Funding Opportunities for Graduate Students in NSF Division of Graduate Education Programs

William Hahn
Gisele Muller-Parker
Sonia Ortega

Program Directors, DGE

May 20, 2009
Graduate Research Fellowship (GRF)

Graduate Teaching Fellows in K-12 Education (GK-12)

Integrative Graduate Education and Research Traineeship Program (IGERT)

Graduate Education and Career Advancement

GK-12 Creating Novel Opportunities for Graduate and Pre-College Education

IGERT Promoting Innovation through Interdisciplinary Collaborations

GRF Enriching Experiences for Individuals

- Graduate Research Fellowship (GRF)
- Graduate Teaching Fellows in K-12 Education (GK-12)
- Integrative Graduate Education and Research Traineeship Program (IGERT)
Graduate Education Programs

- Responsive to emerging research areas without regard to NSF organizational boundaries.
- Provide options and opportunities for participants, enrichment of the NSF portfolio, and spinoff value for PIs.
- Support U.S. citizens and permanent residents, developing an inclusive national workforce with global awareness.
Initiated in 1952 – oldest NSF program

>43,000 students including FY2008 awards

Currently ca. 3,200 fellows, 2,542 on “tenure” (taking stipend and cost of education)

Fellows at 168 U.S. institutions and 22 international institutions
Disciplinary Distribution (Freeman 2005)

Active Fellows 2009

- 105
- 214
- 169
- 193
- 106
- 1,016
- 828
- 391
- 199

Mathematics
Computer Science
Physics
Chemistry
Geoscience
Engineering
Life Science
Social Science
Psychology
The NSF Graduate Research Fellowship

Three years of support over a five year period
Annual stipend of $30,000 - cost of living
Annual tuition support of $10,500 - cost of education allowance paid to institution
$1,000 one-time international travel allowance
Cyberinfrastructure access via the TeraGrid
The NSF Graduate Research Fellowship

Portable to graduate institutions in US or abroad

Flexible - choice of project, advisor, department

No service requirement (national lab or military)

Typically awarded to ca. 1,000 students per year

Honorable Mention for meritorious applications

(includes Cyberinfrastructure resources)

Specific programs to support underrepresented populations
GRF Eligibility Criteria

Academic level
- Level 1 - Seniors, baccalaureates with no graduate study
- Level 2 - First-year graduate students
- Level 3 - Second-year grad students (12 months of graduate study or less by Aug 31 prior to submission)
- Level 4 - >12 months graduate study - change in field

Citizenship
- U.S. Citizen, National or Permanent Resident

Discipline
- Research-based Masters or PhD in NSF-Supported Field
NSF Graduate Research Fellowship Program

As an educator, you play a critical role in the promotion of the GRFP. By reviewing applications as a panelist, giving presentations at your institution, and mentoring those students wishing to apply, the support you provide is invaluable to the applicants’ success. Included in this section are all of the resources needed to get involved with the GRFP. You can download promotional materials or register as a potential panelist or register as a guide to help students at your institution.

Want to See A Fellow’s Research Featured on This Site?

If you are in contact with a current or past fellow, please have them send an email to outreach@nsfgrfp.org that includes the following:

- Their name
- Year awarded fellowship
- Institution attending/attended
- Image depicting their research (may or may not have people)
- Caption describing image, including what the viewer is looking at and the benefits of the research. Please use language that is easily understandable to someone outside the research field.

Included in this section:

Fellow Joshua Atwood from the University of Rhode Island assists the O‘ahu Early Detection Project in seeking and removing Miconia calvescens on a hillside in Honolulu, HI. M. calvescens is an invasive plant that competes with native vegetation and promotes erosion by forming shallow-rooted monocultures.
Graduate Research Fellowship Program (GRFP)

Graduate Fellow Mark Albins
Oregon State Univ.
Invasive species

Invasive Indo-Pacific Lionfish affect Atlantic coral-reef communities

Graduate Fellow James Cherwa
Univ. of Arizona
Virology

Converting an essential viral protein into an inhibitor of virus assembly
Dear Colleague Letter: NSF Graduate Research Fellows Nordic Research Opportunity

For NSF Graduate Research Fellows (GRFs) to enable Fellows to gain international research experience and establish collaborations with counterparts at Norwegian or Finnish research institutions. Through a pilot collaboration, the U.S. National Science Foundation, the Research Council of Norway (RCN), and the Finnish Funding Agency for Technology and Innovation (TEKES) will support on a competitive basis research visits of between two and twelve months to Norway, or between three and twelve months to Finland, respectively.
Contact Information

GRFP Website:  http://www.nsfgrfp.org/

NSF GRF description, solicitation (August), and links:

  http://www.nsf.gov/grfp/

Online Application, User Guides, and Official Announcements:

  http://www.fastlane.nsf.gov/grfp/

866-NSF-GRFP (673-4737)    help@nsfgradfellows.org
Graduate STEM Fellows in K-12 Education (GK-12)

- General information:  

- Gk-12 Project Database:
  - [http://www.nsfgk12.org](http://www.nsfgk12.org)

- Goal: to provide catalytic opportunities for transforming U.S. graduate programs through sustainable partnerships with K-12 schools
GK-12 Program http://www.nsfgk12.org
GK-12 – Numbers

- 10\textsuperscript{th} year of operation
- $55M/year
- 146 active projects, 125 institutions
- 23-36 awards/year
- 600-900 Fellows supported/year
- 5,623 Graduate Fellows funded
- 9,473 teachers
- 687,594 K-12 students
- 4,732 K-12 schools
Multiple Impacts

- Value added to graduate students (communication, teaching, team building)
- Permanent changes in graduate education
- Partnerships with the broader learning community (STEM brought to teachers and K-12 students)
Engaging the next generation

GK-12 Program

Water, Environment, Science & Teaching (WEST)
University of Utah GK-12 Project
Linking Watershed Research & K-12 Education within an Ecosystem Context

- Research focus: watershed modeling

Ohio State University, Sugar Creek Research Team, Bio-complexity and Watershed Ecology
Goal: To provide training opportunities for U.S. Ph.D. students that feature

Interdisciplinary cutting-edge research
Innovative educational programs
Inclusiveness
Global awareness
Unique IGERT Features

- Preparation for interdisciplinary research
  - Learning teamwork, crossing disciplines

- Preparation for a variety of careers
  - Academia, Industry, Entrepreneurship

- Preparation for a global future
  - International collaborative research and education
- Program is in its 10th year, FY 08 budget: $64M
- Provides $30,000 stipend and $10,500 COE
- Total projects awarded: 215
- Number of awards/year: ~20
- Projects in 41 states, DC, and Puerto Rico
- Each year ~1500 trainees supported, average 10-12 trainees/site
- 2-stage competition, >400 preliminary and ~100 invited full proposals/year
**Theme: Environmental Change and Implications for Humanity**

Dartmouth: Polar Environmental Change

George Washington University: Dynamics of Behavioral Shifts in Human Evolution: Brains, Bodies, and Ecology

UCSD: Marine Biodiversity: Understanding Threats and Providing Solutions
• Research and Evaluation on Education in Science and Engineering (REESE) and DGE partnership to support research on Graduate Education

• Deadlines and general criteria same as REESE

• Dear Colleague letter found on NSF DGE web page
Division of Graduate Education

Graduate Research Fellowship Program (GRFP):
William Hahn and Gisele Muller-Parker

NSF Graduate Teaching Fellows in K-12 Education (GK-12): Sonia Ortega and Ping Ge

Integrative Graduate Education and Research Traineeship (IGERT): Carol Van Hartesveldt and Holly Given

Research on Graduate Education DCL