Discovery Research K-12 (DRK-12)

**Letter of Intent Deadline Date:**October 4, 2012, **Full Proposal Deadline Date:**  December 6, 2012

The Discovery Research K-12 program (DRK-12) seeks to significantly enhance the learning and teaching of Science, Technology, Engineering and Mathematics (STEM) by preK-12 students, teachers, administrators and parents. All DRK-12 projects should be framed around a research question or hypothesis that addresses an important need or topic in preK-12 STEM education. The emphasis in DRK-12 is on research projects that study the development, testing, deployment, effectiveness, and/or scale-up of innovative resources, models and tools. DRK-12 invites proposals that address immediate challenges that are facing preK-12 STEM education as well as those that anticipate a radically different structure and function of pre-K 12 teaching and learning. DRK-12 especially encourages proposals that challenge existing assumptions about learning and teaching within or across STEM fields, envision the future needs of learners, and consider new and innovative ways to support student and teacher learning. DRK-12 is particularly interested in projects that hold promise for identifying and developing the next generation of STEM innovators (NSB, 2010).  There are four strands described in detail in the solicitation: 1) Assessment; 2) Learning; 3) Teaching; 4) Scale-up.

DRK-12 projects are based on theories of learning, prior research and development.  Projects reflect the needs of an increasingly diverse population as well as national, state, or discipline priorities.  Outcomes include usable and scalable resources, models, tools, and contributions to the knowledge about STEM teaching and learning. In addition, teachers and students who participate in DRK-12 studies are expected to enhance their understanding and use of STEM content, practices and skills.

The DRK-12 program is primarily concerned with the goals and effectiveness of formal education, but recognizes that learning is not limited to formal school environments and times. The program encourages projects to draw from knowledge and practice of learning in out-of-school and informal settings.

Most young people and STEM professionals today use powerful technologies in the activities of their everyday lives. New knowledge, new ways of thinking, and new ways of finding and processing information drive our society and economy. Many of the resources, models and tools researched and developed by DRK-12 will provide innovative ways to use current and emerging technologies to transform STEM education.

DRK-12 recognizes that outstanding teaching is a critical and integral component of this improvement process.  While Strand 3 has a specific focus on resources, models and tools for teacher education and the impact of those models on student learning, projects submitted to the other strands may also include teacher support materials or professional development components in support of student learning.   Projects submitted to the Learning strand might also include the development of assessments related to the specific goals of the project.

Some DRK-12 projects focus on a specific STEM discipline or concept, while others have cross-disciplinary, cross-grade level content, but all projects must demonstrate that the content is important from both a disciplinary and learning perspective.

Full Research and Development projects are expected to lead to successful dissemination and adoption of findings or products in the preK-12 enterprise at a scale beyond that directly supported by the grant.

**Opportunities for Enhancing Diversity in the Geosciences**

Note: We are already planning this one

**Letter of Intent Deadline Date:**September 3, 2012, Required for Track 1 and Track 2 Proposals

**Full Proposal Deadline Date:**October 10, 2012 , Track 1 and Track 2 Proposals Only

The Directorate for Geosciences (GEO) supports research and education in the Earth, Ocean, Atmospheric, and Geospace Sciences. The *Opportunities for Enhancing Diversity in the Geosciences (OEDG) Program* is designed to address the fact that certain groups are underrepresented in the geosciences relative to their proportions in the general population. The primary goal of the OEDG Program is to increase participation in the geosciences by African Americans, Hispanic Americans, Native Americans (American Indians and Alaskan Natives), Native Pacific Islanders (Polynesians or Micronesians), and persons with disabilities. A secondary goal of the program is to increase the perceived relevance of the geosciences among broad and diverse segments of the population. The OEDG Program supports activities that will increase the number of members of underrepresented groups who:

* Are involved in formal pre-college geoscience education programs;
* Pursue and earn associate's, bachelor's, master's, and doctoral degrees in the geosciences;
* Enter geoscience careers; and
* Participate in informal geoscience education programs.

The OEDG Program offers three funding Tracks: *OEDG* *Planning Grants;* *Track 1: Proof-of-Concept Projects;* and *Track 2: Full-Scale Projects*.

***OEDG Planning Grants*** - This Track supports planning workshops, conferences, symposia and related short-term activities that facilitate either: 1) development of **new** strategic plans to implement systemic, community-wide programs to broaden participation in the geosciences; or, 2) development of **new** partnerships or collaborations between multiple institutions seeking to establish sustainable projects that address the goals of the OEDG program.

***Track 1: Proof-of-Concept Projects*** - This Track supports short-term activities. Track 1 projects include activities that will occur only one time, as well as those that are intended as the testing phase of an anticipated long-term *Full-Scale Project*.

***Track 2: Full-Scale Projects*** - This Track supports longer-term activities that will identify and promote pathways to geoscience careers among members of underrepresented groups.  It is expected that Track 2 proposals will establish programs that are sustainable without additional OEDG funding.  Prior Track 1 OEDG funding is **not** a pre-requisite for submitting a Track 2 proposal.