June 2007 – Grant Opportunities in Engineering

Dear Engineering Faculty Members –

Here is our June 2007 listing of grant opportunities for faculty members in Engineering. We are still working on establishing a good list of grant opportunities, and would appreciate any suggestions you might have.

All of these notice are posted as PDF file on the Office of Research and Economic Development webpage on the Research Funding webpage (http://www.research.msstate.edu/funding/).

Please let my office know if we can help in any way with grant proposals for these or other opportunities.

1. National Science Foundation – Instrument Development for Biological Research (DEADLINE – September 12, 2007)

Synopsis - The Instrument Development for Biological Research (IDBR) Program supports the development of novel instrumentation or instrumentation that has been improved by an order of magnitude or more in some aspects. Supported instruments are anticipated to have a significant impact on the study of biological systems at any level. The IDBR Program also supports the development or major improvement of software for the operation of instruments or the primary analysis of instrument data where these software developments have the effect of improving instrument performance by at least an order of magnitude in some aspects. Proposals are encouraged for proof-of-concept development for entirely novel instrumentation. Proposals are encouraged for instrument developments that are expected to meet a broad need in the biological community in areas supported by NSF Biology programs. Proposals are encouraged for instrumentation that does not currently exist in the form of a working prototype. In the selection of projects for support, the program emphasizes the development of biological instrumentation that is not clinical or biomedical instrumentation.

More information - http://www.nsf.gov/pubs/2007/nsf07568/nsf07568.htm

2. National Science Foundation – Research Experiences for Undergraduates (DEADLINE – September 13, 2007)

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.

For More Information: http://www.nsf.gov/pubs/2007/nsf07569/nsf07569.htm

3. National Science Foundation – Science, Technology, Engineering, and Mathematics Talent Expansion Program (STEP) – (DEADLINE – September 18, 2007)

Synopsis - The Science, Technology, Engineering, and Mathematics Talent Expansion Program (STEP) seeks to increase the number of students (U.S. citizens or permanent residents) receiving associate or baccalaureate degrees in established or emerging fields within science, technology, engineering, and mathematics (STEM). Type 1 proposals are solicited that provide for full implementation efforts at academic institutions. Type 2 proposals are solicited that support educational research projects on associate or baccalaureate degree attainment in STEM.

For More Information: http://www.nsf.gov/pubs/2007/nsf07570/nsf07570.htm

4. Office of Naval Research Multidisciplinary University Research Initiative (MURI) – (DEADLINE – October 23, 2007)

Synopsis - The MURI program supports basic science and/or engineering research at U.S. institutions of higher education (hereafter referred to as "universities") that is of critical importance to national defense. The program is focused on multidisciplinary research efforts that intersect more than one traditional science and engineering discipline to address issues of critical concern to the DoD. The FY 2008 MURI competition is for the 19 topics listed below. Detailed descriptions of the topics can be found in Section VIII entitled, “Specific MURI Topics”, of this BAA. The detailed descriptions are intended to provide the proposer a frame of reference and are not meant to be restrictive to the possible approaches to achieving the goals of the topic and the program. Innovative ideas addressing these research topics are highly encouraged. White papers and full proposals addressing the following topics (1) through (6) should be submitted to ONR: (1) A 21st Century Approach to Electronic Device Reliability (2) Real-Time Methods for the Analysis of Networks (3) Biologically-Inspired Autonomous Sea Vehicles (4) Socio-Cultural Modeling for Understanding Asymmetric Threat Environments (5) Biometrics in the Maritime Domain(6) Biologically-Inspired Approaches for Team and Coalition Adaptation of Heterogeneous Unmanned Systems for Surveillance over Large and Complex AreasWhite papers and Full proposals addressing the following topics (7) through (13) should be submitted to the Air Force Office of Scientific Research (AFOSR):(7) Harnessing Complexity in the Human-Machine Systems (8) Assured Information Sharing(9) A 21st Century Approach to Electronic Device Reliability(10) Semiconductor Nanomembranes (11) Exploring the Interface: Mechanics of Nano-Scale Thermal Transport between Dissimilar Materials (12) Nanocatalysis for Propulsion

Applications(13) Vortex-Particle Dynamics, Interaction and Control for Brownout Mitigation. White papers and full proposals addressing the following topics (14) through (19) should be submitted to the Army Research Office (ARO):(14) Human, Social, Cultural, and Behavioral Modeling: Dynamic Models of the Effect of Culture on Collaboration and Negotiations(15) Brain Network Analysis and Modeling for Communication and Orientation(16) Reasoning by Abductive Inference(17) Spin-Mediated Magnetic Behavior in Hybrid Metal-Semiconductor Systems(18) Modeling, Analysis, and Control of Complex Multi-Scale Data Networks(19) Spray & Combustion of Gelled Hypergolic Propellants for Future Rocket and Missile Engines. Proposals from a team of university investigators may be warranted because the necessary expertise in addressing the multiple facets of the topics may reside in different universities, or in different departments in the same university. By supporting multidisciplinary teams, the program is complementary to other DoD basic research programs that support university research through single-investigator awards. Proposals must name one Principal Investigator as the responsible technical point of contact. Similarly, one institution will be the primary awardee for the purpose of award execution. The relationship among participating institutions and their respective roles, as well as the apportionment of funds including sub-awards, if any, must be described in both the proposal text and the budget. Historically Black Colleges and Universities and Minority Institutions (HBCU/MIs) (as defined by 10 U.S.C. 2323a (1) (c)) are encouraged to participate in the MURI program, either as the lead institution or as a member of a team. However, no specific funds are allocated for HBCU/MI participation. Please see Amendment 0001.

For More Information -
http://www.grants.gov/search/search.do?mode=VIEW&oppId=14519

5. FY2008 Multidisciplinary University Research Initiative (MURI) – For Submission to AFOSR – (DEADLINE – October 23, 2007)

Synopsis - The MURI program supports basic science and/or engineering research at U.S. institutions of higher education (hereafter referred to as "universities") that is of critical importance to national defense. The program is focused on multidisciplinary research efforts that intersect more than one traditional science and engineering discipline to address issues of critical concern to the DoD. The FY 2008 MURI competition is for the 19 topics listed. Detailed descriptions of the topics can be found in Section VIII entitled, “Specific MURI Topics”, of this BAA. The detailed descriptions are intended to provide the proposer a frame of reference and are not meant to be restrictive to the possible approaches to achieving the goals of the topic and the program. Innovative ideas addressing these research topics are highly encouraged.

For More Information:
http://www.grants.gov/search/search.do?mode=VIEW&oppId=14530