



**National Science Foundation
4201 Wilson Boulevard
Arlington, Virginia 22230**

NSF 12-091

Dear Colleague Letter - DGE-REESE-AGEP-AISL Call for Research Proposals on STEM Graduate Education and Postdoctoral Training

DATE: June 11, 2012

The Division of Graduate Education (DGE), in collaboration with the Division of Research on Learning in Formal and Informal Settings (DRL) and the Division of Human Resource Development (HRD), in the Directorate for Education and Human Resources (EHR) calls your attention to an opportunity to request support for research projects focused on STEM graduate education and postdoctoral training. This opportunity is embedded in the Research and Evaluation on Education in Science and Engineering (REESE) Solicitation ([NSF 12-552](#)), the Alliances for Graduate Education and the Professoriate (AGEP) Solicitation ([NSF 12-554](#)), and Advancing Informal STEM Learning (AISL) Solicitation ([NSF 12-560](#)).

We seek proposals that will advance theory and yield evidence about graduate education and postdoctoral training and that can potentially enhance the preparation of a diverse 21st century academic and non-academic workforce. The goal is to address the critical issues that impact the quality and effectiveness of graduate education and postdoctoral training in the nation.

We seek research appropriate for the REESE, AGEP, and AISL Program Solicitations that focuses on graduate education, such as the following areas:

Effectiveness of interventions to broaden the participation of underrepresented groups (e.g., women, underrepresented minorities, and persons with disabilities). Studies of the underlying issues affecting the differential participation rates in STEM graduate education and postdoctoral training; organizational and STEM cultural factors that make STEM graduate and postdoctoral training environments more or less welcoming; and cognitive, behavioral, and institutional causes of variable success in STEM graduate and postdoctoral training.

Graduate education and postdoctoral training. Graduate education models that address a wide range of disciplinary and/or interdisciplinary-based needs, the related institutional barriers, and strategies for mitigation; the impact of teacher training experience on the quality and level of graduate students' or postdoctoral fellows' research skills, competencies, and research productivity; mitigation of factors affecting student attrition and completion or fellows advancement to early career; the influence of skill requirements from employment sectors on graduate teaching and training; and the educational and professional outcomes for student or fellow involvement in collaborative activities with international and industrial partners.

Funding models. Studies examining the effects of different funding models (e.g., teaching assistantship, fellowship, traineeship, research assistantship, work-for-pay, loans) on graduate student or postdoctoral fellow preparation for career, retention, completion rates, time to degree, and publication rates - and whether they differ for master's and Ph.D. students or postdoctoral fellows.

Scaling. Research that looks at evidence-based scalable constructs for graduate education or postdoctoral training to prepare a diverse 21st century workforce equipped with advanced and flexible skills, capable of operating at the frontiers of science and factors that influence the speed of diffusion and sustainability of innovative methods.

Competitive proposals must comply with the requirements of the REESE Program Solicitation, AGEP Broadening Participation Research in STEM Education track in the AGEP Program Solicitation, or the AISL Program Solicitation.

For general information on REESE: (703) 292-8650 or DRLREESE@nsf.gov

For general information on AGEP: (703) 292-5350 or AGEP@nsf.gov

For general information on AISL: (703) 292-8616 or DRLISE@nsf.gov

For graduate education: (703) 292-8112 or GraduateResearch@nsf.gov

Sincerely,
James H. Lightbourne
Division Director

Division of Graduate Education