



Office of Research and Sponsored Programs Newsletter, September 2010

ANNOUNCEMENTS	3
NEW INDIRECT COST RATE FOR PROPOSALS	3
UPCOMING PROPOSAL-WRITING WORKSHOPS	3
NIH DOWNLOADS AND TRANSCRIPTS	3
NSF HANDBOOK ON INTERNATIONAL REU SITES.....	3
NSF’S NEW GRANT GUIDELINES FOR 2010.....	3
GRANTS.GOV SUBMISSION GUIDELINES	3
ORSP SERVICES FOR PROPOSAL PREPARATION AND SUBMISSION	3
ORSP WEBSITE	4
AUTOMATIC NOTIFICATIONS OF FUNDING OPPORTUNITIES.....	4
ORSP PROGRAM: STUDENT TRAVEL AWARDS.....	4
ORSP PROGRAM: FACULTY TRAVEL AWARDS.....	4
CONGRATULATIONS	5
AWARDS DURING THE PAST MONTH	5
SUBMISSIONS DURING THE PAST MONTH.....	6
FUNDING PROGRAMS	7
BUSINESS/ENTREPRENEURSHIP	7
PARTNERSHIPS FOR INNOVATION.....	7
SMALL BUSINESS TECHNOLOGY TRANSFER PROGRAM	7
SUSTAINABLE VISION GRANTS	8
HEALTH	9
PSYCHOSOCIAL STRESS AND BEHAVIOR: INTEGRATION OF BEHAVIORAL AND PHYSIOLOGICAL PROCESSES.....	9
BIOLOGY OF DEVELOPMENTAL DISABILITIES IN CHILDREN	11
TRANSFORMATIVE RESEARCH PROJECTS PROGRAM.....	11
CHILDHOOD OBESITY	12
DIVERSITY IN HEALTH-RELATED RESEARCH	12
EFFECTS OF THE SOCIAL ENVIRONMENT ON HEALTH	13
IMPROVING ACCESS TO HEALTH CARE GRANTS PROGRAM.....	13
INVESTIGATORS IN THE PATHOGENESIS OF INFECTIOUS DISEASE.....	14
HUMANITIES	15
NEH SCHOLARLY EDITIONS AND TRANSLATIONS	15
ARCHAEOLOGY	15
CULTURAL ANTHROPOLOGY SCHOLARS AWARDS	16
IMPROVING HISTORICAL RECORDS.....	16
PUBLISHING HISTORICAL RECORDS.....	16
SUSTAINING CULTURAL HERITAGE COLLECTIONS	17
INTERDISCIPLINARY	17
INCORPORATION OF TRAVEL TIME RELIABILITY INTO THE HIGHWAY CAPACITY MANUAL	17
CISE CROSS-CUTTING PROGRAMS.....	18
EDUCATION, INNOVATION AND ENTREPRENEURSHIP.....	19
INTERFACE BETWEEN COMPUTER SCIENCE AND ECONOMICS & SOCIAL SCIENCES	19

SOCIAL, BEHAVIORAL AND ECONOMIC SCIENCES	20
BASIC MECHANISMS INFLUENCING BEHAVIORAL MAINTENANCE.....	20
THE EFFECT OF SMART GROWTH POLICIES ON TRAVEL DEMAND.....	21
FUTURE NSF RESEARCH	22
STEM	22
PILOT TESTING THE ECOLOGICAL APPROACHES TO ENVIRONMENTAL PROTECTION DEVELOPED IN CAPACITY RESEARCH PROJECTS	22
COMPUTATIONAL MATHEMATICS.....	24
BREAD: AGRICULTURAL DEVELOPMENT	24
PRESIDENTIAL GREEN CHEMISTRY CHALLENGE AWARDS	25
ALGEBRA, NUMBER THEORY AND COMBINATORICS	25
ASTRONOMY AND ASTROPHYSICS RESEARCH GRANTS	25
BASIC, APPLIED, AND ADVANCED RESEARCH WHITE PAPERS	26
BIOENGINEERING RESEARCH PARTNERSHIPS	26
CHEMICAL CATALYSIS	27
CONFERENCES AND WORKSHOPS: MATHEMATICAL SCIENCES.....	27
EAST ASIA AND PACIFIC SUMMER INSTITUTES FOR U.S. GRADUATE STUDENTS.....	28
ENVIRONMENTAL ENGINEERING	29
GEOGRAPHY AND SPATIAL SCIENCES.....	30
INFORMATION AND INTELLIGENT SYSTEMS: CORE PROGRAMS	30
INSTRUMENT DEVELOPMENT FOR BIOMEDICAL APPLICATIONS	31
PRESIDENTIAL AWARDS SCIENCE, MATHEMATICS AND ENGINEERING MENTORING.....	31
RESEARCH EXPERIENCES FOR TEACHERS IN ENGINEERING	32
RESEARCH AND EVALUATION ON EDUCATION IN SCIENCE AND ENGINEERING	32
RESEARCH TO AID PERSONS WITH DISABILITIES	32
RESEARCH NETWORKS IN THE MATHEMATICAL SCIENCES.....	33
STEM TALENT EXPANSION PROGRAM.....	34
TRANSFORMING UNDERGRADUATE EDUCATION IN STEM.....	35
WENDY SCHMIDT OIL CLEANUP X CHALLENGE	35
WOMEN IN ACADEMIC SCIENCE AND ENGINEERING CAREERS	36
YOUTH STEM EDUCATION	37
FELLOWSHIPS	37
CREATIVE NON-FICTION, LITERARY TRANSLATION, FILM STUDIES, LITERARY STUDIES.....	37
FELLOWSHIPS FOR CREATIVE AND PERFORMING ARTISTS AND WRITERS	37
NSF OCEAN BOTTOM SEISMIC INSTRUMENT POOLS MANAGEMENT OFFICE.....	38

ANNOUNCEMENTS

New Indirect Cost Rate for Proposals

Effective July 1, 2010 and good through June 30, 2012, FGCU's new on-campus indirect cost rate is **52% of Salaries, Wages and Fringe Benefits**. The off-campus rate is now **23.0% of Salaries, Wages and Fringe Benefits**.

Upcoming Proposal-Writing Workshops

If you want to hone your proposal-writing skills, consider these two upcoming workshops:

November 1-5	Jacksonville, FL	<u>Grantsmanship Training Program</u>
November 17-18	Boca Raton, FL	<u>Essential Grant Skills</u>

ORSP will pay up to \$1,000 for faculty to attend but you are required to submit a proposal as a result of the workshop.

NIH Downloads and Transcripts

Free Podcast/itunes downloads and transcripts are available on the following topics:

- Grant Writing for New Investigators
- Considerations for Early Stage Investigators
- Jump Starting Your Research Program for New Faculty Members

http://grants.nih.gov/podcasts/All_About_Grants/index.htm

NSF Handbook on International REU Sites

NSF has published a handbook of best practices for International Research Experiences for Undergraduates. <http://www.nsf.gov/pubs/2006/nsf06204/index.html> takes you right to it.

NSF's New Grant Guidelines for 2010

Follow http://www.nsf.gov/pubs/policydocs/pappguide/nsf10_1/index.jsp to download the PDF of the 2010 grant guidelines. A summary of significant changes is also posted at this site.

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. If you wish to apply for a grant through grants.gov, contact Beth Rieger at brieger@fgcu.edu.

ORSP Services for Proposal Preparation and Submission

ORSP offers a multitude of services to assist you in preparing and submitting grant applications. Please ask us to assist in developing your budget. If we do so, we will complete the proposal's budget forms, thereby saving you much frustration and time. We ensure all the required forms are attached and that your proposal is compliant with the specifications outlined in the RFP/RFA. ORSP needs to receive your completed proposal package three business days (four business days for grants.gov) before the submission deadline. 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.

ORSP Website

We would like to include links to websites associated with the many externally funded projects currently active. Send the URLs to dstremke@fgcu.edu and the link will be added to ORSP's site.

Automatic Notifications of Funding Opportunities

ORSP offers, free of charge, an electronic notification system of just-announced funding opportunities that match your specific interests. Please contact us to create your profile. If you have a profile but the funding opportunities are no longer appropriate, please contact us to help you edit your profile.

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 at: <http://www.fgcu.edu/orsp/internalPrograms.html>

CONGRATULATION\$

Awards During the Past Month

College of Arts & Sciences			
CORCORAN, Peter B.	Rockefeller Philanthropic Collaborative	Earth Charter Scholarship Project	\$10,000.00
COX, John	Florida Department of Education	Commissioner's Task Force on Holocaust Education	\$ 10,000.00
COX, John	ORSP Internal Grant	To Kill a People: Genocide in the 20th Century	\$ 4,396.00
FAUERBACH, Michael	ORSP Internal Grant	Enhancing the Imaging Capabilities of the Egan Observatory	\$4,288.75
FUGATE, David	ORSP Internal Grant	Salt Plug Density Driven Circulation in the Ten Thousand Islands	\$5,000.00
GOGATE, Lakshmi	ORSP Internal Grant	A Developmental Study of Infants' Learning of Verb-Action Relations	\$5,400.00
LAGIER, Michael	ORSP Internal Grant	The Development of Genetic Tools for Characterizing the Virulence Factors	\$5,000.00
MacDONALD, James	ORSP Internal Grant	Mineral Carbon-Dioxide Sequestration Potential	\$5,000.00
MUJTABA, Mustafa	ORSP Internal Grant	Development of a Rapid Detection Dipstick Assay for Enterotoxins	\$5,000.00
PARSONS, Michael Tolley, Greg; Fugate, David; Loh, Ai Ning; Rumbold, Darren; Savarese, Mike; Urakawa, Hideotoshi; Volety, Aswani	US Department of Education	The Impacts of Variable Freshwater Inflow and Sea Level Rise	\$350,000.00
RUMBOLD, Darren	FGCU/ORSP	Marine Science Equipment and Student Support	\$46,000.00
URAKAWA, Hidetoshi	ORSP Internal Grant	Ecological role of microbial community on a nutrient pool in the Caloosahatchee River and Estuary	\$5,000.00
VOLETY, Aswani Rumbold, Darren Wasno, Robert	West Coast Inland Navigation District	Shark Ecology and Environmental Education Program	\$30,240.00
WATANABE, Ken	National Aeronautics and Space Administration	Additional Observations to Search for Unpredicted Gamma-Ray	\$40,000.00
LOH, Ai Ning Denham, Susan Parsons, Michael	National Oceanic and Atmospheric Administration	Is <i>Thalassia testudinum</i> and <i>Halodule wrightii</i> growth light limited in Southwest Florida?	\$20,000.00
Lutgers College of Business			
PEGNETTER, Richard	Alico Corporation	Alico Corporation Endowed Chairs	\$37,000.00
YAZICI, Hulya Julie	ORSP Internal Grant	Assessment of Supply Chain Visibility	\$5,000.00
College of Health Professions			
POLK, Marydelle	Department of Health and Human Services	Advanced Education Nurse Traineeship 2010-11	\$32,224.00
RODGERS, Marianne	FGCU Foundation	Edith Potter Deats Professorship	\$2,100.00
RODGERS, Marianne	FGCU Foundation	Southwest Florida Endowed Nursing Chair	\$14,500.00
VENGLAR, Mollie	ORSP Internal Grant	The Effects of Spinal Mobilization in People with Parkinson's Disease	\$5,000.00
College of Professional Studies			
WALSH-HANEY, Heather	Foundation to Promote Open Society	Femicide in Guatemala	\$22,665.00
BUSSON, Terry Banyan, Margaret	Tindale, Oliver, and Associates	Lee Tran JARC and New Freedom Task	\$5,082.00
Academic Affairs			
HARTKE, Joanne	Florida Institute of Government	FGCU IOG 2010-2011	\$67,500.00
Administrative Services			
MOORE, Chief Steven	Florida Department of Education	FGCU Emergency Notification Enhancements 2010	\$161,500.00

Submissions During the Past Month

College of Arts and Sciences			
ALLMAN, Phillip	FL Institute of Oceanography	Assessing The Potential Impact of Oil Spill on Terrapins	\$150,035.00
BARRETO, Jose Sweeney, James D. Torres, Jorge	Office of Naval Research	Developing decontamination and detection technologies for bio-defense,	\$1,200,000.00
DUKE, L. Donald	FL Institute of Oceanography	Baseline Data, Caps Analysis, and Response Monitoring	\$103,942.00
FUGATE, David	FL Institute of Oceanography	Shiptime Support for FGCU's Marine Science Curriculum	\$3,600.00
GOEBEL, Anna	U.S. Geological Survey	Identifying Patterns of Divergence, Divergence Times	\$99,413.00
GOGATE, Lakshmi	National Science Foundation	Multisensory Underpinnings of Lexical Comprehension	\$669,018.00
ISERN, Sharon Michael, Scott	National Institute of Health	Characterization of a dengue virus entry inhibitory peptide	\$315,374.00
JACKSON, Jerry	FL Institute of Oceanography	Movements and Behavioral Ecology of Birds	\$143,998.00
MEYER, Angela Mon, Manuel J.	FL Space Grant Consortium	The Lunar Phases Project	\$1,053.00
RUMBOLD, Darren Hammerschlag, Neil	University of Miami	Rapid baseline assessment of shark distribution patterns, migration, trophic dynamics & PAH exposure	\$83,458.00
RUMBOLD, Darren Barreto, Jose Loh, Ai Ning Volety, Aswani	FL Institute of Oceanography	Impacts from MC252 Oil on Ecologically Plankton of the Gulf of Mexico	\$350,779.00
MCSHANE, Megan	US Department of State	Institute for Scholars	\$122,288.00
College of Business			
RODRIGUEZ, Walter	San Diego Workforce Partnership Inc.	Military Spouse Career Advancement Account/SDWP	\$59,950.00
RODRIGUEZ, Walter	Economic Development Administration	uC: A New Breed of Ubiquitous Collaboration Tech Enterprise	\$1,000,000.00
College of Education			
ELLIOTT, Elizabeth Vazquez-Montilla, Elia	Special Education Improvement Grants	Preparing Preservice Teachers	\$299,860.00
KOHLER, Susan Hibbard, Susan	National Association for Alternative Certification	After the Immersion	\$1,995.38
College of Health Professions			
CHAPA, Deborah Hunt, Dennis Lupe, Lori	National Institute of Health	CARE	\$296,886.00
RODGERS, Marianne	Everglades Area Health Education	Tobacco Training & Cessation	\$2,700.00
College of Professional Studies			
MESLOH, Charlie	National Institute of Justice	FGCU Law Enforcement And Public Safety	\$200,000.00
SMITH, Howard Banyan, Margaret	Cape Coral Police Department	Take Home Vehicle Program Evaluation	\$5,775.00
Academic Affairs			
ROBERTS, Thomas	U.S. Department of Commerce-National Institute for Standards and Technology	FGCU Innovation Hub (Ihub) Construction	\$11,936,689.00
Administrative Services			
MOORE, Chief Steven	U.S. Department of Justice	FGCU COPS Hiring 2010	\$187,453.00

FUNDING PROGRAM\$ Business/Entrepreneurship

Partnerships for Innovation

One of the general goals of the NSF Partnerships for Innovation Program is to stimulate the transformation of knowledge created by the research and education enterprise into innovations that create new wealth; build strong local, regional, and national economies; and improve the national well-being. Aligned with this goal, the PFI competition for FY 2011 funds will provide support for innovation capacity building to sustained, dynamic interactive knowledge-enhancing partnership groups composed of academic researchers and small business practitioners focused on intense exploration, redefinition, and creation of novel platforms for translating research and moving it towards impact. The basic organizational core of each proposed knowledge-enhancing partnership group must be composed of an academic lead institution and, at a minimum, two small businesses.

The ideal project would consist of exploration, re-definition, and creation of a novel platform--one that can be applied to many markets and problems/opportunities. Partnerships that support areas pertaining to energy, sustainability, or education of next generation entrepreneurs are particularly desirable.

This competition will support 9 to 11 promising partnerships between academic researchers and small business practitioners that engage in the important process of dynamic knowledge enhancement to build capacity to generate and sustain innovation. Partnerships may also include other academic institutions, other private sector organizations (such as large businesses and not-for-profit organizations) and state/local/federal government.

http://www.nsf.gov/pubs/2010/nsf10581/nsf10581.htm?WT.mc_id=USNSF_25&WT.mc_ev=click

Deadline: October 1, 2010 (Letter of Intent)

December 4, 2010 (Full Proposal)

(This program first appeared in the ORSP August Newsletter.)

Small Business Technology Transfer Program

The primary objective of the STTR Program is to increase the incentive and opportunity for small firms to undertake cutting-edge, high risk, high quality scientific, engineering, or science and engineering education research that would have a high potential economic payoff if the research is successful. The STTR program expands the public and private partnership to include collaborative opportunities for small businesses and non-profit research institutions. A team approach is required in an STTR project where at least one research investigator is employed by the small business concern and at least one investigator is employed by a collaborating research institution.

The STTR program solicits proposals from the small business sector consistent with NSF's mission. A main purpose of the legislation is to stimulate technological innovation and increase private sector commercialization. The NSF STTR program is therefore in a unique position to meet both the goals of NSF and the purpose of the STTR legislation by transforming scientific discovery into both social and economic benefit, and by emphasizing private sector commercialization. Accordingly, **NSF has formulated a broad solicitation topic for STTR (Digital Gaming in Education (DGE)).**

Successful proposers will conduct Research and Development (R&D) on projects that:

1. Provide evidence of a commercially viable product, process, device, or system, and

2. Meet an important social or economic need.

Projects should have the following:

- High potential commercial payback, and
- High-risk efforts.

Projects may also address:

- Research tools which meet significant commercial market needs, or,
- Applications that result in multipurpose commercially viable functions.

For more in-depth program information please reference the following web site:

http://www.nsf.gov/eng/iip/sbir/program_reqs.jsp.

Deadline: November 17, 2010

(This program first appeared in the ORSP August Newsletter.)

Sustainable Vision Grants

National Collegiate Inventors and Innovators Alliance funds transformational education programs where breakthrough technologies are created and commercialized for the benefit of people living in poverty in the US and abroad. Focus areas include, but are not limited to, health, clean air and water, energy, nutrition, and shelter. The grants support enrichment and deepening of ongoing programs by building and strengthening interpersonal and inter-institutional networks, and by creating new initiatives within existing programs.

Successful Sustainable Vision proposals meet the following criteria:

- *Technology*: market-driven affordable technology innovations that meet basic human needs (such as medical devices, mobile phone software for income generation, energy alternatives, etc.)
- *Entrepreneurship*: economically sustainable business model(s) with proven customer and market needs instead of a philanthropic or aid model
- *Commercial potential*: programs that lead to the creation of economically sustainable social ventures (for profit and/or non-profit) with a business model that includes manufacturing, marketing, distribution, and repair (as applicable)
- *Education*: experiential curricula with measureable objectives and an emphasis on multidisciplinary teams (engineering, science, technology, social science, business, etc.)
- *Partners*: to support the project from the nonprofit, for profit and/or government sectors, including collaboration with customers
- *Replicable and sustainable*: models that can be replicated and programs that continue after the grant period ends
- *Impact* includes potential for:
 - widespread adoption across communities, regions, and/or nations, and potential for an impact on a global scale
 - affecting a significant number of people and having a real and measurable impact on the problem being addressed
 - improving the quality of life for people living in poverty
 - positive (or neutral) environmental impact

Sustainable Vision grant recipients are required to attend a summit-style workshop in March at the NCIIA Annual Conference where they will share their work, learn about periodic program evaluation and follow-through, and define/refine an evaluation plan and developing, documenting, and disseminating transferable models. They are also required to participate in an Advanced Invention to Venture workshop (or provide explanation of an equivalent experience) in order to develop a solid commercialization strategy. Workshops are held around the country

throughout the year. A small pool of scholarships are available for (NCIIA) funded teams without adequate travel funds.

Sustainable Vision grants support programs that apply technology entrepreneurship to address poverty and environmental degradation, and/or meet basic human needs such as clean air and water, nutrition, health care, and shelter. Preferred proposals address the proposal criteria and:

- Follow a collaborative and entrepreneurial, rather than an aid or donation model
- Generate entrepreneurial opportunities and define an economically sustainable business model
- Build upon existing relationships (e.g., historic collaborative or exchange programs between the applicant institution and an institution overseas)
- Establish measurable educational objectives
- Plan to engage beneficiaries of new technologies in their design and development
- Demonstrate sustainability after the end of the grant period
- Include documentation of market potential
- Examine environmental and social outcomes
- Apply technological innovation or innovative use of resources
- Show potential global impact
- Address the needs of people living in poverty

All proposals must be submitted to the NCIIA online. ORSP will submit the proposal. Please contact Beth Rieger at ext. 7027 for details. Award amounts are \$10,000 to \$50,000, and the grant period is one to three years

<http://nciia.org/grants/sustainablevision>

Deadline: October 15, 2010

(This program first appeared in the ORSP August Newsletter.)

HEALTH

Psychosocial Stress and Behavior: Integration of Behavioral and Physiological Processes

This initiative aims to encourage studies seeking to elucidate the processes linking adverse psychosocial stressors and unhealthy behaviors, using comprehensive measures of psychosocial stress. Psychosocial stressors have widespread consequences on both behavior and physiological function. Yet the health consequences of stressors are variable due in part to the vulnerability/resilience of individuals to stress, and in part to whether the behavioral responses are adaptive or dysfunctional. While some aspects of the impact of stress have been well recognized, significant gaps exist in our understanding of the mechanisms by which stress can alter behaviors and thereby impact health and disease. Recent advances in both biological technologies and behavioral analysis now permit the possibility of connecting the behavioral response to the biological mechanisms underlying them. Insight into genetic and epigenetic variability and a greater understanding of the individual's resources will identify the vulnerability and resilience processes which determine behavioral consequences of stress.

Studies assessing functional connectivity during experimental stress exposure combined with brain-behavior studies (e.g., assessment of cognitive tasks, emotion regulation, etc.) during stress can identify neural circuits that impact domains of function and connect cognitive processing (e.g., information processing, appraisal, etc.) with behavioral reaction and emotional response. Epigenetic modifications can connect the long-term adaptation to adverse

early life experiences and traumatic events to prolonged behavioral and biological response. The underlying mechanisms linking genetic models of quantitative neurobiological traits and cognitive function with behavior should be determined in a variety of settings. Behavioral processes related to psychosocial stress can be tested in a variety of model systems. Recent advances in technology and behavioral analysis may now permit significant advances in our understanding of the behavioral changes during and following stress. Critical issues related to stress vulnerability/resilience and other key individual differences can now be addressed.

This initiative targets specific objectives essential for filling knowledge gaps in the underlying processes and mechanisms linking psychosocial stress with behavioral changes, including an understanding of mechanisms of individual vulnerabilities and resilience, are needed. For example, studies are needed to develop robust behavioral phenotyping paradigms that can be used at various developmental phases and across species to identify the processes by which different organisms the behavioral response to stressors at different life stages or during particularly vulnerable periods. Such paradigms would include examination of moderating factors such as individual biological and psychological differences, sex/gender and age differences, risk factors, environmental toxicants and social environments. Such studies will lead to a more process- and mechanistically-focused understanding of how psychosocial stress leads to health-relevant outcomes, and the impact of individual vulnerabilities and resilience to these effects.

Any population, including clinical populations or model organisms, could potentially be the focus of a study of basic mechanisms and processes involved in stress-behavior linkages. However, the population should be appropriate to the research question and design, and the hypotheses under investigation should not be restricted to a single disease or condition. The population and hypotheses selected must be able to shed light on basic processes linking psychosocial stress and behavior. Applications employing animal models should clearly define the relevance of the model used to the stress-behavior linkages being targeted and understanding human disease processes.

Appropriate topics that are relevant to this FOA include, but are not limited to those listed below:

- Investigations of the underlying behavioral processes, including how they may be influenced by neural, cognitive, affective, social and environmental (including toxicants) factors, involved in the transduction of psychosocial stressors to health-related outcomes.
- Studies of the bi-directional mechanisms linking psychosocial stressors and behaviors in specific social contexts, mood states, natural and the built environment, environmental justice, and influenced by individual differences, in humans and model systems.
- Identification of the process by which exposure to psychosocial stressors during vulnerable periods of life confer risk or resilience in the trajectory of adverse cognitive, affective and social behaviors, and associated peripheral physiology, as well as the differential impact by sex/gender, age, and ethnicity.
- Identification and validation of novel model systems to facilitate ecologically valid studies of stress-behavior connections of relevance to human health and disease.
- Improved understanding of how psychosocial stressors exert their effects through one or more behavioral pathways, e.g., through a common dysregulation at the neurobiological level
- Investigations of how behavioral coping can improve understanding of cognition/stress interactions and the development of disease.

- Identify interactions between genes, endophenotypes, and environment (including toxicants) to identify behavioral processes and outcomes associated with the cumulative effects of chronic psychosocial stressors.
- Elucidate neural networks and mechanisms underlying how cognition, motivation, and affect interact with psychosocial stressors at the molecular, cellular, and systems level and investigate how these processes influence stress-related behaviors.

<http://grants.nih.gov/grants/guide/rfa-files/RFA-HL-11-033.html>

Deadlines: *September 14, 2010 (Letters of Intent)*
October 14, 2010 (Full Proposal)

Biology Of Developmental Disabilities In Children

The John Merck Scholars Program has in the past funded and will continue to fund the most promising young researchers whose work illuminates neurodevelopmental disorders from the perspectives of (i) synapse formation and synaptic plasticity; (ii) learning and memory, and synaptic plasticity; (iii) perception, cognition and behavior; (iv) neurogenesis and pattern formation; and (v) genetics and early development. We also encourage proposals that (i) investigate the possible role of environmental chemicals in the origins of developmental disabilities, or that (ii) aim to distinguish subgroups within accepted diagnostic categories through the use of sophisticated behavioral and neuroimaging tests of perception, cognition, and emotions based on concepts from modern cognitive neuroscience. In all cases, we seek proposals from young scientists conducting research that is of the highest quality and that has the greatest chance of increasing our understanding of neurodevelopmental disorders.

http://www.jmfund.org/jm_scholars_program.php

Deadline: *September 30, 2010.*

Transformative Research Projects Program

NIH invites Transformative Research Project Grant applications from institutions proposing groundbreaking, exceptionally innovative, high risk, original and/or unconventional research with the potential to create new scientific paradigms or challenge existing ones. Projects must clearly demonstrate potential to produce a major impact in a broad area of biomedical or behavioral research.

The goal is to provide support for collaborative investigative teams or individual scientists who propose transformative approaches to major contemporary challenges in biomedical or behavioral science. To be considered transformative, projects must have the potential to create or overturn fundamental scientific paradigms through the use of new and novel approaches or to lead to major improvements in health through the development of highly innovative therapies, diagnostic tools, or preventive strategies. Successful projects are expected to have a major impact in a broad area of biomedical or behavioral research. Consistent with this highly transformative focus, proposals will reflect ideas substantially different from mainstream concepts being pursued in the investigators' laboratory or elsewhere.

Multidisciplinary or interdisciplinary teams attacking major issues or large intractable problems in any area of biomedical science are particularly encouraged to apply.

Deadline: *September 27, 2010 (Letter of Intent)*
October 27, 2010 (Full Proposal)

Childhood Obesity

Healthy Eating Research, a national program of the Robert Wood Johnson Foundation, supports studies to identify and evaluate policies and environmental approaches that have the greatest potential to improve children's diets and energy balance to reverse the nation's levels of childhood obesity. *Healthy Eating Research* issues CFPs to solicit scientifically rigorous, solution-oriented proposals from investigators representing diverse disciplines and backgrounds. The program's overall aims are to identify strategies likely to have important population-level impacts and to provide decision- and policy-makers with evidence to guide and accelerate effective action to reverse the childhood obesity epidemic.

The three types of funding opportunities included in this CFP are Round 5 grants, rapid-response grants and *New Connections* grants through *Healthy Eating Research*. All applicants are encouraged to visit the web site at www.healthyeatingresearch.org and view the abstracts for studies previously funded through the program. The Web site also has other pertinent applicant resources, such as examples of studies, a bibliography related to the research topics, syntheses of research recommendations from the Institute of Medicine and other authoritative groups, examples of nationally representative data sources, key reports, and research briefs and syntheses.

http://www.rwjf.org/files/applications/cfp/cfp_HER2010.pdf

Deadlines: March 15–September 1, 2010—Concept papers may be submitted

(This program first appeared in the ORSP April Newsletter.)

Diversity in Health-Related Research

The NIH recognizes a unique and compelling need to promote diversity in the biomedical, behavioral, clinical and social sciences research workforce. The NIH expects efforts to diversify the workforce to lead to the recruitment of the most talented researchers from all groups; to improve the quality of the educational and training environment; to balance and broaden the perspective in setting research priorities; to improve the ability to recruit subjects from diverse backgrounds into clinical research protocols; and to improve the Nation's capacity to address and eliminate health disparities. This FOA issued by the National Heart, Lung, and Blood Institute, National Institutes of Health, solicits Research Education (R25) applications from institutions/organizations to promote diversity in undergraduate and health professional student populations by providing short-term research education support to stimulate career development in cardiovascular, pulmonary, and hematologic diseases research.

The total project period for an application submitted in response to this funding opportunity may not exceed 5 years. Although the size of award may vary with the scope of the research education program proposed, it is expected that applications will stay within the following budgetary guidelines: the maximum total direct costs should not exceed \$311,088.

The applicant institution must have a strong research program in the area(s) proposed for research training and must have the requisite staff and facilities to carry out the proposed program.

This is a limited submission proposal. Please send an e-mail outlining your intentions to Donaa Stremke in ORSP, dstremke@fgcu.edu. If multiple faculty desire to submit proposals, an internal review will be scheduled.

<http://apps.research.ufl.edu/research/fyi/article.cfm?id=22215>

Deadline: October 1, 2010.

(This program first appeared in the ORSP August Newsletter.)

Effects of the Social Environment on Health

NIH solicits Research Project Grant applications from institutions that propose to investigate structural, behavioral, sociocultural, environmental, cognitive, emotional, and/or biological mechanisms through which the social environment affects health outcomes.

To address this objective, applicants should propose research studies that will:

1. deepen our understanding of which aspects of social environments affect health outcomes for women and men at different stages of the lifecourse and in different social, economic, geographic, racial and ethnic sub-populations;
2. lead to a clearer understanding of mechanisms through which social environments have such effects; or
3. improve measurement methods and/or contribute to advances in analytic methods used in the study of social environments and health.

Components of the social environments may include (and are not limited by): policies and regulations; institutional characteristics of schools, workplace, prisons, etc.; neighborhood and community physical and social features; social networks; social norms, climate and culture (including those that reflect gender differences); residential/living arrangements; labor, financial or drug markets; and systems delivery components for health care or education. In addition, the health outcomes used may include (and are not limited by) positive health behaviors or behavioral risk factors and clinical events or disease outcomes.

Examples of research questions that fall within the scope of this FOA include the following:

- How do social environments influence health across the lifecourse?
- How do social structures (e.g., public policies, neighborhood built environment, etc.) improve or protect health?
- What intermediate structural characteristics of macro-level social environments serve as conduits to effect health outcomes?
- To what extent do the characteristics of the social environment interact with biological/physiological pathways in women and men to influence health outcomes or health-related behaviors?

Awardees will be invited to two investigators' meetings to facilitate collaboration, exchanges, and potential intervention research during the initiative's implementation.

<http://grants.nih.gov/grants/guide/rfa-files/RFA-DA-11-003.html>

Deadlines December 6, 2010 (Letters of Intent)

January 6, 2011 (Full application)

(This program first appeared in the ORSP August Newsletter.)

Improving Access to Health Care Grants Program

The Blue Foundation for a Healthy Florida, Inc. accepts applications for the Improving Access to Health Care grants program during two proposal cycles in the summer and winter. Grants are strategically awarded to diverse, philanthropic, community-based solutions that:

- Improve program capacity and reduce barriers to access;
- Nurture community health leadership to reinforce local solutions, foster innovation and sustain quality;
- Leverage financial, human and other resources to maximize measurable impact.
- IMPACT Health Care grants are rich in diversity, from mobile clinics to provide health care to children, to training physicians on women's heart disease symptoms, to improving

the lives of Hispanics with diabetes. These grants educate, train and improve the lives of individuals and families throughout Florida.

- The current focus for the IMPACT Health Care grants program is on community-based health clinics and outreach programs.
- Within the community health clinic arena, the Blue Foundation prefers to focus funding on:
 - Philanthropic, innovative approaches to health care education, awareness and training programs, especially those that have a grassroots or community outreach component;
 - Demonstration and/or research projects that attempt to find a new way to deliver health care or to increase access to health care services for the uninsured and underserved;
 - Projects that use innovative techniques or use collaborative methods to address a specific problem in a geographic area or target population.

The Blue Foundation will consider funding for:

- Direct health care services, but must not serve as a replacement for insurance reimbursements or as a supplement to insurance reimbursements from Blue Cross and Blue Shield of Florida.
- General operating support alone or capital campaigns, but this is not a priority area.
- Equipment and supply purchases within proposals.

Requests will generally be considered for proposals of all sizes from \$10,000 up to \$100,000. Multi-year commitments up to three years may be made, depending upon the request, the need, and the funds available, but the total dollar request should not exceed \$100,000. Indirect Costs are not allowed.

<http://apps.research.ufl.edu/research/fyi/article.cfm?id=22266>

Deadline: September 10, 2010

(This program first appeared in the ORSP August Newsletter.)

Investigators in the Pathogenesis of Infectious Disease

The Investigators in the Pathogenesis of Infectious Disease program provides opportunities for assistant professors to bring multidisciplinary approaches to the study of human infectious diseases. This award provides \$500,000 over a period of five years (\$100,000 per year).

The goal of the program is to provide opportunities for accomplished investigators still early in their careers to study the pathogenesis of infectious disease at its most fundamental level—the points where human and microbial systems connect. The program supports research that sheds light on the fundamentals that affect the outcomes of this encounter: how colonization, infection, commensalism and other relationships play out at levels ranging from molecular interactions to systemic ones. BWF is particularly interested in work focused on the host, as well as host-pathogen studies originating in viral, bacterial, fungal, or parasite systems. Studies supported by the program may have their roots in the pathogen, but the focus of the work should be on the interplay of host and microbe.

While work on AIDS, malaria, tuberculosis, and microbes of interest for biodefense is allowed, the program emphasizes research that opens up unexplored areas of pathogenesis. Research on under-studied infectious diseases, including pathogenic fungi, protozoan and metazoan diseases, and emerging infections is especially of interest. In addition, excellent animal models of human disease, including work done in veterinary research settings, are within the program's scope. Interdisciplinary approaches are encouraged.

Awards are intended to give recipients the freedom and flexibility to pursue high-risk projects and new avenues of inquiry that have the potential to significantly advance the understanding of how microbes and the human system interact, especially in the context of infection. Biochemical, pharmacological, molecular, genetic, immunologic, and other approaches are all appropriate for support by the program. Areas of particular interest include:

- Cell/Pathogen interaction
- Host/Pathogen interactions
- Novel routes to disease causation

Approaches that fit into these frameworks might include the study of host susceptibility to particular pathogens, host resistance to chronic or acute disease, or basic studies of infectious microbes—as long as the work is oriented toward understanding how the organism interacts with the host. Virulence factors, immune mechanisms, and genetic studies in microbes and the host all provide fertile ground for this kind of study. Work on AIDS, malaria, tuberculosis, and organisms of interest for biodefense may be submitted, but nominating institutions should note that research on under-funded and under-studied organisms is especially of interest: proposed work in well-funded systems may be viewed as less relevant to the program's goals.

<http://www.bwfund.org/pages/105/Investigators-in-the-Pathogenesis-of-Infectious-Disease/>

Deadline: November 1, 2010

(This program first appeared in the ORSP August Newsletter.)

HUMANITIES

NEH Scholarly Editions and Translations

Scholarly Editions and Translations grants support the preparation of editions and translations of pre-existing texts and documents that are currently inaccessible or available in inadequate editions. These grants support full-time or part-time activities for periods of at least one year up to a maximum of three years.

Projects must be undertaken by a team of at least one editor or translator and one other staff member. Grants typically support editions and translations of significant literary, philosophical, and historical materials, but other types of work, such as musical notation, are also eligible.

Applicants should demonstrate familiarity with the best practices recommended by the [Association for Documentary Editing](#) or the [Modern Language Association Committee on Scholarly Editions](#). Translation projects should also explain the approach adopted for the particular work to be translated. Editions and translations produced with NEH support contain scholarly and critical apparatus appropriate to the subject matter and format of the edition. This usually means introductions and annotations that provide essential information about the form, transmission, and historical and intellectual context of the texts and documents involved.

Proposals for editions of foreign language materials in the original language are eligible for funding, as well as proposals for editions of translated materials.

<http://www.neh.gov/grants/guidelines/editions.html>

Deadlines: October 28, 2010

Archaeology

The NSF Archaeology Program provides support for anthropologically relevant archaeological research at both a "senior" and doctoral dissertation level. It also funds anthropologically significant archaeometric research. High risk exploratory research proposals are accepted for

consideration and a description of these competitions is provided in the Archaeology Program Overview. For more information about the Crosscutting Research and Training Opportunities, please visit the [Cross-Directorate Activities](#) webpage. Here, you will find a brief synopsis about each program, as well as links guiding you to the appropriate Program Solicitations.

For more information on the Doctoral Dissertation Improvement Grants please visit the [Archaeology specific page](#).

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=11690&org=NSF&sel_org=NSF&from=fund

December 1, 2010

Archaeometry

December 1, Annually Thereafter

December 1, 2010

Archaeology - Senior Research

December 1, Annually Thereafter

Cultural Anthropology Scholars Awards

The National Science Foundation announces an opportunity for methodological training by cultural anthropologists who are active researchers. The purpose is to help cultural anthropologists upgrade their methodological skills by learning a specific analytical technique which will improve their research abilities.

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5321&govDel=USNSF_39

Deadlines: January 16, 2011

(This program first appeared in the ORSP August Newsletter.)

Improving Historical Records

NHPRR seeks proposals to develop new strategies and tools that can improve the preservation, public discovery, or use of historical records. Projects may also focus on techniques and tools that will improve the professional performance and effectiveness of those who work with such records, such as archivists, documentary editors, and records managers. Projects must anticipate results that will affect more than a single institution or a single state. A grant normally is for 1-3 years. The Commission expects to make 1-3 grants of between \$50K - \$150K. Cost sharing is required. The Commission provides no more than 75% of total project costs.

<http://www.archives.gov/nhprc/announcement/strategies.html>

Deadline: October 7, 2010

(This program first appeared in the ORSP January Newsletter.)

Publishing Historical Records

NHPRR seeks proposals to publish historical records of national significance. Projects may focus on the papers of major figures from American life or cover broad historical movements in politics, military, business, social reform, the arts, and other aspects of the national experience. The historical value of the records and their expected usefulness to broad audiences must justify the costs of the project. Grants are awarded for collecting, describing, preserving, compiling, editing, and publishing documentary source materials. The NHPRC does *not* fund proposals to purchase historical records or proposals to publish the papers of anyone who has been deceased for fewer than 10 years.

Applicants may apply for funding up to three years. Applicants should be aware that the Commission normally awards grants on an annual basis; subsequent funding is conditioned on previous years' project performance. Award amounts ordinarily range from \$20K to \$250K annually. Cost sharing is required.

<http://www.archives.gov/nhprc/announcement/publishing.html>

Deadline: October 7, 2010, (New Republic through the Modern Era)

(This program first appeared in the ORSP January Newsletter.)

Sustaining Cultural Heritage Collections

NEH Sustaining Cultural Heritage Collections helps cultural institutions meet the complex challenge of preserving large and diverse holdings of humanities materials for future generations by supporting preventive conservation measures that mitigate deterioration and prolong the useful life of collections. NEH encourages collaborative and interdisciplinary planning, which is important for identifying sustainable strategies. Sustaining Cultural Heritage Collections offers two kinds of awards:

1. **Grants for planning.** To help an institution develop and assess preventive conservation strategies, grants up to \$40,000 will support planning projects, which may encompass such activities as site visits, planning sessions, monitoring, testing, project-specific research, and preliminary designs for implementation projects. Planning grants focused on exploring sustainable preventive conservation strategies are especially encouraged.

It is expected that SCHC planning grants would address complex preservation challenges that require an interdisciplinary team to arrive at possible solutions. Therefore, an applicant for a planning grant must have completed its basic preservation planning and identified its preservation challenges and priorities. Such basic activities as completing general preservation assessments and establishing environmental monitoring programs are eligible for support through NEH's [Preservation Assistance Grants for Smaller Institutions](#) and would not be appropriate as the focus of an SCHC planning grant.

For projects that focus on serving the field by developing new technical standards, best practices, and tools for preserving humanities collections, please see [Preservation and Access Research and Development](#) grants.

2. **Grants for implementation.** To help an institution implement a preventive conservation project, grants of up to \$400,000 are available. Implementation projects should be based on planning that has been specific to the needs of the institution and its collections within the context of its local environment. It is not necessary to receive an NEH planning grant to be eligible for an implementation grant. Planning could be supported by NEH, other federal agencies, private foundations, or an institution's internal funds.

Implementation grants may also cover costs associated with renovation required to implement preventive conservation measures. Because SCHC grants may **not** fund new construction, the costs of installing climate control, security, and fire protection systems in a building under construction are not eligible. However, grants may support the purchase of storage furniture and the rehousing of collections that will be moved into a new building. Applicants may request support for cataloging, documenting, and digitizing collections only when these activities are integral to the proposed project.

<http://www.neh.gov/grants/guidelines/SCHC.html>

Deadline: November 16, 2010

(This program first appeared in the ORSP August Newsletter.)

INTERDISCIPLINARY

Incorporation of Travel Time Reliability into the Highway Capacity Manual

The Highway Capacity Manual (HCM) historically has been among the most important reference guides used by transportation professionals seeking a systematic basis for evaluating the capacity, level of service, and performance measures for elements of the surface transportation system, particularly highways but also other modes. The HCM is useful for planning,

design, preliminary engineering, and operations analysis. The HCM provides analytic concepts for characterizing traffic flow, capacity, and quality and level-of-service. It also provides guidance on analyzing facilities, segments, and points for uninterrupted flow such as freeways and multilane highways and for interrupted flow such as urban streets, signalized intersections and two-way stop controlled intersections.

The objective of this project is to determine how data and information on the impacts of differing causes of nonrecurrent congestion (incidents, weather, work zones, special events, etc.) in the context of highway capacity can be incorporated into the performance measure estimation procedures contained in the HCM. The methodologies contained in the HCM for predicting delay, speed, queuing, and other performance measures for alternative highway designs are not currently sensitive to traffic management techniques and other operation/design measures for reducing nonrecurrent congestion. A further objective is to develop methodologies to predict travel time reliability on selected types of facilities and within corridors, specifically:

- Develop travel time reliability as a performance measure in the HCM for freeway facilities
- Develop travel time reliability as a performance measure in the HCM for urban street facilities
- Address freeway and urban streets in a corridor context.

These procedures should inform planning, preliminary engineering, design, and systems operations and management.

<http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=2197>

Deadline: September 27, 2010

CISE Cross-Cutting Programs

This solicitation seeks proposals in areas that are scientifically timely, and that benefit from the intellectual contributions of researchers with expertise in a number of computing fields and/or sub-fields. The cross-cutting programs for FY 2011 are:

- Network Science and Engineering;
- Smart Health and Wellbeing; and
- Trustworthy Computing.

For Smart Health and Wellbeing and Trustworthy Computing, proposers are invited to submit proposals in three project classes, which are defined as follows:

- **Small Projects:** up to \$500,000 total budget with durations up to three years;
- **Medium Projects:** \$500,001 to \$1,200,000 total budget with durations up to four years;
- **Large Projects:** \$1,200,001 to \$3,000,000 total budget with durations up to five years.

Network Science and Engineering proposals may be submitted only in the Medium and Large classes.

CISE investments in Small, Medium and Large projects complement the directorate's investments in the Expeditions in Computing program,

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503169&org=CISE&from=home, where projects are funded at levels of up to \$10,000,000 total for durations up to 5 years.

http://www.nsf.gov/pubs/2010/nsf10575/nsf10575.htm?WT.mc_id=USNSF_25&WT.mc_ev=click

Deadlines: September 01, 2010 - September 15, 2010 (MEDIUM Projects)

November 01, 2010 - November 28, 2010 (LARGE Projects)

December 01, 2010 - December 17, 2010 (SMALL projects)

(This program first appeared in the ORSP August Newsletter.)

Education, Innovation and Entrepreneurship

NCIIA Course and Program grants are awarded to strengthen existing curricular programs or build new courses and programs in invention, innovation, and technology entrepreneurship, with an increasing emphasis on environmental and social entrepreneurship. Successful proposals present creative pedagogical approaches that generate and deploy student E-Teams, bringing real-life applications into the classroom setting and beyond. An E-Team is a multidisciplinary group of faculty, students, and industry mentors working together to bring a product or technology to market. The "E" stands for excellence and entrepreneurship. Award amounts are \$2,000 to \$50,000, and the grant period is one to three years.

<http://nciia.org/grants/courseandprogram>

Deadlines: December 3, 2010; May 6, 2011

(This program first appeared in the ORSP August Newsletter.)

Interface between Computer Science and Economics & Social Sciences

The histories and intellectual approaches of social and economic science and computer science have been strongly influenced by the crosscurrents among them. Worst-case computational complexity analysis, so prevalent in computer science, is a form of game-theoretic analysis--perhaps not surprising considering that one of the founders of game theory, John von Neumann, was also a pioneering figure in computer science. Game theory is widely used in social and economic science. Social and economic scientists use concepts that are linked to computer science. For example, decision scientists and economists consider the *bounded rationality* of individuals making economic decisions; one aspect of bounded rationality is that economic agents may be limited by their "*computational*" resources, for example in evaluating complicated strategic situations.

The ubiquity of socio-technical networks has led to new, more intimate ties between these two fields. New kinds of interactions and transactions have been enabled by such networks. Key features of these new transactions include:

- parties who do not know or trust each other
- parties represented by software agents
- real-time adaptation, decision making, and chain reactions by agents

Designing decision mechanisms that can govern these increasingly important types of transactions in ways that meet criteria such as fairness, revenue maximization, or efficient resource use is a challenge that requires the expertise of both social and economic scientists and computer scientists.

Internet traffic (as also physical traffic on our road networks), email, the use of network bandwidth, the allocation of computing resources to competing processes, etc., may be managed using economic and social choice mechanisms to achieve better utilization and reduction of the nuisance and harm caused by intruders and spammers. Good incentive mechanisms are also needed to mediate the interactions among infrastructure providers, service providers, and clients for computing and communication infrastructure. Mechanisms are also important in driving multi-agent software systems towards socially desirable goals. These questions may require a new understanding of simultaneous collaboration and competition among economic agents.

Computational thinking has the potential to change the types of questions considered by social and economic scientists. For example, Nash (and other) equilibria lie at the heart of theories about the behavior of economic agents. Computational thinking can help characterize the range and robustness of possible equilibria and markets for which the computation of equilibria

is intractable. Theories of strategic learning by computational agents, studied both in economics and computer science, can shed light on the dynamics of how agents arrive at equilibria. Theories of the spread of contagion or gossip in networks can help explain and contain the chain reactions that can arise. Social/behavioral/economic and computer scientists can jointly study the dynamic functioning and evolution of social and economic networks with mutual benefit to both fields of study. Some important examples of such systems are recommender systems, voting systems, and reputation management systems.

This program seeks innovative research at this interdisciplinary boundary, including both projects that use computational thinking for economic and social decision problems and/or ideas from economics and other social sciences for computing and communication systems and multi-agents systems. Computational economics research involving simulation and modeling of economic systems is not appropriate for this program.

Illustrative examples of the kinds of research this program seeks to support can be found at:

http://www.nsf.gov/cise/ccf/ices_pgm.jsp

Deadline: October 05, 2010

(This program first appeared in the ORSP August Newsletter.)

SOCIAL, BEHAVIORAL AND ECONOMIC SCIENCES

Basic Mechanisms Influencing Behavioral Maintenance

This NIH Funding Opportunity Announcement solicits research applications examining basic mechanisms of behavioral maintenance. The intent of this FOA is to advance research on basic processes and mechanisms involved in sustaining learned behavior over time and in the context of dynamic environmental influences and changing psychological and biological states. Maintenance of health behavior change is a critical problem in applied clinical research, and innovative strategies to address this problem require a better understanding of basic processes and mechanisms involved in long-term behavior maintenance. This FOA requests applications that will improve our understanding of how newly learned, effortful, and goal-directed behaviors transition to less effortful, automatic, and essentially non-goal-directed behaviors that are more easily maintained over time. A range of possible processes and mechanisms (e.g., neurobiological, cognitive, and environmental) may be proposed for study, and applicants are encouraged to study multiple mechanisms and their potential interactions. Regardless of mechanisms or processes of interest, however, applications should test how these mechanisms and processes facilitate or impede the transition from newly learned, effortful, and goal-directed behaviors to less effortful, automatic, and essentially non-goal-directed behaviors (i.e., transition to habitually maintained behaviors). A wide array of research applications are potentially appropriate under this FOA, ranging from animal neurobehavioral models to human learning studies of social and environmental influences that facilitate or impede the transition to habitually maintained behaviors.

Although the basic behavioral research proposed in response to this FOA eventually may have implications for the development of new and innovative strategies to promote maintenance of healthy behaviors in applied or clinical settings, the proposed research should not itself be applied or clinical in nature. Instead, it should lay the basic behavioral and social science groundwork that in the future could be translated to applied or clinical interventions to facilitate the maintenance of healthy behaviors. Proposed research can utilize human participants involved in a behavior change process, but the focus of any such research should be on

the basic mechanisms that influence the transition to habitually maintained behaviors. Therefore, although the ultimate metric for success of this FOA is that the funded research results in promising new directions for the development of novel approaches to sustain healthy behavior change, the research proposed in response to this FOA must examine the basic processes and mechanisms responsible for the transition to habitually maintained behaviors.

<http://grants.nih.gov/grants/guide/rfa-files/RFA-HL-11-035.html>

Deadline: September 14, 2010 Letters of Intent
October 14, 2010 Full Proposal

The Effect of Smart Growth Policies on Travel Demand

Smart growth has been promoted since the 1970s as an alternative to urban sprawl, traffic congestion, disconnected neighborhoods, and urban decay. While there is no single definition of smart growth, this approach to urban planning values long-range regional considerations of sustainability over a short-term focus. Its goals include compact, transit-oriented, bicycle- and pedestrian-friendly land use, including complete streets, mixed-use development, and a range of transportation and housing options.

There is no question that smart growth strategies can create desirable urban places and they have been shown to reduce auto trips per day for some households. However, for smart growth to be a component of regional congestion relief, transportation planners need to know what kinds and how much is needed, in which types of urban and suburban environments it can be successful, and the necessary connectivity characteristics to achieve benefits. By and large there is adequate off-peak highway capacity in most cities. However, if the number of auto trips is reduced during off-peak hours it may help air quality and energy consumption, but it does not help the peak period congestion problem. Similarly, a compact mixed-use development in a city that can support a subway or light rail system may have very different trip-reduction characteristics than the same style of development in a smaller city. The question for many metropolitan planning organizations and state departments of transportation is how to evaluate the impact of existing or planned smart growth developments on peak period travel demand and then use that information to make better decisions about regional capacity.

The objectives of project C16 are to: (1) Identify where and how smart growth policies and practices should be addressed at key decision points in the transportation planning process to make better decisions about highway capacity requirements; (2) develop analytical tools that transportation planners can use to quantify the short- and long-term impacts of various smart growth scenarios on peak period travel demand; (3) provide practical guidance and resources to help MPOs and state DOTs use information on the reduction of peak period auto use resulting from existing and planned smart growth developments to relieve regional congestion; (4) provide transportation agencies with advice on how to get the right land use decision makers and stakeholders with the right information involved in the transportation planning process at the right time; and (5) tightly integrate tools and information produced for this project into the web-based *Transportation for Communities: Advancing Projects through Partnerships (TCAPP)* transportation capacity Decision Guide.

<http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=2355>

Deadline: September 27, 2010

Future NSF Research

This NSF request is part of a process that will help NSF/SBE make plans to support future research. Other activities will include a report by the Directorate's Advisory Committee about the grand challenges facing the SBE sciences over the next decade and recommendations from the Directorate's staff. The insights resulting from this process are threefold: They will inform the substance of future research, the capacities to pursue that research, and the infrastructure to enable investigations that will be increasingly interdisciplinary and international and will involve multiple perspectives and intellectual frameworks, differing scales and contexts, and diverse approaches and methodologies.

As a first step in engaging its community, NSF/SBE invites individuals and groups to contribute white papers outlining grand challenge questions that are both foundational and transformative. They are foundational in the sense that they reflect deep issues that engage fundamental assumptions behind disciplinary research traditions and are transformative because they seek to leverage current findings to unlock a new cycle of research. We expect these white papers to advance SBE's mission to study human characteristics and human behaviors in its Social and Economic Sciences and Behavioral and Cognitive Sciences divisions, as well as to be the nation's resource for understanding the structure and development of science through its Science Resources Statistics division.

http://www.nsf.gov/pubs/2010/nsf10069/nsf10069.jsp?WT.mc_id=USNSF_80

Deadline: September 30, 2010

(This program first appeared in the ORSP August Newsletter.)

STEM

Pilot Testing the Ecological Approaches to Environmental Protection Developed in Capacity Research Projects

To address the challenges of moving people and goods efficiently and safely on the nation's highways, Congress has created the second Strategic Highway Research Program (SHRP 2, a targeted, short-term research program carried out through competitively awarded contracts to qualified researchers in the academic, private, and public sectors. SHRP 2 addresses four focus areas: the role of human behavior in highway safety (Safety); rapid highway renewal (Renewal); improved travel time reliability through congestion reduction (Reliability); and transportation planning that better integrates community, economic, and environmental considerations into new highway capacity (Capacity). Under current legislative provisions, SHRP 2 has received approximately \$170 million with total program duration of 7 years, ending in 2013. Additional information about SHRP 2 can be found on the program's Web site at www.trb.org/shrp2.

The charge from Congress to SHRP 2 Capacity is to develop approaches for systematically integrating environmental, economic, and community requirements into the analysis, planning, and design of new highway capacity. The scope of the SHRP 2 Capacity program extends from the early stages of the transportation planning process, when many potential alternatives are being considered, through project development. When decisions include a major highway component, further development of the highway option is within the scope of the program. When decisions are made that lead to nonhighway options, further development of the nonhighway component is outside the scope.

The purpose of this project is to test the products of SHRP 2 Projects C01, C06A, and C06B singly or in combination.

- **C01:** Under this project 23 case studies were conducted of collaborative practice and a decision guide was developed that represents the key transportation planning decision points from long-range planning through corridor planning, environmental review and permitting. A web-based delivery mechanism was created called Transportation for Communities—Advancing Projects through Partnerships (TCAPP), found on the web in beta test form at www.transportationforcommunities.com. Proposers are encouraged to use the case study guidance and collaboration assistance in the Project C21 pilot tests. See the Decision Guide navigation tab in TCAPP for a description of the decision points in the decision guide.
- **C06A:** Produced a Framework for Integrating Conservation and Transportation Planning (the Integration Framework), the business cases for using it from the perspectives of the Federal Highway Administration (FHWA), state departments of transportation (DOTs), the US Fish and Wildlife Service (USFWS), the US Army Corps of Engineers (USACE), and the Environmental Protection Agency (EPA). The focus is on Clean Water Act Section 404 Permitting and Endangered Species Act Section 7 consultation processes. The framework lays out a process for applying tools developed in C06B. The business cases are being developed in conjunction with each agency with their individual missions in mind. The purpose of the business cases is to demonstrate that ecological approaches to mitigation can result in faster project delivery and can conserve and restore resources through improved avoidance, minimization, and mitigation of impacts.
- **C06B:** Areas of focus for tools developed by C06B, in the context of the step-wise Integration Framework include:
 - cumulative effects and alternatives analysis
 - strategies for regulatory assurances
 - predictive modeling of at-risk species habitat and integrated mapping of wetlands
 - ecosystem services crediting
 - interactive database of methods, tools, systems, and case studies that support the ecological assessment methods

The final combined product that proposers are asked to test will link tools and methods developed in this project or available elsewhere to the nine steps in the Integration Framework, which are:

- Step 1: Build & Strengthen Collaborative Partnerships and Vision
- Step 2: Integrate Ecosystem Plans
- Step 3: Create Regional Ecosystem Framework
- Step 4: Assess Transportation Effects
- Step 5: Establish & Prioritize Ecological Actions
- Step 6: Develop Crediting Strategy
- Step 7: Develop Agreements
- Step 8: Implement Agreements
- Step 9: Monitoring and Adaptive Management

The top three recommendations of the C06 projects for implementing an ecological approach to avoiding, minimizing and mitigating impacts and improving conservation and restoration of natural resources are:

- § **Integrate transportation and land use planning.** This has long been the Holy Grail, but there are clear, feasible steps that can be taken using the Integration Framework

- § **Identify priority conservation areas.** Reaching multi-agency agreement on priorities at the state or regional level will be a big step toward better avoidance of impacts on resources that should be conserved or that are candidates for restoration. An ecological approach constitutes a nexus of watershed and species preservation.
- § **Make data available to all decision makers early in the process (for earlier decision making).**

<http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=2653>

Deadline: September 27, 2010

Computational Mathematics

This NSF program supports mathematical research in areas of science where computation plays a central and essential role, emphasizing design, analysis, and implementation of numerical methods and algorithms, and symbolic methods. The prominence of computation with analysis of the computational approach in the research is a hallmark of the program. Proposals ranging from single-investigator projects that develop and analyze innovative computational methods to interdisciplinary team projects that not only create and analyze new mathematical and computational techniques but also use/implement them to model, study, and solve important application problems are encouraged.

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5390

Deadline: December 1, 2010 - December 15, 2010

BREAD: Agricultural Development

NSF and the Bill & Melinda Gates Foundation are partnering to support a new research program to be administered by NSF. The objective of the BREAD Program is to support innovative basic scientific research designed to address key constraints to smallholder agriculture in the developing world. A significant distinction between BREAD and other NSF programs is that proposals to BREAD must make a clear and well-defined connection between the outcomes of the proposed basic research and its direct relevance and potential application to agriculture in the developing world. The BREAD Program takes the activities of the Plant Genome Research Program to the next level by supporting a broader range of scientific research and by enabling funding to be allocated to international collaborators through subawards.

The Program's focus is on novel, transformative basic research at the proof-of-concept stage rather than its application or development. Especially encouraged are original proposals that address major constraints to the productivity of crops important to smallholder farmers, or on the development of novel and efficient production practices. Although the Program places an initial emphasis on crop improvement, it will also consider innovative basic research proposals from scientists in all fields of research and engineering as long as the proposed research is consistent with the Program objectives. Proposals are also expected to address project outcomes in the context of broader societal impacts, and as appropriate to the research proposed, engage international partners in scientific collaborations.

http://www.nsf.gov/pubs/2010/nsf10589/nsf10589.pdf?WT.mc_id=USNSF_25&WT.mc_ev=click

Deadlines: September 16, 2010 (Required Letter of Intent)

November 16, 2010 (full application)

(This program first appeared in the ORSP August Newsletter.)

Presidential Green Chemistry Challenge Awards

The **Presidential Green Chemistry Challenge Awards Program** is an opportunity for individuals, groups, and organizations to compete for annual awards in recognition of innovations in cleaner, cheaper, smarter chemistry. The Presidential Green Chemistry Challenge Awards Program provides national recognition of outstanding chemical technologies that incorporate the principles of green chemistry into chemical design, manufacture, and use, and that have been or can be utilized by industry in achieving their pollution prevention goals.

The Presidential Green Chemistry Challenge Awards Program invites nominations that describe the technical benefits of a green chemistry technology as well as human health and environmental benefits. The Awards Program is open to individuals, groups, and nongovernmental organizations, both nonprofit and for profit. *The nominated green chemistry technology must have reached a significant milestone within the past five years in the United States (e.g., been researched, demonstrated, implemented, applied, patented, etc.).* Nominations received for the awards are judged by an independent panel of technical experts convened by the American Chemical Society Green Chemistry Institute. Typically five awards are given annually to industry and government sponsors, an academic investigator, and a small business.

Although the Presidential Green Chemistry Challenge Program does not provide an independent vehicle for [green chemistry grants](#), it has supported the EPA/NSF partnership for environmental research. In the past, "Technology for a Sustainable Environment" grant solicitations have been available through this partnership to address the technological and environmental issues of design, synthesis, processing, production, and use of products in continuous and discrete manufacturing industries.

<http://www.epa.gov/oppt/greenchemistry/pubs/pgcc/presgcc.html>

Deadline: Accepting applications through December

Algebra, Number Theory and Combinatorics

NSF supports research in algebra, including algebraic structures, general algebra, and linear algebra; number theory, including algebraic, analytic number theory, arithmetic geometry, quadratic forms, and automorphic forms; combinatorics, including graph theory; and algebraic geometry. The web site offers abstracts of recent grants.

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5431

Deadline: October 5, 2010

Astronomy and Astrophysics Research Grants

The NSF Astronomy and Astrophysics Research Grants Program provides individual investigator 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*
- *Stellar Astronomy and Astrophysics*
- *Galactic Astronomy*
- *Extragalactic Astronomy and Cosmology*

Proposals submitted to the AAG Program do not require categorization into one of the study areas identified above. Proposals 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>

Deadline: September 15, 2010

(This program first appeared in the ORSP August Newsletter.)

Basic, Applied, and Advanced Research White Papers

The Naval Surface Warfare Center solicits scientific and engineering research "white papers" to identify capabilities for basic research, applied research, and advanced research projects in a wide variety of scientific and engineering disciplines. NSWC is seeking submission of capability statements only. Research projects are expected to require a high level of technical expertise, primarily involving PhD level personnel; personnel requirements include, but are not limited to, the following categories: distinguished postdoctoral, senior postdoctoral, postdoctoral, professors, and graduate students.

NSWC anticipates making multiple awards of grants, cooperative agreements, other transactions, or contracts. When appropriate, research grants will be the preferred award method.

<https://www.fbo.gov/index?s=opportunity&mode=form&id=19bed3b41180fea87997eb99fc8a1b3&tab=core&cvview=0&cck=1&au=&ck=>

Deadline September 30, 2010

(This program first appeared in the ORSP January Newsletter.)

Bioengineering Research Partnerships

This NIH program encourages basic, applied, and translational or clinical bioengineering research that could make a significant contribution to improving human health. Bioengineering integrates physical, engineering, and computational science principles for the study of biology, medicine, behavior, or health. It advances fundamental concepts, creates knowledge from the molecular/cellular to the organ systems and holistic level, and develops innovative biologicals, materials, processes, implants, devices, and informatics approaches for the prevention, diagnosis, and treatment of disease, for patient rehabilitation, and for improving health. Some BRP projects may propose research that could lead to a novel device as a product. Partnership with companies that have relevant expertise or that may eventually be involved in commercialization is appropriate under the BRP program. It is expected that a BRP will have a well-defined goal or deliverable that will be achieved within the 5-10 year funding period. Projects with a translational focus are encouraged.

A second objective is to encourage collaborations and partnerships among the allied quantitative and biomedical disciplines. A BRP must bring together the necessary physical, engineering, and computational science expertise with biological or clinical expertise and resources to address a significant area of bioengineering research within the mission of the NIH. The value of strategic partnerships is well supported by the literature of both economics and science and technology policy, which documents greater success at R&D by groups that work in strategic alliances, often involving multiple institutions, compared to those working separately. In addition to the benefits to be derived from the research, the collaborations and partnerships can create opportunities for trans-disciplinary communication and training for a new generation of scientists capable of interacting across traditional technical boundaries. Each partner is expected to provide substantive contributions to intellectual and/or technical aspects of the project that are clearly differentiated from simple subcontractual arrangements.

An application for a BRP award should focus bioengineering research on an area of basic, applied, translational, behavioral, or clinical research that supports a mission of one or more of the participating NIH institutes and centers and where progress is likely to make a significant contribution to improving human health. Some NIH institutes and centers have indicated that they will only consider BRP applications in specific focus areas. These institutes and focus areas are available at <http://www.nibib.nih.gov/Funding/Bioengineering/Contacts>.

Deadlines: *October 11, 2010 (Full Proposals)*

March 28, 2011 (Phase II)

Phase I, by invitation only

(This program first appeared in the ORSP August Newsletter.)

Chemical Catalysis

The NSF Chemical Catalysis Program supports fundamental experimental and theoretical research directed towards the synthesis and characterization of catalysts and pre-catalysts. This Program accepts proposals on catalytic approaches which facilitate, direct, and accelerate efficient chemical transformations and include, but are not limited to: the design and synthesis of organic, inorganic and hybrid catalytic and pre-catalytic species on the molecular, supramolecular, and nano-meter scales; kinetic, mechanistic, and dynamic studies of homogeneous, heterogeneous, biomimetic and biologically-inspired catalytic reactions; characterization of chemical and biochemical catalytic reactions occurring at solid surfaces and/or interfaces; polymerization catalysis; single site catalysis; electrocatalysis (such as water splitting), photocatalysis (such as solar energy conversion); catalytic conversions of fossil fuel feedstocks, biomass conversions, CO₂ activation and other energy-related, catalytic processes; combinatorial catalysis approaches; environmentally-friendly catalytic processes; and applications of modeling, theory, and simulation to catalytic reactions.

The Chemical Catalysis Program does not support scale-up, processing, transport dynamics, long-term stability studies, and other engineering aspects of catalysis. Biological catalysis using cellular systems (systems that are not biological model or biological mimics) should be directed to other programs--Chemistry of Living Systems Program or the Division of Molecular and Cellular Biosciences or the National Institutes of Health.

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503418&org=NSF&sel_org=NSF&from=fund

Deadline: *November 1, 2010 - November 30, 2010*

(This program first appeared in the ORSP June Newsletter.)

Conferences and Workshops: Mathematical Sciences

Conferences, workshops, and related activities provide opportunities to disseminate scholarly work widely, to reveal and plan new directions for research, and to engage and encourage students and junior scientists early in their careers, all of which help deepen connections among the mathematical sciences community. DMS particularly welcomes proposals for activities that can increase the number of mathematical scientists who participate in NSF-supported activities.

DMS priorities for this solicitation include:

- Breadth and diversity of participation, in order to help more mathematical scientists stay abreast of developments in the discipline;
- Involvement of students and junior investigators and of individuals from under-represented groups, in order to contribute to the development of the nation's science personnel base;

- Connection to frontiers in the mathematical sciences, to NSF research priorities, and to federal initiatives and strategic areas, in order to advance the mathematical sciences and to strengthen the interchanges between the mathematical sciences and other science and engineering disciplines;
- Overall impact on the US mathematical sciences community.

Diversity and breadth of participation should be understood as applying to institutions as well as to individuals. In particular, it includes those institutions and individuals lacking other federal support.

For conference, workshop, and similar proposals, most funds are expected to be devoted to the support of participants who have no other federal support and participants who are students, post-doctoral scholars, or members of groups that are under-represented in the mathematical sciences.

Requests for international travel by groups of US based mathematical scientists ordinarily originate with US educational institutions or professional scientific societies. Shared support by several federal agencies/states/private organizations is permissible and encouraged. The DMS supports individual requests for international travel as part of regular research proposals and will **not** consider separate proposals for support of an individual's international travel. In general, funding to support participation in conferences held abroad has been limited. Other opportunities for cooperation between US mathematical scientists and those of other countries are provided by the Office of International Science and Engineering (OISE) at NSF.

http://www.nsf.gov/pubs/2010/nsf10578/nsf10578.htm?WT.mc_id=USNSF_25&WT.mc_ev=click

Deadline: Proposals Accepted Anytime; However, proposals must be submitted in accordance with the due date for the appropriate disciplinary program.

East Asia and Pacific Summer Institutes for U.S. Graduate Students

NSF EAPSI awards are available in any area of science and engineering research or education supported by NSF. EAPSI aims to provide an international experience to those individuals who have never had one previously. Previous awardees may apply to a new host location, but priority will be given to new applicants. As this program is open to all research fields and disciplines supported by NSF, as well as suitable research institutions, efforts will be made to ensure appropriate distribution of fellowships across disciplinary fields.

EAPSI are administered in the United States by NSF. In East Asia and the Pacific, the Summer Institutes are co-sponsored by:

- Australian Academy of Science;
- Chinese Ministry of Science and Technology, Chinese Academy of Sciences, and National Natural Science Foundation of China;
- Japan Society for the Promotion of Science;
- National Research Foundation of Korea;
- Royal Society of New Zealand;
- National Research Foundation of Singapore; and
- National Science Council of Taiwan.

The EAPSI program is designed for U.S. graduate students wishing to conduct research in a foreign setting and to experience the culture(s) of the participating locations. Selected students attend a 2-3 day pre-departure orientation session in the Washington, D.C. area in late March or early April. The Summer Institutes occur between June and August each year. The Summer Institutes are designed to provide an introduction to the society, culture, language, and research facilities of the host location.

Approximately seven weeks (9 weeks for Japan) are spent on research activities at the host institution. Students work collaboratively with host researchers on projects of mutual interest.

Participants are encouraged to visit other research sites in their host location in order to learn about research being conducted in their field and to cultivate additional contacts for future collaboration. Such visits should be scheduled in consultation with host researchers and foreign co-sponsoring organizations, and be planned to occur following the conclusion of the Summer Institutes.

http://www.nsf.gov/pubs/2010/nsf10591/nsf10591.htm?WT.mc_id=USNSF_179

Deadline: November 10, 2010

(This program first appeared in the ORSP August Newsletter.)

Environmental Engineering

The NSF Environmental Engineering program supports fundamental research and educational activities across the broad field it serves. The goal of this program is to encourage transformative research which applies scientific principles to minimize solid, liquid, and gaseous discharges into land, inland and coastal waters, and air that result from human activity, and to evaluate adverse impacts of these discharges on human health and environmental quality.

The program is based on four types of engineering tools - - measurement, analysis, synthesis, and design. Major areas of interest and activity in the program include:

- Developing innovative biological, chemical, and physical treatment processes to remove and degrade pollutants from water and air
- Measuring, modeling, and predicting the movement and fate of pollutants in the environment
- Developing and evaluating techniques to clean up polluted sites by preserving and enhancing the self-purification ability or waste assimilative capacity of natural environmental systems, such as landfills and contaminated aquifers; restoring the quality of polluted water, air, and land resources, and rehabilitating degraded ecosystems.

The program fosters environmental sustainability through pollution control and resource management/conservation, and development of techniques to minimize or avoid generating pollution. Research may be directed toward improving the cost-effectiveness of pollution avoidance, as well as developing new principles for pollution avoidance technologies. Research for new and improved sensors of environmental conditions and innovative waste reduction and recycling processes also are important components of this program.

Proposals should address the novelty of the concept being proposed, compared to previous work in the field. Also, it is important to address why the novelty might be important in terms of engineering science, as well as to also project the potential impact on society and /or industry of success in the research.

The duration of unsolicited awards is generally 1-3 years. The average annual award size for the program is \$100,000. Small equipment proposals of less than \$100,000 will also be considered and may be submitted during these windows.

Proposals for Conferences, Workshops, and Supplements may be submitted at any time, but must be discussed with the program director before submission. Grants for RAPID and EAGER replace the SGER program. Please note that proposals of these types must be discussed with the program director before submission.

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501029

Deadline: August 15, 2010 - September 23, 2010

(This program first appeared in the ORSP June Newsletter.)

Geography and Spatial Sciences

The goals of the NSF Geography and Spatial Sciences (GSS) Program are:

- To promote scientific research in geography and the spatial sciences that advances theory and basic understanding and that addresses the challenges facing society
- To promote the integration of geographers and spatial scientists in interdisciplinary research
- To promote education and training of geographers and spatial scientists in order to enhance the capabilities of current and future generations of researchers
- To promote the development and use of scientific methods and tools for geographic research

The GSS Program sponsors research on the geographic distributions and interactions of human, physical, and biotic systems on the Earth's surface. Investigations are encouraged into the nature, causes, and consequences of human activity and natural environmental processes across a range of scales. Projects on a variety of topics (both domestic and international) qualify for support if they offer promise of contributing to scholarship by enhancing geographical knowledge, concepts, theories, methods, and their application to societal problems and concerns. GSS encourages projects that explicitly integrate undergraduate and graduate education into the overall research agenda.

Proposals submitted for consideration by the GSS Program at NSF tend to be most competitive if the research is grounded in relevant geographical theory, if it focuses on one or a few core questions grounded in the theoretical framework that has been established, if it articulates how scientifically sound methods will be used to explore the validity of answers to the core questions, and if the results are likely to contribute not only specific answers to those specific questions but also to the enhancement of broader geographic and/or spatial scientific theory. The project can draw on and contribute to theory in other fields, too, but to obtain at least some funding from GSS, efforts should be made to enhance fundamental geographic theory, and the investigators should plan to disseminate their results through presentations and publications for geographers and spatial scientists as well as other relevant communities.

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5410&org=NSF

Deadline: January 15, 2011

(This program first appeared in the ORSP June Newsletter.)

Information and Intelligent Systems: Core Programs

CISE's Division of Information and Intelligent Systems (IIS) supports research and education projects that develop new knowledge in three core programs: Human-Centered Computing; Information Integration and Informatics; and Robust Intelligence. IIS is also responsible for managing the review process for proposals in Computer Graphics and Visualization; these proposals may be submitted to any of the three core programs described above. Proposers are invited to submit proposals in three project classes, which are defined as follows:

- *Small Projects:* < \$500,000 total budget with durations up to three years;
- *Medium Projects:* \$500,001-\$1,200,000 total budget with durations up to four years; and
- *Large Projects:* \$1,200,001-\$3,000,000 total budget with durations up to five years.

http://www.nsf.gov/pubs/2010/nsf10571/nsf10571.htm?WT.mc_id=USNSF_25&WT.mc_ev=click

Deadlines: September 01, 2010 - September 15, 2010 (MEDIUM Projects)

November 01, 2010 - November 28, 2010 (LARGE Projects)

December 01, 2010 - December 17, 2010 (SMALL Projects)

(This program first appeared in the ORSP August Newsletter.)

Instrument Development for Biomedical Applications

This NIH program stimulates the development of instrumentation for bio-medical research that will support achievement of biomedical breakthroughs. High-risk applications are encouraged. The purpose is to invite innovative proposals focused on the development of new or improved instrumentation. Development of methodologies and software may be included to the extent that they advance instrument development. Projects should propose tools that can be used by a wide range of biomedical or clinical researchers. Projects that are focused on a specific organ or disease will be withdrawn without review; however, a specific organ or disease may be used as a model system to evaluate the new instrumentation. Since the R21 mechanism is designed to support applications with few or no preliminary findings, investigators with substantial preliminary data should submit under a different mechanism.

Proposals primarily focused in the areas of biomedical imaging, sensors, biomaterials, tissue engineering and rehabilitation engineering will be considered nonresponsive and withdrawn without review. Investigators considering research in the excluded areas should look at the NIBIB (<http://www.nibib.nih.gov/FundingMain>) web pages for funding opportunities in bioengineering and biomedical imaging research. Questions about the suitability of proposals should be addressed to program staff listed in the "Agency Contacts" section well before submission.

The proposed research may involve conceptualization, design, fabrication, and/or testing of new instruments or devices, including control software. However, proposals with a focus in medical informatics or bioinformatics are excluded. The overall objective of applications for new instruments should be the development of more powerful and more precise technology with broad applicability to biomedical research.

Examples of new tools and techniques that are responsive to this FOA include optical spectroscopy, mass spectrometry, electrophoresis and other separation techniques, microscopy, lasers and optics, X-ray tools, nuclear magnetic resonance spectroscopy, bioreactors, centrifugation, proteomics, genomic sequencing, functional genomics, comparative genomics, microarrays, and human sequence variation (e.g., genotyping). This list is not exhaustive, but investigators with topics outside of these areas are strongly encouraged to contact program staff to ensure that their applications are responsive.

<http://grants.nih.gov/grants/guide/rfa-files/RFA-RR-10-009.html>

Deadline: October 8, 2010

(This program first appeared in the ORSP August Newsletter.)

Presidential Awards Science, Mathematics and Engineering Mentoring

The PAESMEM Program seeks to identify outstanding mentoring efforts that enhance the participation of groups that are underrepresented in science, technology, engineering, and mathematics. The awardees serve as leaders in the national effort to develop fully the Nation's human resources in science, technology, engineering, and mathematics.

Approximately 16 awards will be made in each nomination round. The PI is the nominee and only one nomination per individual or program will be considered. An individual may wish to make a self nomination. This is allowable; no Co-PI is necessary. There is no limit on the number of submissions by an organization. Multiple programs or individuals from one institution may be nominated in a year; however a program or individual can be nominated only one time.

http://www.nsf.gov/pubs/2010/nsf10520/nsf10520.htm?WT.mc_id=USNSF_25

Deadlines: October 6, 2010

(This program first appeared in the ORSP January Newsletter.)

Research Experiences for Teachers in Engineering

The NSF Directorate for Engineering, Research Experiences for Teachers in Engineering program supports the active involvement of K-12 teachers and community college faculty in engineering research in order to bring knowledge of engineering and technological innovation into their classrooms. The goal is to help build long-term collaborative partnerships between K-12 STEM teachers, community college faculty, and the NSF university research community by involving the teachers in engineering research and helping them translate their research experiences and new knowledge of engineering into classroom activities. Partnerships with inner city schools or other high need schools are especially encouraged, as is participation by underrepresented minorities, women, and persons with disabilities.

This announcement features two mechanisms for support of in-service and pre-service K-12 teachers and/or community college faculty: **RET Supplements** to ongoing ENG awards and **new RET Site awards**.

RET Supplements may be included in proposals for new or renewed NSF Directorate for Engineering grants or as supplements to ongoing projects. RET supplements are limited to a maximum of \$10,000 per teacher for a duration of one year subject to the availability of funds.

An **RET Site project** is an independent proposal, submitted at an annual deadline date, to provide groups of in-service and pre-service K-12 teachers and if desired, community college faculty with discovery-based learning experiences in engineering laboratories and facilities, which will then be incorporated into their classroom activities during the school year. An RET Site project may be conducted during the summer, academic year, or both, and must have a well-defined focus, with clearly articulated projects and activities for teachers or community college faculty. The RET program encourages PIs to involve teachers in international research experiences in their proposals.

This is a limited submission proposal. Please send an e-mail outlining your intentions to Donna Stremke in ORSP, dstremke@fgcu.edu. If multiple faculty desire to submit proposals, an internal review will be scheduled.

<http://apps.research.ufl.edu/research/fyi/article.cfm?id=22222>

Deadline: November 15, 2010.

(This program first appeared in the ORSP August Newsletter.)

Research and Evaluation on Education in Science and Engineering

The Research and Evaluation on Education in Science and Engineering program seeks to advance research at the frontiers of STEM learning, education, and evaluation, and to provide the foundational knowledge necessary to improve STEM teaching and learning at all educational levels and in all settings. This solicitation calls for four types of proposals—Pathways, Synthesis, Empirical Research, and Large Empirical Research.

http://www.nsf.gov/pubs/2010/nsf10586/nsf10586.htm?WT.mc_id=USNSF_25&WT.mc_ev=click

Deadline: November 15, 2010

(This program first appeared in the ORSP August Newsletter.)

Research to Aid Persons with Disabilities

The NSF Research to Aid Persons with Disabilities program supports research that will lead to the development of new technologies, devices, or software for persons with disabilities. Research may be supported that is directed to the characterization, restoration, and/or substitution of human functional ability or cognition, or to the interaction of persons with disabilities and

their environment. Areas of particular recent interest are disability-related research in neuroscience/neuroengineering and rehabilitation robotics. Emphasis is placed on significant advancement of fundamental engineering and scientific knowledge and not on incremental improvements. Proposals should advance discovery or innovation beyond the frontiers of current knowledge in disability-related research. Applicants are encouraged to contact the Program Director prior to submitting a proposal.

Undergraduate Engineering Design Projects are also supported, especially those that provide prototype "custom-designed" devices or software for persons with disabilities. The education of undergraduate engineering students is enhanced through Undergraduate Engineering Design Projects' awards supported by the RAPD program. Characteristics of undergraduate engineering design projects to aid persons with disabilities include:

- The primary goal of this activity is to provide a meaningful design experience for the engineering student that will directly aid a specific individual with a disability. Undergraduate student engineers or engineering technology students develop prototype "custom-designed" devices and software in this regard.
- The PI and the students work with institutions providing care or education for individuals with disabilities.
- The proposal must include a short description of ten possible design projects. These projects should be suitable for an undergraduate student, or a small team of students, to complete in about one year. The proposal should include a letter of support from an appropriate administrator of an institution providing care or education to individuals with disabilities. The letter should certify that the institution and the university will work cooperatively on the design projects.
- The PI provides an annual report that includes a description of the successfully completed design projects during the previous academic year. Each PI is expected to implement a high percentage of projects each year. It is also expected that the projects will contain appropriate levels of quantitative engineering analysis.

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=501021&org=NSF&sel_org=NSF&from=fund

Deadlines: August 15, 2010 - September 23, 2010

(This program first appeared in the ORSP June Newsletter.)

Research Networks in the Mathematical Sciences

The Research Networks in the Mathematical Sciences Program recognizes that, over the past quarter century, mathematical research has become increasingly collaborative and interactive, because effectively overcoming core scientific challenges frequently requires the sharing of ideas and expertise. A Research Network will address scientific challenges that appear to be of lasting and significant importance, described against the backdrop of current national and international scientific activity. It should (a) configure the aggregate assets of the nodes to have broader range, greater capacity, and higher impact than can be achieved by any subset of nodes; (b) achieve scientific productivity that exceeds that of the nodes considered in isolation; and (c) create unique education and training opportunities for junior personnel, present unique growth and retraining opportunities for senior personnel, and provide unique opportunities for the involvement of active researchers who enjoy little or no federal support. The fundamental question that a successful RNMS proposal will have to address is the following: *How will collaborative efforts within the network provide out-comes beyond what individual participants, or subsets of them, could achieve without the net-work or, stated differently, how will the network as a whole be greater than the sum of its parts?*

Each Research Network proposal must:

- describe the participating community of researchers and the research agenda that unites them
- identify three hubs and as many additional nodes as deemed appropriate for the network's mission, and describe the edges (i.e., describe the modes of interaction between the different nodes)
- indicate the potential scientific impact of the network's activity on the mathematical sciences and on other fields of science, technology, and engineering, as appropriate
- include a detailed and comprehensive management plan that describes how the network will achieve its objectives of being dynamic, modular, educational, and inclusive

A successful Research Network should lead to potentially transformative outcomes by enabling the creation of new ideas, novel collaborations, and unique interactions leading to discoveries that would be difficult or impossible to achieve under existing funding mechanisms. Its effects should significantly enhance the productivity and impact of its component parts. In addition, it should empower participating researchers to "think big" by allowing them to increase the scope and range of scientific questions they address, widen the variety of possible collaborations, and leverage complementary funding sources. However, a Research Network should not be looked at as a substitute for a collection of individual research grants. Finally, a Research Network should not be so large that effective management of it could present serious problems.

http://www.nsf.gov/pubs/2010/nsf10584/nsf10584.htm?WT.mc_id=USNSF_25&WT.mc_ev=click

Deadline: November 09, 2010

(This program first appeared in the ORSP August Newsletter.)

STEM Talent Expansion Program

The NSF STEM Talent Expansion Program seeks to increase the number of students receiving associate or baccalaureate degrees in established or emerging fields within science, technology, engineering, and mathematics. Type 1 proposals provide for full implementation efforts at academic institutions. Type 2 proposals support educational research projects on associate or baccalaureate degree attainment in STEM.

Program activities under the STEP Type 1 competition should be efforts aimed at adapting and implementing best practices that will lead to an increase in the number of students (US citizens or permanent residents) obtaining STEM degrees at institutions with baccalaureate degree programs; or completing associate degrees in STEM fields or completing credits toward transfer to a baccalaureate degree program in STEM fields at community colleges. The goal of the project must be to increase the total graduation numbers of such students at the institution(s), and all STEP proposals must include specific numerical targets for these increases.

Outreach efforts are appropriate only if the efforts can be expected to result in additional STEM majors and graduates at the submitting institution(s) within the grant period. For projects that are considering outreach to high school students, such activities are only appropriate if they will recruit students to the proposing institution(s) and if the high school students will be entering and progressing through undergraduate STEM majors within the 5-year period of the proposed project. In most cases, this requires that outreach and recruitment efforts be limited to juniors and seniors in high schools that have a history of sending their graduates to the proposing institution.

<http://www.nsf.gov/pubs/2008/nsf08569/nsf08569.htm>

Deadline: September 28, 2010

(This program first appeared in the ORSP March Newsletter.)

Transforming Undergraduate Education in STEM

The NSF Transforming Undergraduate Education in STEM program seeks to improve the quality of STEM education for all undergraduate students. This solicitation encourages projects that have the potential to transform undergraduate STEM education. Transferability and dissemination are critical aspects for projects developing instructional materials and methods and should be considered throughout the project's lifetime. More advanced projects should involve efforts to facilitate adaptation at other sites.

The program supports efforts to create, adapt, and disseminate new learning materials and teaching strategies to reflect advances both in STEM disciplines and in what is known about teaching and learning. It funds projects that develop faculty expertise, implement educational innovations, assess learning and evaluate innovations, prepare K-12 teachers, or conduct research on STEM teaching and learning. It also supports projects that further the work of the program itself, for example, synthesis and dissemination of findings across the program. The program supports projects representing different stages of development, ranging from small, exploratory investigations to large, comprehensive projects.

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5741&org=NSF

Deadline: January 14, 2011 (Type 2 & 3 proposals, Central Resource Project proposals)

Deadline: May 26, 2011 (Type 1 proposals).

(This program first appeared in the ORSP June Newsletter.)

Wendy Schmidt Oil Cleanup X CHALLENGE

The X PRIZE Foundation (www.xprize.org) is an educational nonprofit organization whose mission is to create radical breakthroughs for the benefit of humanity thereby inspiring the formation of new industries, jobs, and the revitalization of markets, which currently have barriers to success. Today, the X PRIZE Foundation is widely recognized as the leader in fostering innovation through open competition. Current incentivized competitions include the Wendy Schmidt Oil Cleanup X CHALLENGE.

Teams from around the world are invited to register for this competition. In the registration process, teams will submit their approach to clean up oil spills from land drainage and waste disposal, offshore drilling and production spills (e.g. Deepwater Horizon), and surface oil from ships or tankers (e.g. Exxon Valdez). X PRIZE will be finalizing the details over the next 30 days, and will post final rules in September. We encourage you to pre-register as a team and we will keep you informed of any changes and when the detailed rules are posted.

Phase I: From August 2010 – April 2011, teams from around the world are invited to register for this competition, and submit their approach. An expert panel of judges from industry and academia will evaluate team proposals using a weighted score based on the following criteria: technical approach and commercialization plan; minimal negative environmental impact; scalability of and ability to deploy technology; cost and human labor of implementation; and improvement of technology over today's baseline "booms and skimmers."

Phase II: The judges will select the top teams to demonstrate their ability to efficiently and rapidly clean up oil on the ocean surface in a head-to-head competition. These demonstrations, which will determine the winner, will take place at the National Oil Spill Response Research & Renewable Energy Test Facility (OHSMETT) in New Jersey, USA.

Winners: The team that demonstrates the ability to recover oil on the seawater surface at the highest oil recovery rate (ORR) and highest recovery efficiency (RE) will win. The top

performer will receive a \$1 Million Grand Prize; the second place performer will receive \$300,000 and the third place performer will receive \$100,000.

Competition Goals are to:

1. Inspire entrepreneurs, engineers, and scientists worldwide to develop innovative, rapidly deployable, and highly efficient methods of capturing crude oil from the ocean surface;
2. Provide a global platform where new technologies can compete head-to-head;
3. Demonstrate, recognize, and showcase the best approaches and prepare for future catastrophes; and
4. Attract a balanced set of entrepreneurs, donors, sponsors, and partners to help competitors succeed.

<http://iprizecleanoceans.org/Page/MediaCenter>

(This program first appeared in the ORSP August Newsletter.)

Women in Academic Science and Engineering Careers

The goal of the NSF *ADVANCE Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers* program is to develop systemic approaches to increase the representation and advancement of women in academic STEM careers, thereby contributing to the development of a more diverse science and engineering workforce. *ADVANCE* focuses on ensuring that women faculty with earned STEM degrees consider academia as a viable and attractive career option. This program does not support projects to increase or retain the number of women entering into or persisting in STEM doctoral degree programs.

Proposals that address the participation and advancement of academic STEM women from underrepresented minority groups and women with disabilities are particularly encouraged. Proposal components that systemically enhance and provide access to international collaborations are encouraged.

In 2011-2012, this program will support the following types of *ADVANCE* Projects:

Institutional Transformation (IT) awards are expected to include innovative systemic organizational approaches to transform institutions of higher education in ways that will increase the participation and advancement of women in STEM academic careers. These awards support comprehensive programs for institution-wide change. IT projects must include a 5-page research component designed to study the effectiveness of the proposed innovations in order to contribute to the knowledge base informing academic institutional transformation. Previous or current funding from *ADVANCE* is not a prerequisite for submitting an IT proposal. *Any* institution meeting the minimum eligibility may apply for an IT award.

Institutional Transformation Catalyst (IT-Catalyst) awards are designed to support historically resource-challenged institutions in efforts to conduct institutional self-assessment activities, such as data collection and analysis and policy review, in order to identify specific issues in the recruitment, retention and promotion of women faculty in STEM academics within an institution of higher education. This type of work is fundamental for institutions that plan to undertake institutional transformation.

http://www.nsf.gov/pubs/2010/nsf10593/nsf10593.htm?WT.mc_id=USNSF_25&WT.mc_ev=click

Deadlines: *October 04, 2010 (required Letter of Intent)*

November 08, 2010 (full proposal)

(This program first appeared in the ORSP August Newsletter.)

Youth STEM Education

The American Honda Foundation helps meet the needs of American society in the areas of youth and scientific education by awarding grants to nonprofits, while strategically assisting communities in deriving long-term benefits. The American Honda Foundation engages in grant making that reflects the basic tenets, beliefs and philosophies of Honda companies, which are characterized by the following qualities: imaginative, creative, youthful, forward-thinking, scientific, humanistic and innovative. We support youth education with a specific focus on the STEM (science, technology, engineering and mathematics) subjects in addition to the environment. When considering the American Honda Foundation as a potential funding source, please note the following:

Funding Priority: Youth education, specifically in the areas of science, technology, engineering, mathematics, the environment, job training and literacy.

Organizations may only submit **one** request in a 12-month period. This includes colleges and universities with several departments/outreach programs. The grant range is \$20K to \$60K over a one-year period. Please send an e-mail outlining your intentions to Donna Stremke in ORSP, dstremke@fgcu.edu. If multiple faculty desire to submit proposals, an internal review will be scheduled.

<http://corporate.honda.com/america/philanthropy.aspx?id=ahf>

Deadline: November 1, 2010

(This program first appeared in the ORSP August Newsletter.)

FELLOWSHIPS

Creative Non-Fiction, Literary Translation, Film Studies, Literary Studies

The Howard Foundation awards a limited number of fellowships each year for independent projects in selected fields. The Foundation targets its support specifically to early mid-career individuals, those who have achieved recognition for at least one major project.

Stipends of \$25,000 will be awarded to support individuals working on specific writing projects for the academic year 2011-2012. Howard Fellowships may not be used for filmmaking, to prepare exhibits, or to support institutional programs. There are no residency requirements for individuals who receive awards. Leave patterns and individual career plans do not necessarily correspond to the Howard Foundation cycle of awards for individuals, and fellowship recipients in a given year may accordingly postpone receipt of their fellowship funds, if that is more convenient for them. The deadline for submission of applications is November 1, 2010.

Fellowship recipients will be announced in April 2011.

http://brown.edu/Divisions/Graduate_School/Howard_Foundation/

Deadline: November 1, 2010

Fellowships for Creative and Performing Artists and Writers

The American Antiquarian Society requests applications for visiting fellowships for historical research by creative and performing artists, writers, film makers, journalists, and other persons whose goals are to produce imaginative, non-formulaic works dealing with pre-twentieth-century American history. Projects will benefit the general public rather than academic or educational audiences. The goal is to multiply and improve the ways in which an understanding of history is communicated to the American people. Fellowship projects may include (but are not limited to):

- historical novels
- performance of historical music/drama
- poetry
- documentary films
- television programs
- radio broadcasts
- plays/libretti/screenplays
- magazine/newspaper articles
- costume/set designs
- illustrations/ the graphic arts
- book designs
- sculpture
- paintings
- other works of fine/applied art
- nonfiction works of history designed for general audiences of adults or children

The fellowships will provide the opportunity for a period of uninterrupted research, reading, and collegial discussion at the Society in Worcester, MA. At least 3 fellowships will be awarded for residence of 4 weeks at any time during the period January 1 through December 31. The stipend will be \$1,350 for fellows residing on campus (rent-free) in the Society's [scholars' housing](#), located next to the main library building or \$1,850 for fellows residing off campus.

<http://www.americanantiquarian.org/artistfellowship.htm>

Deadline: October 5, 2010

(This program first appeared in the ORSP August Newsletter.)

NSF Ocean Bottom Seismic Instrument Pools Management Office

The academic community is addressing science questions as described, for example, in the 1996 Future of Marine Geology and Geophysics report that require short- and long-term deployments of large numbers of ocean-bottom seismometers and/or ocean-bottom hydrophones. In addition to supporting research funded through the NSF Division of Ocean Sciences Marine Geology & Geophysics Core Program, there is increasing use of ocean bottom seismometers by the EarthScope, Continental Dynamics, Ocean Drilling Program, Ridge2000, and MARGINS Programs. To provide the large number of instruments needed to support these programs, maintain the necessary technical capability, and provide access to Ocean-Bottom Seismic Instruments for a broad user community, the Ocean-Bottom Seismic Instrument Pools (OBSIP) were established in 1999. In light of the continuing demand for ocean bottom seismometers, the Marine Geology and Geophysics Program of OCE invites proposals to establish a Management Office for OBSIP.

The OBSIP Management Office will serve as the interface between NSF/OCE, Institutional Instrument Contributors, and the OBS user community. Proposals should include a complete work breakdown structure aimed at accomplishing the following tasks and oversight responsibilities. At a minimum the OMO will:

- Provide a mechanism for monitoring OBSIP IICs;
- Subcontract IICs for OBSIP services to the broader community;
- Provide oversight and manage funding of IICs;
- Provide a mechanism for timely feedback by the user community regarding OBSIP performance;
- Establish an Oversight Committee to assess the OBSIP and OMO operations;
- Manage deployments and deployment schedules in cooperation with NSF/University-National Oceanographic Laboratory System (UNOLS);
- At technical level, work with IICs to ensure high and consistent data quality
- Maintain an OBSIP website to inform the community about OBSIP services and instruments and OBS deployment schedules and availability;
- Ensure that OBS data are entered into the Incorporated Research Institutions for Seismology (IRIS) Data Management System in a timely fashion;

- Provide a quarterly Activity Report and an annual progress report to NSF; and
- Submit an annual program plan to NSF with budgets for support of the management office and baseline operations of the approved IICs.

http://www.nsf.gov/pubs/2010/nsf10570/nsf10570.htm?WT.mc_id=USNSF_25&WT.mc_ev=click

Deadline: December 01, 2010

(This program first appeared in the ORSP August Newsletter.)