Information on NSF programs of possible interest to HSD grantees

Presenter: Frank Scioli, Senior Advisor, Division of Social and Economic Sciences, SBE Directorate
Program: IGERT – Integrative Graduate Education and Research Traineeship Program
Web site: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12759
Synopsis: The Integrative Graduate Education and Research Traineeship (IGERT) program has been developed to meet the challenges of educating U.S. Ph.D. scientists and engineers who will pursue careers in research and education, with the interdisciplinary backgrounds, deep knowledge in chosen disciplines, and technical, professional, and personal skills to become, in their own careers, leaders and creative agents for change. The program is intended to catalyze a cultural change in graduate education, for students, faculty, and institutions, by establishing innovative new models for graduate education and training in a fertile environment for collaborative research that transcends traditional disciplinary boundaries. It is also intended to facilitate diversity in student participation and preparation, and to contribute to a world-class, broadly inclusive, and globally engaged science and engineering workforce.

Presenter: Amber Story, Program Officer for Social Psychology, Division of Behavioral and Cognitive Sciences, SBE Directorate
Program: NSCC – Social and Behavioral Dimensions of National Security, Conflict, and Cooperation
Web site: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503294&org=SES&from=home
Synopsis: The National Science Foundation (NSF) and the Department of Defense (DoD) are initiating a university-based social and behavioral science research activity, as part of The Minerva Initiative launched by the Secretary of Defense, that focuses on areas of strategic importance to U.S. national security policy. NSF and DoD intend: 1) to develop the DoD's social and human science intellectual capital in order to enhance its ability to address future challenges; 2) to enhance the DoD's engagement with the social science community; and 3) to deepen the understanding of the social and behavioral dimensions of national security issues. In pursuit of these objectives, NSF and DoD will bring together universities, research institutions, and individual scholars and will support disciplinary, interdisciplinary and collaborative projects addressing areas of strategic importance to national security policy. Proposals are to be submitted directly to NSF as described in the solicitation.

Presenter: Tom Baerwald, Program Officer for Geography and Regional Science, Division of Behavioral and Cognitive Sciences, SBE Directorate
Program: CNH – Coupled Natural and Human Systems
Web site: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13681&org=NSF&sel_org=NSF&from=fund
Synopsis: The Dynamics of Coupled Natural and Human Systems competition promotes quantitative, interdisciplinary analyses of relevant human and natural system processes and complex interactions among human and natural systems at diverse scales.

Presenter: Terry Langendoen, Expert for Information and Intelligent Systems, CISE Directorate
Program: CDI – Cyber-enabled Discovery and Innovation
Web site: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503163&org=NSF&sel_org=NSF&from=fund
Synopsis: Cyber-Enabled Discovery and Innovation (CDI) is NSF's bold five-year initiative to create *revolutionary* science and engineering research outcomes made possible by innovations and advances in computational thinking. Computational thinking is defined comprehensively to encompass computational concepts, methods, models, algorithms, and tools. Applied in challenging science and engineering research and education contexts, computational thinking promises a profound impact on the Nation's ability to generate and apply new knowledge. Collectively, CDI research outcomes are expected to produce paradigm shifts in our understanding of a wide range of science and engineering phenomena and socio-technical innovations that create new wealth and enhance the national quality of life.

Presenter: Gregg Solomon, Program Officer for Research on Learning in Formal and Informal Settings, EHR Directorate
Program: REESE – Research and Evaluation on Education in Science and Learning
Web site: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13667&org=DRL&from=home
Synopsis: The Division of Research on Learning in Formal and Informal Settings (DRL) in the Directorate for Education and Human Resources (EHR) of the National Science Foundation (NSF) supports basic and applied

research and evaluation that enhance science, technology, engineering, and mathematics (STEM) learning and teaching. The Research and Evaluation on Education in Science and Engineering (REESE) program aims at advancing research at the frontiers of STEM learning, education, and evaluation, and at providing the foundational knowledge necessary to improve STEM teaching and learning at all educational levels and in all settings. This solicitation calls for three types of proposals--Knowledge Diffusion, Empirical Research, and Large Empirical Research.

The goals of the REESE program are: (1) to catalyze discovery and innovation at the frontiers of STEM learning, education, and evaluation; (2) to stimulate the field to produce high quality and robust research results through the progress of theory, method, and human resources; and (3) to help coordinate and transform advances in education, learning research, and evaluation. REESE pursues its mission by developing an interdisciplinary research portfolio focusing on core scientific questions about STEM learning in current and emerging learning contexts, both formal and informal, from childhood through adulthood, and from before school through to graduate school and beyond into the workforce. REESE places particular importance upon the involvement of young investigators in the projects, at doctoral, postdoctoral, and early career stages, as well as the involvement of STEM disciplinary experts. In addition, research questions related to educational research methodology and evaluation are central to the REESE activity.

Presenter: Libby Lyons, Regional Coordinator, Office of International Science and Engineering
Program: PIRE – Partnerships for International Research and Education
Web site: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12819&org=NSF&sel_org=NSF&from=fund
Synopsis: Partnerships for International Research and Education (PIRE) seeks to catalyze a cultural change in U.S. institutions by establishing innovative models for international collaborative research and education. The program will enable U.S. institutions to establish collaborative relationships with international groups or institutions in order to engender new knowledge and discoveries at the frontier and to promote the development of a globally-engaged, U.S. scientific and engineering workforce. International partnerships are, and will be, increasingly indispensable in addressing many critical science and engineering problems. As science and engineering discoveries result more and more from international collaboration, U.S. researchers and educators must be able to operate effectively in teams comprised of partners from different nations and cultural backgrounds. The program supports forward-looking research whose successful outcome results from all partners – U.S. and foreign – providing unique contributions to the research endeavor. It is also intended to facilitate greater student preparation for and participation in international research collaboration, and to contribute to the development of a diverse, globally-engaged, U.S. science and engineering workforce.

Presenter: Fahmida Choudhury, Program Officer for Cross-Directorate Activities, SBE Directorate
Program: GK-12 – NSF Graduate Teaching Fellows in K-12 Education
Web site: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5472&from=fund
Synopsis: This program provides funding for graduate students in NSF-supported science, technology, engineering, and mathematics (STEM) disciplines to acquire additional skills that will broadly prepare them for professional and scientific careers in the 21st century. Through interactions with teachers and students in K-12 schools and with other graduate fellows and faculty from STEM disciplines, graduate students can improve communication, teaching, collaboration, and team building skills while enriching STEM learning and instruction in K-12 schools. Through this experience, graduate students can gain a deeper understanding of their own STEM research. In addition, the GK-12 program provides institutions of higher education with an opportunity to make a permanent change in their graduate programs by incorporating GK-12 like activities in the training of their STEM graduate students. **Expected outcomes include improved communication, teaching, collaboration, and team building skills for the fellows; professional development opportunities for K-12 teachers; enriched learning for K-12 students; and strengthened and sustained partnerships in STEM between institutions of higher education and local school districts.**

Program: REU Sites – Research Opportunities for Undergraduate Sites
Web site: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5517&from=fund
Synopsis: The Research Experiences for Undergraduates (REU) program supports active research participation by undergraduate students in any of the areas of research funded by the National Science Foundation. REU projects involve students in meaningful ways in ongoing research programs or in research projects specifically designed for the REU program. This solicitation features two mechanisms for support of student research: (1) *REU Sites* are based on independent proposals to initiate and conduct projects that engage a number of students in research. REU

Sites may be based in a single discipline or academic department, or on interdisciplinary or multi-department research opportunities with a coherent intellectual theme. Proposals with an international dimension are welcome. A partnership with the Department of Defense supports REU Sites in DoD-relevant research areas. (2) *REU Supplements* may be requested for ongoing NSF-funded research projects or may be included as a component of proposals for new or renewal NSF grants or cooperative agreements.

Undergraduate student participants in either Sites or Supplements must be citizens or permanent residents of the United States or its possessions.

Students may not apply to NSF to participate in REU activities. Students apply directly to REU Sites and should consult the directory of active REU Sites on the Web at http://www.nsf.gov/crssprgm/reu/reu_search.cfm.

Program: Minority Postdoctoral Research Fellowships and Supporting Activities
Web site: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13454&org=SBE&from_org=SBE
Synopsis: The Directorate for Biological Sciences (BIO) and the Directorate for Social, Behavioral and Economic Sciences (SBE) offer Minority Postdoctoral Research Fellowships and related supporting activities in an effort to increase the participation of underrepresented groups in selected areas of science in the U.S. These fellowships support training and research in science, technology, engineering and mathemetics (STEM) fields in a host institution only in the areas of biology and social, behavioral, and economic sciences within the purview of NSF. Supporting activities are travel grants to graduate students to visit prospective sponsors and starter research grants for Fellows.