the Earth's magnetosphere and in turn how the magnetosphere is coupled to the Earth's atmosphere. A critical component for

understanding global change is the development of general circulation models (GCMs) that can be used to study the physical processes by which global change takes place.

To facilitate concentrated research efforts on specific topics of relevance to the GEM goals, the GEM program is organized into a set of focus groups with each focus group examining a specific scientific topic relevant to understanding the dynamics of the magnetosphere. Each focus group has a limited lifetime of at most five years and a number of different focus groups are active at any one time. In addition to the research focus groups, the development of modules for a Geospace General Circulation Model (GGCM) is done on a continuing basis. An annual workshop is held for one week each summer to provide a forum for investigators to present and discuss recent results, exchange information, plan future experiments, and improve and develop modules and full models for the GGCM.

## **WATER**

### **Hydrologic Sciences NSF 13-531**

<b>Full Proposal Deadline(s):</b>	<b>June 03, 2013</b>	June 1, Annually Thereafter
	<b>December 05, 2013</b>	Dec. 5, Annually Thereafter
<b>Anticipated funding:</b>	<b>\$10,000,000, annually</b>	
<b>Estimated number of awards:</b>	<b>25 to 35 standard or continuing grants or cooperative agreements per year</b>	

The Hydrologic Sciences Program is part of the Surface Earth Processes (SEP) Section of the Division of Earth Sciences (EAR). EAR provides funding for the conduct of research concerning the solid Earth and its surface environment. In addition, EAR provides some support for instrumental and observational infrastructure, cyberinfrastructure, and innovative educational and outreach activities. The Hydrologic Sciences Program focuses on the fluxes of water in the environment that constitute the water cycle as well as the mass and energy transport function of the water cycle in the environment. The Program supports studying processes of rainfall to runoff to infiltration and streamflow; evaporation and transpiration; as well as the flow of water in soils and aquifers and the transport of suspended, dissolved and colloidal components. The Hydrological Sciences Program retains strong emphasis on linking the fluxes of water and the components carried by water across boundaries between various interacting components of the terrestrial system and the mechanisms by which these fluxes co-organize over a variety of timescales and/or alter the fundamentals of the interacting components. Water is seen as the mode of coupling among various components of the environment and emphasis is placed on how the coupling is enabled and how it functions as a process. Topics may be investigated as deterministic or stochastic processes by observational, experimental or modeling approaches. The program supports studies examining (1) the spatial and temporal heterogeneity of water and chemical fluxes and storages from local to global scales, (2) interfacial water fluxes and pathways among system compartments; and (3) how hydrologic processes couple to the critical zone via land use change, climate change and ecosystems function.

