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## ANNOUNCEMENTS

### GRANTS.GOV SUBMISSION GUIDELINES

Due to heavy traffic on the grants.gov server, ORSP has been advised to begin the submissions process to grants.gov two working days prior to the submission deadline date. This means ORSP needs your completed proposal **four** days prior to the submission deadline. The Grants.gov icon is shown next to this month's Funding Announcements that require this submission process. If you wish to apply for a grant through grants.gov, contact Beth Rieger at [brieger@fgcu.edu](mailto:brieger@fgcu.edu).



### ORSP WEBSITE

ORSP offers a multitude of services to assist you in preparing and submitting grant applications. Our website at <http://www.fgcu.edu/orsp> provides easy access to the forms, announcements, and other useful materials. We would like to include links to websites associated with the many externally funded projects currently active. Send the URLs to [dstremke@fgcu.edu](mailto:dstremke@fgcu.edu) and the link will be added to ORSP's site.

### HAVE YOU COMPLETED YOUR GENIUS/SMARTS PROFILE IN INFO ED?

In order to process your proposals, ORSP needs a GENIUS/SMARTS investigator profile in our web-based database system. To edit a Genius profile, use an on-campus computer and go to <http://fgcu-mako.primary.ad.fgcu.edu>. Click on "Login"; then on "Profile"; and proceed to edit the information contained in your profile. Please select keywords that describe your research interests. For further assistance or if you any questions about these InfoEd products please contact Lucia Soria at [asoria@fgcu.edu](mailto:asoria@fgcu.edu). If you have a GENIUS/SMARTS profile, you can search InfoEd's SPIN Plus from any on-campus computer to find funding. Call Lucia at ext.7020 to send you instructions.

### ORSP PROGRAM: STUDENT TRAVEL AWARDS

ORSP supports enrolled FGCU students by providing funds on a first-come, first-serve basis so they can present their scholarly works at conferences. ORSP staff will assist the students with the necessary paperwork, both before and after the travel. Within 30 days of travel completion, all awardees are required to submit a one-page report to ORSP describing the benefit of the award and the overall experience. Awardees are required to participate in Research Day in April. The guidelines and application form are at: <http://www.fgcu.edu/orsp/internalPrograms.html>

### ORSP PROGRAM: FACULTY TRAVEL AWARDS

ORSP provides travel awards up to \$1,000 for faculty to attend technical workshops or other related activities for the purpose of increasing chances of obtaining a grant. The trip must result in a proposal submission through ORSP. The application consists of the following items: a 50-100 word abstract of the proposed project; workshop information or the specific purpose of the trip; and an estimated budget for travel expenses. Guidelines and application are on our web page at: <http://www.fgcu.edu/orsp/internalPrograms.html>

**DO YOU NEED HELP WITH PROPOSAL PREPARATION?**

Please contact Beth Rieger at [brieger@fgcu.edu](mailto:brieger@fgcu.edu) to assist you set up your budget and to complete your proposal/application package. ORSP will then enter the budget information into the sponsor's budget form for you and provide you with a copy to help you prepare the budget justification. ORSP needs to receive your completed proposal package three business days (four business days for grants.gov) before the submission deadline. We ensure all the required forms are attached and that your proposal is compliant with the specifications outlined in the RFP/RFA. Remember that additional forms, releases, and agreements may be required, so make sure [you](#) allow enough time for these documents to be prepared. If ORSP receives the completed proposal with less than the three (or four) business days' lead time, we cannot guarantee that the proposal will be submitted.

## CONGRATULATIONS

### AWARDS DURING THE LAST MONTH

| <b>College of Arts and Sciences</b>                                     |   |  |              |
|---|---|--|--------------|
| ALLMAN, Phillip   | US Fish & Wildlife Service                                      | Sea Turtle Conservation in Ghana   | \$10,500.00  |
| BARRETO, Jose   | US Department of Defense  | Detoxification and detection of natural toxins to defend against a potential bio-weapon attack | \$459,903.00 |
| CEILLEY, David<br>Everham, Edwin  | Kitson Babcock  | Aquatic Faunal Assessment, Babcock Community   | \$15,000.00  |
| CORCORAN, Peter Blaze   | Rockefeller Philanthropic Collaborative                         | Earth Charter Scholarship Project  | \$15,000.00  |
| LOH, Ai Ning  | Virginia Institute of Marine Science                            | C-43 Quality Treatment Project   | \$20,000.00  |
| TOLLEY, S. Gregory  | Florida DEP   | Coral Reef Conservation Program 2009-2014  | \$250,003.00 |
| TOLLEY, S. Gregory  | Florida Institute of Oceanography                               | Florida Institute of Oceanography Shiptime Support 2010  | \$14,400.00  |
| TOLLEY, S. Gregory  | Florida DEP   | Coastal Watershed Institute Partnership with Rookery Bay                                       | \$193,606.00 |
| VOLETY, Aswani<br>Tolley, S. Gregory<br>Toll, Ronald<br>Rumbold, Darren | National Science Foundation                                     | Planning for the Field Station   | \$24,070.00  |
| WILKINSON, Neil   | Lee County Mosquito Control District                            | Mosquito Control Education Program 2009-2012   | \$115,290.00 |
| <b>College of Business</b>  |   |  |              |
| GEIGER, Chris<br>Isern, Sharon<br>Michael, Scott                        | National Science Foundation                                     | MRI: Acquisition of An Inverted Confocal Microscope For FGCU                                   | \$449,314.00 |
| RODRIGUEZ, Walter   | Southwest Florida Workforce Development Board, Inc.             | Workforce Training Program / Dislocated Workers 2009 - 2011                                    | \$45,499.00  |
| RODRIGUEZ, Walter   | Southwest Florida Workforce Development Board, Inc.             | Workforce Training Program/Adults 2009-2011  | \$13,000.00  |
| ZALEWSKI, Janusz  | University of Central Florida                                   | Expansion of Internet-Based Embedded Systems Lab to Enhance Courses                            | \$12,480.00  |
| <b>College of Education</b>   |   |  |              |
| GREENE, Marci<br>Elliot, Beth   | US Department of Education                                      | Teacher Immersion Program 2006-2011  | \$392,809.00 |
| <b>Continual Learning</b>   |   |  |              |
| HARTKE, Joanne  | Florida State University  | FGCU/IOG 2009-2010   | \$67,500.00  |
| <b>Student Affairs</b>  |   |  |              |
| YOVANOVICH, Michele   | US Department of Education                                      | Student Support Services 2005-2009   | \$268,465.00 |
| YOVANOVICH, Michele<br>Doyle, Cathy                                     | Florida Department of Education                                 | CROP 2009 - 2010 ARRA  | \$27,319.68  |
| <b>Academic Media Technology</b>  |   |  |              |
| JOHNSON, Rick   | Florida Department of Education/<br>US Department of Education  | TV Community Service Grant/ARRA  | \$71,637.00  |
| JOHNSON, Rick   | Florida Department of Education                                 | TV Community Service Grant /State  | \$363,200.00 |
| JOHNSON, Rick   | Florida Department of Education                                 | FM Community Service Grant /State  | \$72,907.00  |
| JOHNSON, Rick   | Florida Department of Education /<br>US Department of Education | FM Community Service Grant /ARRA   | \$14,380.00  |

**SUBMISSIONS DURING THE LAST MONTH**

| <b>College of Arts and Sciences</b>              |                                 |   |                |
|--|---------------------------------|---|----------------|
| BARR, Kelli L.<br>Michael, Scott                 | National Institute of Health    | Development of novel peptide inhibitors against dengue                                  | \$131,568.00   |
| Dubetz, Terry<br>Fugate, David                   | U.S. Department of Education    | The Impacts of Variable Freshwater Inflow On Estuarine Process In Southwest Florida     | \$333,000.00   |
| FUGATE, David<br>Parsons, Mike                   | National Science Foundation     | Acquisition of a Laboratory Research and Teaching Flume                                 | \$230,821.56   |
| ISERN, Sharon<br>Barreto, Jose<br>Michael, Scott | Defense Threat Reduction Agency | Mechanistic Studies of Flavivirus Inhibition and Nanoparticle-catalyzed Decontamination | \$1,200,000.00 |
| RUMBOLD, Darren<br>Loh, Ai Ning                  | National Science Foundation     | MRI-R <sup>2</sup> : Acquisition of ICP-MS Instrumentation                              | \$928,986.00   |
| WILSON, Jo Ann<br>Dubetz, Terry                  | ZONTA                           | GEMS  | \$4,650.00     |
| <b>College of Education</b>                      |                                 |   |                |
| GREENE, Marci<br>Isaacs, Maddy                   | Florida Department of Education | Teacher Recruitment, Retention, and Recognition Activities 2009-2010                    | \$981,750.00   |

## FUNDING OPPORTUNITIES

### ASTRONOMY

#### ASTRONOMY AND ASTROPHYSICS RESEARCH GRANTS



The NSF Astronomy and Astrophysics Research Grants provides individual investigators and collaborative research grants for observational, theoretical, laboratory and archival data studies in all areas of astronomy and astrophysics, including but not limited to the following areas of study:

- Planetary Astronomy: Studies of the detailed structure and composition of the surfaces, interiors and atmospheres of the planets and satellites in the Solar System; the nature of small bodies (asteroids and comets); the inter-planetary medium; and the origin and development of the Solar System.
- Stellar Astronomy and Astrophysics: Studies of the structure and activity of the Sun and other stars; the physical properties and composition of all types of single and multiple stars; compact objects and their interactions; extra-solar system planet formation and detection; star formation and stellar evolution; stellar nucleosynthesis; and the properties of atoms and molecules of relevance to stellar astronomy.
- Galactic Astronomy: Studies on the composition, structure and evolution of the Milky Way galaxy and nearby galaxies. Research may focus on the stellar populations in these galaxies; the characteristics of star clusters; the interstellar medium; and the properties of atomic and molecular constituents of the interstellar medium.
- Extragalactic Astronomy and Cosmology: Studies of the more distant Universe. Research topics include galaxy formation, evolution and interaction; active galaxies; quasars; large-scale structure; and all areas of cosmology.

Proposals submitted to the AAG Program do not require categorization into one of the study areas identified above, may span multiple disciplines and/or areas of study and may utilize multiple techniques. Principal Investigators are encouraged to contact one of the Program Officers listed in this announcement prior to submitting a proposal to the AAG Program, particularly if the proposal will include investigators at multiple institutions.

<http://www.nsf.gov/pubs/2005/nsf05608/nsf05608.htm#dates>

***Deadline: September 15 - November 15, Annually Thereafter***

## COMPUTER SCIENCE

### INTEGRATIVE, HYBRID & COMPLEX SYSTEMS

The NSF Integrative, Hybrid and Complex Systems (**IHCS**) program intends to spur visionary systems-oriented activities in collaborative research and education environments for multi-disciplinary integrative activities. IHCS supports innovative research in micro and nano systems, communication systems, and cyber systems that integrate physical devices and components with computational intelligence and networks.

The goal is to design, develop and implement new nano/micro/macro complex and hybrid systems with engineering solutions for a variety of domain-specific applications in healthcare, environment, communications, disaster mitigation, homeland security, transportation, manufacturing, and other systems-related areas. IHCS also supports integration technologies at both the intra-and inter-chip levels that target new and advanced radio frequency (RF), millimeter wave and optical wireless and hybrid communication systems architectures as well as sensing and imaging at terahertz frequencies. IHCS supports the development of innovative hardware, signal processing and software architectures for emerging areas of cyber systems for design, integration and implementation of multi-scale and multi-level complex systems that will enable visualizing, analyzing and reconfiguring of emergent behavior for various applications. IHCS offers new challenges, at all levels of systems integration, to address future societal needs.

Examples include, but are not limited to:

#### Cyber Systems:

- Integrated Hybrid Optical and Electronic Systems for High-Speed Computation and Communications
- Multi-Scale Dynamic System Integration for Real-Time Monitoring and Control of Engineered Complex and Hybrid Systems
- Ambient Intelligent Systems for Homes of the Future
- Networked Intelligent Surveillance for Security of Critical Infrastructures
- Integrated Distributed Sensing and Actuation in Telemedicine and Robotic Surgical Systems
- Robust electric power grids integrating power, communication and self-organizing networks
- Globally Interactive Environment for Engineering Education.

#### Nano and Microsystems:

- System-in-a-package
- System-on-a-chip
- Organic and Silicon-based Hybrid Systems
- Miniature Implantable Systems that Combine Sensors, Actuators, Computational Algorithms and Microcircuits for Biomedical Applications Ranging from Drug Delivery to Microsurgery

Optical, Wireless and Hybrid Communications Systems:

- Terahertz (THz) Sensing and Imaging
- Wireless Networks of Handheld or Wearable Computing Devices Incorporating Transmitters, Receivers, Antennas and Sensors
- Mixed Signals
- Distributed Network with Dynamic Allocation of Bandwidth and Efficient Seamless Data Transference
- Intra- and inter-chip Networking and Communications

Proposals for the IHCS program may involve collaborative research to capture the breadth of expertise needed for such multidisciplinary integrative activities. ECCS will consider supporting a limited number of small team proposals of three or more Investigators from different disciplines and/or universities. Researchers for small team proposals are invited to propose, and are encouraged to discuss, with the IHCS Program Directors, potential innovative systems and associated areas of research.

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=13381](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13381)

*Deadlines: September 7, 2009 - October 7, 2009*

## **ENVIRONMENTAL PROGRAMS**

### NEW TECHNIQUES FOR REAL-TIME MONITORING OF MEMBRANE INTEGRITY FOR VIRUS REMOVAL

The objective of this project is to develop new instruments or methods that can facilitate real-time detection of viruses and can be used to reliably determine virus removal for compliance purposes. This project is driven by several WateReuse Foundation priority issues, which include lowering costs (capital and operational) of water reuse and desalination processes and enhancing the confidence in the reliability of reuse facilities from the perspective of both regulators and the general public.

<http://www.watereuse.org/node/802>

*Deadline: October 14, 2009*

### PESTICIDE SAFETY PROGRAM

The EPA Office of Pesticide Programs solicits applications to support a national and international pesticide safety program to assess and develop health and safety programs aimed at reducing exposure to pesticides for agricultural workers, pesticide applicators, growers, health providers, pesticide producers and retailers, as well as local, state, national and international organizations and government agencies, and other members of the agricultural community. As part of this program the grantee will examine private and public programs on pesticide safety; organize conferences, workgroups and conduct meetings with experts from the agricultural community; facilitate projects; and develop, pilot test, finalize, distribute, and promote “improved pesticide safety education and training programs and materials”. The pesticide safety program will develop and improve pesticide safety training programs and materials for

agricultural workers so they can protect themselves, their families and the agricultural community. The program will also ensure pesticide applicator competence to work with general use and restricted use pesticides safely, improve aerial applicator's programs to prevent drift and enhance safety programs for commercial applicators. The program will assist in the development of proper storage, containment and disposal of pesticide containers. The program will also raise awareness of health care providers about health implications of working with or around pesticides. This program will support reducing risks from pesticide hazards to agricultural workers and pesticide applicators and other members of the agricultural community under Section 20 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

The selected grantee will work with a wide range of pesticide safety stakeholders to ensure that those occupationally exposed to pesticides, including farm workers, pesticide applicators, growers and others are protected from exposure risks. Grantee duties will include continued monitoring of current pesticide safety programs, conducting meetings and workshops with the agricultural community and pesticide safety experts to assess where program improvement or innovations are needed, and develop interventions, training models and outreach materials to meet evolving needs of the target population. Duties will also include work with health providers to identify, treat and prevent pesticide poisoning. The grantee will also work with states, pesticide safety training experts, pesticide applicators, growers, pesticide producers and retailers, and others to develop programs and materials to insure the safe storage, disposal, containment and containers of pesticides.

The estimated funding available for award in FY 2009 is expected to be approximately \$400,000. At the conclusion of year one, incremental funding of up to \$800,000 may be made available for each additional year, allowing the project to continue for funding a total of five (5) years and total of up to \$3,600,000, depending on need and the Agency budget in outlying years.

[http://www.epa.gov/pesticides/grants/proposals/pesticide\\_safety\\_program\\_rfa\\_fy09.pdf](http://www.epa.gov/pesticides/grants/proposals/pesticide_safety_program_rfa_fy09.pdf)

**Deadline: October 2, 2009**

### STUDENT DESIGN COMPETITION FOR A SUSTAINABLE PLANET

The U.S. Environmental Protection Agency, as part of the P<sup>3</sup> Award Program, seeks applications proposing to research, develop, and design solutions to real world challenges involving the overall sustainability of human society. The P<sup>3</sup> competition highlights the use of scientific principles in creating innovative projects focused on sustainability. The P<sup>3</sup> Awards program was developed to foster progress toward sustainability by achieving the mutual goals of economic prosperity, protection of the planet, and improved quality of life for its people-- people, prosperity, and the planet – the three pillars of sustainability. The EPA offers the P<sup>3</sup> competition in order to respond to the technical needs of the world while moving towards the goal of sustainability.

[http://epa.gov/ncer/rfa/2010/2010\\_p3.html](http://epa.gov/ncer/rfa/2010/2010_p3.html)

**Deadline: January 4, 2010**

## HEALTH PROGRAMS

### DIAGNOSTICS FOR DRUG-RESISTANT BACTERIA AND EUKARYOTIC PARASITES

The National Institute of Allergy and Infectious Diseases, National Institutes of Health invites research applications for projects that support translational research leading to development of therapeutic and diagnostic technologies for drug-resistant bacteria and eukaryotic parasites. The NIAID intends to commit \$7.3 million in total costs in FY2010 to fund 5 to 10 applications. Because the nature and scope of the proposed research will vary from application to application, it is anticipated that the size and duration of each award will also vary. The annual direct costs that can be requested may not exceed \$750,000 without prior approval by program staff. The total project period for an application may not exceed 5 years.



<http://grants.nih.gov/grants/guide/rfa-files/RFA-AI-09-026.html#SectionI>

**Deadline: November 9, 2009**

### SUBSTANCE USE / ABUSE AMONG U.S. MILITARY PERSONNEL



NIDA, NIAAA, NCI, and the Department of Veterans Affairs wish to enhance and accelerate research on the epidemiology/ etiology, identification, and prevention and treatment of alcohol, tobacco, and other drug use and abuse (including illicit and prescription drugs) and associated mental health problems among active-duty or recently separated (e.g., Iraq and Afghanistan) military troops and their families. VA has specific interest in supporting research directed towards advancing prevention and treatment of mental health and co-morbid substance use/abuse problems in veterans of Iraq and Afghanistan deployments (including National Guard and Reservists) and their families.

Budgets for direct costs may not exceed \$500,000 per year; a project duration of up to five years may be requested for a maximum of \$2,500,000 direct costs.

<http://grants.nih.gov/grants/guide/rfa-files/RFA-DA-10-001.html>

**Deadline: December 22, 2009**

### HEALTHY AGING

NIA, NIH solicits Research Project Grant applications that propose to translate basic findings from Behavioral Economics into behavior change interventions targeting health behaviors associated with chronic health conditions of mid-life and older age. Applications should propose small pilot clinical trials or demonstration projects, based on collaborations between individuals with expertise in behavioral economics and psychologists, psychiatrists, clinicians, or others with expertise in aging or implementing behavioral interventions.

<http://grants.nih.gov/grants/guide/rfa-files/RFA-AG-10-008.html>

**Deadline, Letters of Intent:**

**October 2, 2009**

**Deadline, Proposals:**

**November 2, 2009**

## PILOT STUDIES IN DIABETES AND CARDIOVASCULAR RISK FACTORS



This NIH FOA encourages pilot research projects to determine the optimal research design and implementation details for a randomized clinical trial of the effects of bariatric surgery on type 2 diabetes and cardiovascular risk factors in people with type 2 diabetes or in people with cardiovascular, lung or sleep diseases. All studies should focus on patients with a BMI of 30 to 40.

As obesity prevalence rates have increased in the US, the most dramatic increase is in those with extreme obesity (BMI  $\geq$  40). Not surprisingly, the rates of bariatric surgery have been increasing in the past decade; it is estimated that more than 200,000 surgeries were conducted in 2006. In the 1998 NHLBI Clinical Guidelines on the Identification, Evaluation and Treatment of Overweight and Obesity in Adults, surgery was recommended an option for carefully selected patients with clinically severe obesity (BMI  $\geq$  40 or BMI  $\geq$  35 with co-morbid conditions) when less invasive methods of weight loss have failed and the patient is at high risk for obesity-associated morbidity or mortality.

A number of studies of patients undergoing bariatric surgery have reported dramatic improvements in type 2 diabetes in patients, including measurements obtained very shortly after bariatric surgery and before substantial weight loss had occurred. Results from both animal studies and a few human surgical studies suggest that improvements in diabetes may be due to mechanisms related to the gastrointestinal system alteration, potentially inducing alterations in the hormonal milieu, and may be, in part, independent of weight loss. Interest has been building in the scientific and medical communities regarding the risks and benefits of the different types of bariatric surgery in obese patients with type 2 diabetes, particularly in those with lesser degrees of obesity. Similarly, case reports and case series have reported improvements in patients with heart failure and sleep apnea after bariatric surgery.

Design and implementation of a randomized clinical trial to compare the impact of various types of bariatric surgery vs intensive medical weight loss and treatment on type 2 diabetes, or on cardiovascular, lung, or sleep diseases, face a number of challenges. The need for such trials is timely, as some are recommending surgery as a treatment for type 2 diabetes even in the less severely obese, despite a paucity of data, and some patients are undergoing bariatric surgery for treatment of heart failure with limited studies supporting its efficacy. However, due to the many design and implementation issues that exist for this type of study, we are eliciting proposals to pilot test a few study designs as an initial step in selecting one design to move forward to a larger scale, longer duration collaborative clinical trial.

For these proposals, potential areas to be addressed include, but are not limited to:

- Which types of surgery should be studied?
- What is the optimal medical comparison group?
- If included as a comparison group, how should medical weight loss be implemented?
- What strategies work best in encouraging subjects to accept randomization to either surgery or medical management?

- How can long-term retention be optimized?
- What opportunities are there for covering the cost of surgery through payers of health care who are interested in the risk/benefits of bariatric surgery?
- What are the mechanisms that lead to improvement in insulin resistance and/or glucose homeostasis after bariatric surgery versus weight loss via intensive medical management?
- What cardiovascular outcomes (e.g. heart failure, myocardial infarctions, arrhythmias, others) should be the focus?
- What effect size can be expected in trials focusing on obstructive sleep apnea?

<http://grants.nih.gov/grants/guide/rfa-files/RFA-DK-09-012.html>

***Deadline, Letters of Intent: October 22, 2009***

***Deadline, Applications: November 19, 2009***

### RESEARCH TO PROMOTE CARDIOVASCULAR HEALTH



This NIH Research Project Grant application supports research on the roles of nutrition and physical activity in the development, prevention, and management of cardiovascular diseases or pulmonary diseases. In particular, the program aims to:

1. improve knowledge of the contribution of diet and physical activity to these conditions and how sleep influences these relationships,
2. increase the evidence base for refining public health recommendations and clinical guidelines regarding these lifestyle behaviors, and
3. develop and test strategies to improve the adoption of these recommendations.

<http://grants.nih.gov/grants/guide/pa-files/PA-09-243.html>

***Deadline: February 5, 2009***

### EVALUATING INNOVATION IN NURSING EDUCATION

Robert Wood Johnson Foundation will support evaluations of interventions that expand teaching capacity or promote faculty recruitment and retention in nursing schools. The program aims to increase the number of nursing school graduates by evaluating strategies that address the nurse faculty shortage. An important activity of the program will be disseminating successful strategies so they can be replicated in other nursing education settings.

[http://www.rwjf.org/files/applications/cfp/cfp\\_EIN2009.pdf](http://www.rwjf.org/files/applications/cfp/cfp_EIN2009.pdf)

***Web Conference: October 5 and October 26, 2009. Registration is required.***

***Deadline for brief proposals: November 24, 2009***

***Deadline for full proposals: April 23, 2010***

## **JOURNALISM**

### **RESEARCH STIPENDS**

The aim of the IBM Center is to tap into the best minds in academe and the nonprofit sector who can use rigorous public management research and analysis to produce reports with practical advice and insight for public sector executives and managers to improve the effectiveness of government. We are looking for very practical findings and recommendations not just theory or concepts in order to assist executives and managers to more effectively respond to mission and management challenges.

Individuals receiving a stipend should produce a 30- to 40-page report. The manuscript should be submitted no later than six months after the start of the project. Recipients will select the start and end dates. The report should be written for government executives and managers, providing them practical knowledge and insight.

<http://businessofgovernment.org/apply/index.asp>

*Deadline: October 1, 2009*

## **RECOVERY ACT PROGRAMS**

### **SCIENCE MASTER'S PROGRAM (ARRA)**

The Science Master's Program prepares graduate students for careers in business, industry, nonprofit organizations, and government agencies by providing them not only with a strong foundation in science, technology, engineering and mathematics (STEM) disciplines, but also with research experiences, internship experiences, and the skills to succeed in those careers. The program is intended to catalyze the creation of institution-based efforts that can be sustained without additional federal funding. This program is also intended to encourage diversity in student participation so as to contribute to a broadly inclusive, well-trained science and engineering workforce.

Proposals submitted to the Science Master's Program should describe a STEM-based Master's graduate education curriculum broadened with education that provides additional skills, such as through specially tailored courses in business and management that prepare students to work in business, industry, government agencies, or nonprofit organizations. The fields and training activities should be in areas of science, technology, engineering, and mathematics where there is high or emerging need. Proposals must demonstrate that the proposed programs meet the needs of the intended workplace and that careful market research and collaboration have led to the proposed model. The proposed Program should involve a diverse group of faculty members and other investigators with appropriate expertise in research and teaching in STEM fields, and should include instructors who have expertise specific to the workforce preparation features of the program to provide additional practical skills training. The coupling of STEM education with practical skills training provides a framework for meeting the needs of employers. Strong proposals will feature partnerships between academic institutions and

potential employers to determine jointly what constitute high need areas as well as the kinds of training needed for careers in these areas.

Students should gain the breadth of skills, strengths, and understanding to succeed in business, industry, the nonprofit sector, or government work environments while being well grounded with depth of knowledge in a major scientific field. In order to ensure that students will gain an understanding of how knowledge is created through STEM research, each project must develop a hands-on research experience for each of its students. These research experiences must be at the graduate level and should reflect the STEM interests of potential employers in industry, government, or the non-profit sector.

As this solicitation is offered as part of the American Recovery and Reinvestment Act of 2009, timeliness is important. Proposals that demonstrate a readiness to start the new program expeditiously will be given priority. Proposals must demonstrate that the proposed program is ready to award the new Master's degree. Letters from senior administrators will be required to justify that the program has been approved by the various internal and external approval boards and groups prior to an award. A Master's degree currently be in place may be extended to cover the new Science Master's Program.

[http://www.nsf.gov/pubs/2009/nsf09607/nsf09607.htm?WT.mc\\_id=USNSF\\_25#pgm\\_desc\\_txt](http://www.nsf.gov/pubs/2009/nsf09607/nsf09607.htm?WT.mc_id=USNSF_25#pgm_desc_txt)

**Deadline:** *October 5, 2009 (Letter of Intent, required)*  
*November 20, 2009*

## **SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS**

### SOLAR ENERGY INITIATIVE



The purpose of this NSF Solar Energy Initiative is to support potentially catalytic interdisciplinary work by groups of researchers to address the scientific challenges of efficient harvesting, conversion, and storage of solar energy. The intent is to encourage new collaborations in which the mathematical sciences are linked in a synergistic way with the chemical and materials sciences to develop novel, potentially transformative approaches in an area of much activity but largely incremental advances. Since the chemistry and materials communities have already been working jointly, this initiative aims to bring novel mathematical concepts and approaches as a new and central component to this area. This is a way for the MPS chemistry, materials, and mathematics communities to contribute to the broad national portfolio on energy in a unique approach. In pursuit of this goal, each group must include three or more principal investigators, one of whom must be a researcher in chemistry, a second in materials, and a third in mathematical sciences in areas supported by the NSF Divisions of Chemistry, Materials Research, and Mathematical Sciences, respectively.

Projects supported under this activity must be closely collaborative throughout their course and depend for their advancement on the continuous interaction of scientists from all three research communities. The initiative seeks to catalyze transformative breakthroughs in solar energy research from the activities of groups of researchers working jointly at the frontiers of

the three disciplines to address fundamental, first-principles questions with fresh perspectives and innovative approaches. A successful proposal should advance the frontiers of the three disciplines and lead to new concepts. It should also encourage the integration of interdisciplinary education with the research, e.g. by offering opportunities for interdisciplinary training to the students/postdoctoral fellows involved.

Research funded under this initiative will investigate novel methods for solar energy harvesting and conversion with potential efficiency substantially beyond that of current technology. Proposed work may include the investigation of energy storage mechanisms as integral parts of new techniques for solar energy harvesting and/or conversion.

Consistent with the NSF mission and the priorities of the Directorate for Mathematical and Physical Sciences, the focus of this solicitation is basic research. It is not the intent of this initiative to support work on incremental advances in current technology, on applied engineering approaches, or on variations of PI projects already supported by other sources. This initiative aims to catalyze breakthroughs in the fundamental science underlying solar energy use; distinct sources of support for related engineering challenges are available from other NSF programs.

PIs should ensure that their proposed project does not substantially overlap with ongoing federally-funded research. Proposals submitted in response to this solicitation may be shared with other federal agencies, including (but not limited to) the Department of Energy, National Institutes of Health, Air Force Office of Scientific Research, Office of Naval Research, and the Intelligence Community. Reviews, including panel summaries, if applicable, may also be shared. The reasons for sharing these proposals and reviews include potential co-funding as well as avoiding duplication of federal funding for a particular research project. If the PI or awardee organization do not wish the proposal to be shared with a particular federal agency or agencies, they should provide a Single Copy Document with the proposal stating which federal funding agencies should be excluded. No explanations for exclusion are required.

[http://www.nsf.gov/pubs/2009/nsf09604/nsf09604.htm?govDel=USNSF\\_25](http://www.nsf.gov/pubs/2009/nsf09604/nsf09604.htm?govDel=USNSF_25)

*Deadline, Preliminary Proposal (required): December 08, 2009*

*Deadline, Full Proposal: March 10, 2010*

### RESEARCH AND EVALUATION ON EDUCATION IN SCIENCE AND ENGINEERING

The NSF Division of Research on Learning in Formal and Informal Settings in the Directorate for Education and Human Resources supports basic and applied research and evaluation that enhance science, technology, engineering, and mathematics learning and teaching. The Research and Evaluation on Education in Science and Engineering program aims at advancing research at the frontiers of STEM learning, education, and evaluation, and at providing the foundational knowledge necessary to improve STEM teaching and learning at all educational levels and in all settings. This solicitation calls for three types of proposals--**Knowledge Diffusion**, **Empirical Research**, and **Large Empirical Research**.



The goals of the REESE program are:

1. to catalyze discovery and innovation at the frontiers of STEM learning, education, and evaluation;
2. to stimulate the field to produce high quality and robust research results through the progress of theory, method, and human resources; and
3. to help coordinate and transform advances in education, learning research, and evaluation.

NSF is charged with promoting the vitality of the nation's science, technology, engineering and mathematics research and education enterprises. As part of this mission, the Directorate for Education and Human Resources (EHR) has primary responsibility for providing national and research-based leadership in STEM education. EHR promotes five themes in fulfilling this responsibility through:

1. Broadening participation to improve workforce development;
2. Promoting cyber-enabled learning strategies to enhance STEM education;
3. Enriching the education of STEM teachers;
4. Furthering public understanding of science and advancing STEM literacy; and
5. Promoting learning through research and evaluation.

To address these themes, the Directorate sponsors programs in the following divisions:

- Divisions of Research on Learning in Formal and Informal Settings (DRL),
- Undergraduate Education (DUE),
- Graduate Education (DGE), and
- Human Resource Development (HRD).

[http://www.nsf.gov/pubs/2008/nsf08585/nsf08585.htm#pgm\\_intr\\_txt](http://www.nsf.gov/pubs/2008/nsf08585/nsf08585.htm#pgm_intr_txt)

**Deadline, Letter of Intent: October 09, 2009**

**Deadline, Full Proposal: November 12, 2009**

### CENTERS FOR CHEMICAL INNOVATION



NSF supports funding for the formation and development (Phase I) or sustained funding (Phase II) of research centers that can address major research challenges in fundamental chemistry. Successful centers will tackle challenges of large scope and impact, producing transformative research leading to innovation and enhanced economic competitiveness. CCI awards will bring researchers with shared and complementary interests into productive contact to nurture a culture of risk-taking and innovation.

Team size should reflect the needs of the problem to be studied, but a minimum of three investigators is required to initiate a Phase I CCI. CCIs may partner with researchers, industry, national laboratories and international organizations.

CCIs are expected to integrate their research with activities that broaden the impact of their research. The following integrative elements are required throughout the lifetime of a CCI award:

- Innovation - translation or transfer of basic research results into social or economic benefit; includes intellectual property protection and a proactive plan to either engage industry in technology transfer or to commercialize technology in other ways.
- Education - education and training for undergraduate and graduate students supported by the grant, including co-mentorship or other collaborative training. Other education activities (i.e., new course materials or curricula) that affect the university or universities involved in the CCI.
- Broadening the participation of underrepresented groups - CCI goals for increasing diversity, plans for reaching those goals, and an evaluation strategy.
- Public science outreach - plans for communicating the CCI research to public audiences and possible ways to evaluate the impact of these outreach efforts.
- Management - effective management plans include careful evaluation of the research and integrative elements, allocation of resources, the ability to initiate new lines of research and terminate support for less effective ones, and to promote communication throughout the center and with partners.

Investigators are strongly urged to contact a cognizant Program Officer when considering submitting a proposal.

<http://www.nsf.gov/pubs/2009/nsf09597/nsf09597.htm>

***Deadline, Phase I Preliminary Proposal (required):***

***October 21, 2009***

***Deadline, Phase II Full Proposal:***

***October 21, 2009***

***Deadline, Phase I proposals, by invitation only***

***April 05, 2010***

### ENGINEERING DESIGN AND INNOVATION



This NSF solicitation supports research leading to design theory and to tools and methods that enable implementation of the principles of design theory in the practice of design across the full spectrum of engineered products. The program focus is on gaining an understanding of the basic processes and phenomena underlying a holistic, life-cycle view of design where the total system life-cycle context recognizes the need for advanced understanding of the identification and definition of preferences, analysis of alternatives, effective accommodation of uncertainty in decision-making, and the relationship between data and knowledge in a digitally-supported process. The program funds advances in basic design theory, tools, and software to implement design theory and new design methods that span multiple domains, such as design for the environment and for manufacturability.

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=13340](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13340)

***Full Proposal Window: September 1, 2009 - October 1, 2009***

## RESEARCH EXPERIENCES FOR UNDERGRADUATES



Research experience is one of the most effective avenues for attracting talented undergraduates to, and retaining them in careers in, science and engineering, including careers in teaching and education research. The REU program, through both Sites and Supplements, aims to provide appropriate and valuable educational experiences for undergraduate students through participation in research. REU projects involve students in meaningful ways in ongoing research programs or in research projects specifically designed for the REU program. REU projects feature high-quality interaction of students with faculty and/or other research mentors and access to appropriate facilities and professional development opportunities.

REU opportunities are an excellent way to reach broadly into the student talent pool of our nation. NSF is particularly interested in increasing the numbers of women, underrepresented minorities, and persons with disabilities in research. Historically, the vast majority of REU participants have been junior- or senior-level undergraduates--students who have typically already committed to a major in science or engineering. So that the REU program can succeed in attracting students into science and engineering who might not otherwise consider those majors and careers, projects are also encouraged, when appropriate, to involve students at earlier stages in their college experience--some REU projects effectively engage first-year and second-year undergraduates by developing partnerships with community colleges.

Also in the spirit of increasing the size and diversity of the nation's science and engineering workforce, the new Post-9/11 GI Bill presents an opportunity to recruit veterans who are returning from active duty into educational programs and careers in science and engineering. Some REU Sites may wish to consider this valuable pool of new undergraduates when designing recruitment plans.

REU Site and Supplement projects may be carried out during the summer months, during the academic year, or both. REU Sites may be proposed for durations of one to five years, with a three-year duration being typical in most NSF directorates. The term of REU Supplements may not exceed that of the underlying research project.

REU Sites are based on independent proposals, submitted for an annual deadline date, to initiate and conduct projects that engage a number of undergraduate students in research. Proposals for the establishment of an REU Site may be submitted to any of NSF's directorates, the Office of Polar Programs, and the Office of Cyber Infrastructure. The Office of International Science and Engineering will consider co-funding relevant REU Sites that are primarily managed by other NSF units. Proposers are encouraged to talk with the NSF REU point-of-contact in their disciplinary area (see [http://www.nsf.gov/crssprgm/reu/reu\\_contacts.jsp](http://www.nsf.gov/crssprgm/reu/reu_contacts.jsp)).

<http://www.nsf.gov/pubs/2009/nsf09598/nsf09598.pdf>

**Deadline: October 22, 2009**

### DISCOVERY RESEARCH K-12

This NSF program seeks to enable significant advances in preK-12 student and teacher learning of the STEM disciplines through development, study, and implementation of resources, models, and technologies for use by students, teachers, and policymakers. Projects funded under this solicitation begin with a research question or a hypothesis about how to improve preK-12 STEM learning and teaching. Projects create or adapt and study innovative resources, models, or technologies and determine how and why implementation affects STEM learning.

DR K-12 invites proposals that meet a variety of educational needs, from those that address immediate and pressing challenges facing preK-12 STEM education to those that anticipate opportunities for the future. DR K-12

<http://www.nsf.gov/pubs/2009/nsf09602/nsf09602.pdf>

*Deadline, Preliminary Proposal (optional):*      *October 5, 2009*  
*Deadline, Full Proposal:*                              *January 07, 2010*

## **SOCIAL WORK**

### FOUNDATION FOR CHILD DEVELOPMENT YOUNG SCHOLARS PROGRAM

The goals of the Foundation for Child Development Young Scholars Program are to:

- § Stimulate both basic and policy-relevant research about the early education, health and well-being of children living in immigrant families from birth to age ten, particularly those who are living in low-income families; and
- § Support young investigators--from the behavioral and social sciences or in an allied professional field--who are untenured but in tenure-track positions or who have received tenure in the last four years from a college or university in the United States. No applications from full professors will be accepted.

Eligible researchers will have earned their doctoral degrees within the last 15 years, and be full-time, faculty members of a college or university in the United States. Applicants must hold a Ph.D. or its equivalent in one of the behavioral and social sciences or in an allied professional field (public policy, public health, education, social work, nursing, medicine). Three to four fellowships of up to \$150,000 over one to three years will be awarded competitively.

The FCD Young Scholars Program focuses on understanding the changing faces of the nation's children as reflected in the current demography of the United States. YSP seeks to support a new generation of scholars conducting research on the development of children in immigrant families from birth to age ten, particularly those who are living in low-income families. Given the limited research on young immigrant children, proposals focused on children from birth to age eight are highly encouraged.

The goals of this competitive award program are to:

1. Stimulate both basic and policy-relevant research in this area.
2. Support the career development of young investigators--from the behavioral and social sciences or in an allied professional field--to attain tenure or who have received tenure in the last four years from a college or university in the United States.

Fellowship recipients are expected to produce a book or article(s) suitable for publication and to articulate how their research may potentially inform public policies regarding young newcomer children.

The FCD is particularly interested in research that can inform policies regarding the health and education needs of young newcomer children. Proposals may include research designs for an empirical study, pilot work for a larger scale research project that will seek funding from other public and private funders, or analysis of data previously collected.

Research areas of interest are limited to the following:

1. Factors (individual, familial, cultural, neighborhood) contributing to both positive and negative outcomes for young immigrant children in their communities and schools;
2. Individual and group identity formation among young children from a variety of groups living in different environments;
3. The experiences of newcomer children in early education, kindergarten, and elementary school programs. What characteristics of these programs foster the cognitive, social, and emotional well-being of newcomer children?
4. Language development among immigrant children. What are the influences of different approaches to instruction for English language learners during the early education and elementary school years on educational achievement?
5. Evaluation of the impact of public policies in health and in education that affect the life prospects of newcomer children. What is the impact of policies and practices in health care delivery on child health outcomes?

Special consideration will be given to research involving the following understudied populations and topics:

1. The development, education, and health of young English Language Learners with learning disabilities.
2. The development, education, and health of children living in families with parents who are refugees.
3. The effects of racial/ethnic bias/discrimination on newcomer children's identity development and on other developmental, education, and health outcomes.
4. Reasons for geographic mobility of immigrant children and families, and consequences for the educational achievements, health, and well-being of these children.
5. The effects of deportation or detention of family members on the development, education, health or well-being of children living in immigrant families.

[http://www.fcd-us.org/programs/programs\\_show.htm?doc\\_id=447982](http://www.fcd-us.org/programs/programs_show.htm?doc_id=447982)

**Deadline: November 4, 2009 (receipt)**