

# **Funding Options for Doctoral Students**

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**Mailman School Research Resources Office**

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# What you're looking for:

## Agencies/ Funding Sources:

- ▶ NIH:
  - NRSA
  - NIEHS
  - K Awards
- ▶ EPA
- ▶ CDC
- ▶ DOD
- ▶ NSF
- ▶ Private foundations  
(Foundation Center)

## Topics:

- ▶ Setting timelines
- ▶ Grant opportunities one can work on/submit prior to completing dissertation
- ▶ How to apply for grants available to current doctoral students
- ▶ Grant application websites

# NIH Graduate Student Funding Opportunities

- ▶ **Ruth L. Kirschstein National Research Service Award (NRSA):**
  - Individual Fellowships (“F Series”)
  - Two types available for individuals pursuing research doctorates in health related fields:
    - Ruth L. Kirschstein National Research Service Awards for Individual Predoctoral Fellows (Parent F31) (PA-11-111)
    - Ruth L. Kirschstein National Research Service Awards for Individual Predoctoral Fellowships to Promote Diversity in Health-Related Research (Parent F31 - Diversity) (PA-11-112)
- ▶ Essentially identical application requirements/process, for F31-Diversity, applicants must certify eligibility.
  - For purposes of this award, “diversity” includes: individuals from underrepresented racial and ethnic groups (as defined by NSF’s National Center for Science and Engineering Statistics); Individuals with disabilities; *In rare cases at the doctoral level*, individuals from disadvantaged backgrounds.

# NRSA Budget Information

- ▶ Stipend Level for FY 2011: \$21,600
- ▶ Tuition and Fees: An amount equal to 60% of the level requested by the applicant institution, up to \$16,000 per year.
- ▶ Institutional Allowance for Individual Fellows: \$4,200
  - To help defray the cost of fellowship expenses such as health insurance, research supplies, equipment, books, and travel to scientific meetings
- ▶ No Indirect Costs to University.

# NRSA F31 (PA-11-111)/ F31- Diversity (PA-11-112)

- ▶ NIH's participating Institutes and Centers (ICs) listed on Program Announcements.
- ▶ **NIEHS participates in F31-Diversity program, but not the Parent F31.**
- ▶ EHS students may be able to fit their research into one of the other ICs' missions (e.g., NCI).
- ▶ Contacts and IC-specific information : [F31/](#) [F31-Diversity](#).

# F31 Success Rates (FY 2010)

	Mechanism	Number of Applications Reviewed	Number of Applications Awarded	Success Rate	Total Funding
NCI	F31	72	28	38.89%	\$956,309
NHLBI	F31	30	12	40.00%	\$413,201
NIDCR	F31	30	17	56.67%	\$664,268
NIDDK	F31	24	12	50.00%	\$401,646
NINDS	F31	336	83	24.70%	\$2,784,150
NIAID	F31	57	12	21.05%	\$437,757
NIGMS	F31	64	19	29.69%	\$663,073
NICHD	F31	37	16	43.24%	\$530,276
NEI	F31	15	9	60.00%	\$317,181
NIEHS	F31	9	5	55.56%	\$158,286
NIA	F31	156	32	20.51%	\$1,127,453
NIAMS	F31	7	1	14.29%	\$32,928
NIDCD	F31	104	36	34.62%	\$1,158,209
NIMH	F31	302	77	25.50%	\$2,576,185
NIDA	F31	136	46	33.82%	\$1,559,248
NIAAA	F31	68	32	47.06%	\$1,079,544
NINR	F31	84	33	39.29%	\$1,151,966
NHGRI	F31	2	1	50.00%	\$32,107
NIBIB	F31	3	1	33.33%	\$31,802
NCCAM	F31	25	8	32.00%	\$313,546

# Submission, Review, and Project Start Dates

	Cycle I	Cycle II	Cycle III
<b>Grant Due Date</b>	April 8	August 8	December 8
<b>Scientific Merit Review</b>	June - July	October - November	February - March
<b>Advisory Council Round</b>	August or October	January	May
<b>Earliest Project Start Date</b>	September or December	April	July

Note: AIDS and AIDS-related Applications have their own due dates:  
*Cycle 1: May 7; Cycle 2: September 7; Cycle 3: January 7*

# NRSA F31/F31-Diversity Application Components

- ▶ Project Narrative
- ▶ Cover Letter
- ▶ Project Summary/ Abstract
- ▶ Specific Aims
- ▶ Project Narrative
- ▶ Research Strategy
- ▶ Bibliography & References Cited
- ▶ Facilities & Other Resources
- ▶ List of Referees
- ▶ Sponsor and Co-Sponsor Information
- ▶ Biographical Sketches
- ▶ Protection of Human Subjects (if applicable)
- ▶ Letters of Reference
- ▶ Inclusion of women and minorities (if applicable)
- ▶ Inclusion of children (if applicable)
- ▶ Respective Contributions
- ▶ Selection of Sponsor and Institution
- ▶ Responsible Conduct of Research
- ▶ Applications for Concurrent Support? (if applicable)
- ▶ Goals for Fellowship Training and Career
- ▶ Doctoral Dissertation and Research Experience
- ▶ *For F31-Diversity Applications:*  
Certification Letter



# NIEHS Funding Opportunities

- ▶ List of [Active Program Announcements](#) offered by NIEHS.
- ▶ NIEHS participates in the Supplements to Promote Diversity in Health-Related Research program.
  - More information on that program can be found [here](#).

# NIH Research Supplements to Promote Diversity in Health-Related Research

- ▶ Link to Parent Announcement: [PA-08-190](#).
- ▶ Purpose: To promote diversity in the biomedical, behavioral, clinical and social sciences research workforce (individuals from underrepresented racial/ethnic groups; individuals with disabilities; individuals from disadvantaged backgrounds– more details available in parent announcement.
- ▶ Supplements to currently funded NIH active NIH awards (R00, R01, etc.). Policies vary regarding R03s/R21s.
- ▶ Applications are submitted by PIs on behalf of the candidate.
- ▶ No set deadlines; applications may be submitted at any time.

# NIH Research Supplements to Promote Diversity in Health-Related Research

- ▶ Research proposed must be an integral part of the approved, ongoing research of the parent grant and it must have the potential to contribute significantly to the research career development of the candidate.
- ▶ Direct costs can range from \$5,000- \$75,000.
- ▶ Graduate Research Assistants: Any eligible graduate student who is enrolled in a master's or a research doctoral degree program in biomedical, behavioral, clinical or social sciences is eligible for consideration.
- ▶ Students currently supported on research/training grants may not be supported on research supplements.

# NIH Research Supplements to Promote Diversity in Health-Related Research

## ▶ Budget Information:

- Compensation may include salary –or- tuition remission paid as, or in lieu of, wages.
- The total amount requested for salary, tuition and fringe benefits can not exceed the amount allowable for a first year postdoctoral fellow (i.e., level zero) at the same institution performing comparable work.
- Additional funds up to \$4,000 per year may be requested for supplies and travel.

# NIH Dissertation Research Grants

- ▶ The R36 mechanism is used differently by different Institutes/ Centers:
  - [Mental Health Dissertation Research Grant to Increase Diversity \(R36\)](#) (expires January 8, 2012)
  - [AHRQ Grants for Health Services Research Dissertation Program \(R36\)](#) (expires August 2, 2012)
  - [Drug Abuse Dissertation Research: Epidemiology, Prevention, Treatment, Services, and/or Women and Sex/Gender Differences \(R36\)](#) (expires January 8, 2013)
  - [Aging Research Dissertation Awards to Increase Diversity \(R36\)](#) (expires January 8, 2013)
- ▶ Eligibility criteria/ application format/ budget and project period vary by agency.

# NIH Career Development “K” Awards

- ▶ NIH K Kiosk page can be found [here](#).
- ▶ K01 Parent Announcement ([PA-11-190](#)).
- ▶ Generally, individuals apply for K awards during post-doctoral appointments/ as junior faculty members (Assistant of Associate Professors who have not established research independence/have never received an R01 from the NIH).

# EPA STAR Fellowships

- ▶ EPA Science To Achieve Results (STAR) Fellowships For Graduate Environmental Study.
- ▶ 2011 Solicitation can be found [here](#).
- ▶ Doctoral students may be supported for a maximum of three years, usable over a period of five years. The fellowship program provides up to \$42,000 per year of support per fellowship.
- ▶ 2012 Program Solicitation not yet released.

# EPA STAR Fellowships

- ▶ Budget Information:
  - **Stipends:** For the 2011-2012 academic year, stipends are \$25,000 for 12-month tenure, paid to fellow.
  - **Tuition and Academic Fees:** Up to \$12,000 per year, paid to institution.
  - **Expenses:** Up to \$5,000 to pay for items and activities for the direct benefit of the student's education and research (e.g., health insurance, books, supplies, computers, data analysis, publication costs, equipment, travel to technical and scientific meetings, and necessary domestic/international travel).
  - **EPA Fellowship Conference:** Fellows are expected to attend the EPA Graduate Fellows Conference. Resources to support this travel are to be taken from the expense allowance.



# Topics and Funding Opportunity Numbers (FON)

- ▶ EPA-F2011-STAR-A1: Emerging Environmental Approaches & Challenges: Innovative Investigations for Oil Spill Impacts (A1)
- ▶ EPA-F2011-STAR-A2: Emerging Environmental Approaches & Challenges: Social Sciences (A2)
- ▶ EPA-F2011-STAR-A3: Emerging Environmental Approaches & Challenges: Information Science (A3)
- ▶ EPA-F2011-STAR-B1: Tribes and American Indian/Alaska Native/Pacific Islander Communities (B1)
- ▶ EPA-F2011-STAR-C1: Nanotechnology (C1)
- ▶ EPA-F2011-STAR-D1: Science & Technology for Sustainability: Environmental Entrepreneurship (D1)
- ▶ EPA-F2011-STAR-D2: Science & Technology for Sustainability: Green Engineering/Building/Chemical Products & Processes/Materials Development (D2)
- ▶ EPA-F2011-STAR-D3: Science & Technology for Sustainability: Green Energy/Natural Resources Production & Use (D3)

\*Descriptions of Each Topic/ FON  
available in [Program Solicitation](#).

# Topics And Funding Opportunity Numbers (FON)

- ▶ EPA-F2011-STAR-E1: Global Change (E1)
- ▶ EPA-F2011-STAR-F1: Clean Air (F1)
- ▶ EPA-F2011-STAR-G1: Drinking Water (G1)
- ▶ EPA-F2011-STAR-H1: Water Quality: Hydrogeology and Surface Water (H1)
- ▶ EPA-F2011-STAR-H2: Water Quality: Coastal and Estuarine Processes (H2)
- ▶ *\*EPA-F2011-STAR-I1: Human Health: Public Health (I1)*
- ▶ *\*EPA-F2011-STAR-I2: Human Health: Risk Assessment and Risk Management (I2)*
- ▶ EPA-F2011-STAR-J1: Ecosystem Services: Aquatic Systems Ecology (J1)
- ▶ EPA-F2011-STAR-J2: Ecosystem Services: Terrestrial Systems Soil and Plant Ecology (J2)
- ▶ EPA-F2011-STAR-J3: Ecosystem Services: Terrestrial Systems Animal Ecology (J3)
- ▶ EPA-F2011-STAR-K1: Pesticides and Toxic Substances (K1)
- ▶ EPA-F2011-STAR-L1: Land Protection (L1)

\*Descriptions of Each Topic/ FON  
available in Program Solicitation

# EPA STAR Application Components

## ▶ **Standard Form 424**

## ▶ **Front Page**

- Name; Funding Opportunity Number and Topic Title; Title of Project; Degree Sought; Environmental Discipline; Educational Level
- Note on Educational Level:
  - Select “Doctoral Student (DS)” if you are seeking funding for a doctoral program, have completed less than one year toward this degree, and will have completed another graduate or professional degree by the time you submit application
  - Select “Continuing Doctoral Student (CD) if you are enrolled in a doctoral program and have completed more than one year, but less than four years, toward this degree.”

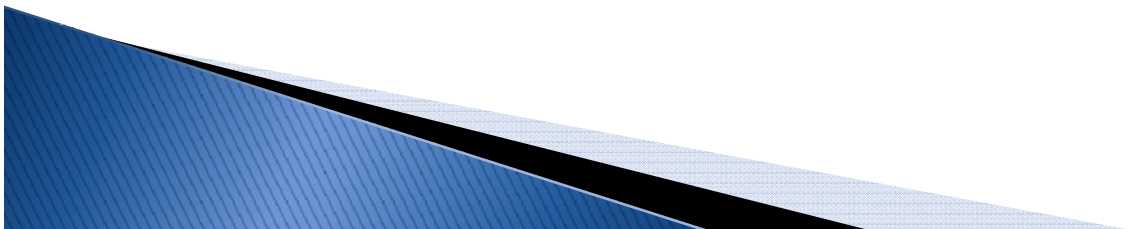
## ▶ **EPA Key Contacts Form**

- Authorized Representative; Payee; Administrative Contact; Principal Investigator.

# EPA STAR Application Components

## ▶ Personal Statement

- 1000 word limit
- Explain your academic and environmental career goals;
- Describe how your proposed course of study or research will help you achieve these goals.
- Include any background information you believe is pertinent and provides insight into why you have chosen the goals you are pursuing.



# EPA STAR Application Components

## ▶ **Proposal Description**

- 4000 word limit, plus references
- Describe the scientific and societal importance of your chosen environmental field of study.
- Articulate how your thesis/special project/proposed environmental project/dissertation topic/research project is relevant to the protection of human health and the environment, and how it relates to your chosen FON.
- Explain what broader societal impacts you might have as a fellow by virtue of your particular environmental interests as well as broader environmental applications resulting from your approach.

# EPA STAR Application Components

## ▶ **Proposal Description**

- *Specific for DS Applicants:* What environmentally-related dissertation topic you would select and why it would be important; Influential publications in your area of interest.
- *Specific to CD Applicants:* Your dissertation topic, the goal of your research, and environmental problem you are focusing on and/or your hypothesis; Key research published on your topic and how results of that research relate to your topic (include a list of cited literature for your research); The rationale, environmental need, and approach of your research (hypothesis testing); Expected results of your research and environmental benefits.

# EPA STAR Application Components

## ▶ **Background Information:**

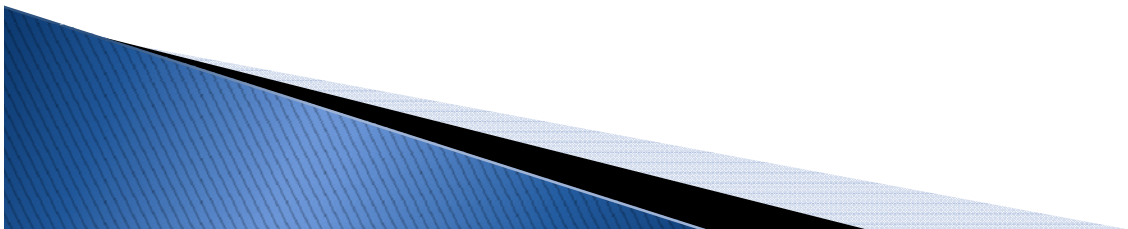
- Education & Relevant Experiences (1 Page – Resume format)
- Publications & Presentations (2 Pages)
- Course Work (tabular format)

## ▶ **Letters of Recommendation**

- Must submit three.
- Sponsor/ advisor should submit one.
- At least two should be from individuals with knowledge of your academic record.
- Third may be from an individual who has supervised you (mentor, internship supervisor, or work supervisor)

# EPA STAR Key Dates/ Timelines

- ▶ For 2011-
  - Application due dates- November 5, 2011
  - Award notification dates stated in solicitation- April 1, 2011 (awardees to be contacted); June 30, 2011 (awardees receive official notification letters).
  - Fellowship start date: September 1, 2011
- ▶ 2012 solicitation has not been released.





# NSF Directorates

- ▶ *\*[Directorate for Biological Sciences](#): Division of Molecular & Cellular Bioscience; Division of Biological Infrastructure; Division of Integrative Organismal Systems; Division of Environmental Biology; Emerging Frontiers Office*
- ▶ *\*[Directorate for Social, Behavioral & Economic Sciences](#): Division of Social and Economic Sciences; Division of Behavioral and Cognitive Sciences; National Center for Science and Engineering Statistics; Office of Multidisciplinary Activities*
- ▶ Directorate for Computer & Information Science & Engineering
- ▶ Directorate for Education & Human Resources
- ▶ Directorate for Engineering
- ▶ Directorate for Geosciences
- ▶ Directorate for Mathematical & Physical Sciences

# NSF Doctoral Student Funding

- ▶ Graduate Research Fellowship Program (GRFP)
- ▶ Doctoral Dissertation Improvement Grants in the Directorate for Biological Sciences (DDIG)
  - Link to solicitation:  
[http://www.nsf.gov/publications/pub\\_summ.jsp?WT.z\\_pims\\_id=5234&ods\\_key=nsf11569](http://www.nsf.gov/publications/pub_summ.jsp?WT.z_pims_id=5234&ods_key=nsf11569).
- ▶ Science Technology and Society Doctoral Dissertation Research Improvement Grants (DDRIG)
  - Link to solicitation:  
[http://nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5324&org=SES&from=home](http://nsf.gov/funding/pgm_summ.jsp?pims_id=5324&org=SES&from=home)

# NSF Graduate Research Fellowship Program (GRFP)

- ▶ [GRFP](#) provides three years of support for the graduate education of individuals who have demonstrated potential for significant achievements in science/engineering research.
  - Program announcement can be found [here](#).
- ▶ Budget information:
  - Three-year annual stipend of \$30,000; \$10,500 education allowance for tuition and fees.
- ▶ The 2012 GRFP Program Solicitation and application should be available around August 2011.

# NSF Graduate Research Fellowship Program (GRFP)

- ▶ Individual Eligibility criteria:
  - US citizen, US national, or permanent resident
  - Research-focused Master's or Ph.D. program in an NSF-supported field
  - Attending an accredited United States institution
  - \*Have completed *no more than twelve months of full-time graduate study (or the equivalent)*
- ▶ Program Eligibility Criteria:
  - Note: public health programs listed as ineligible, BUT you may be able to frame your proposal to fit within one of other [eligible areas](#).

# NSF Doctoral Dissertation Funding

- ▶ Doctoral Dissertation Improvement Grants in the Directorate for Biological Sciences (DDIG)
  - Solicitation can be found [here](#).
- ▶ SBE Doctoral Dissertation Research Improvement Grants (SBE DDRIG)
  - Solicitation can be found [here](#).
- ▶ Not fellowship programs; no stipends or tuition costs. Awardees can receive funds from other sources.

# NSF Doctoral Dissertation Funding Application Components

- ▶ Cover Page.
- ▶ Project Summary.
- ▶ Project Description (8 pages for DDIG; 10-15 pages for DDRIG)
- ▶ References Cited.
- ▶ Biographical Sketches (2 pages; different format from NIH).
- ▶ Budget/ Budget Justification.
- ▶ Special Information/ Supplementary Documentation: (Statement of Candidacy; Context for Improvement; Data Management Plan; Letters of Collaboration, if applicable).

# CDC Funding Opportunities

- ▶ CDC Student Fellowship and Internship Page:  
<http://www.cdc.gov/Fellowships/StudentInternships.html>
  - [CDC Summer Graduate Environmental Health Internship \(GEH\)](#): 10-week summer internship for graduate students interested in a career in environmental health.
- ▶ CDC Career Training Page:  
<http://www.cdc.gov/Fellowships/CareerInternships.html>.
- ▶ CDC Office of Minority Health & Disparities Office Training Opportunities Page:  
<http://www.cdc.gov/omhd/training.htm>.

# DOD Fellowships

- ▶ National Defense Science and Engineering Graduate (NDSEG) Fellowship: <http://ndseg.asee.org/>
- ▶ Supported disciplines:
  - Aeronautical and Astronautical Engineering
  - Biosciences
  - Chemical Engineering
  - Chemistry
  - Civil Engineering
  - Cognitive, Neural, and Behavioral Sciences
  - Computer and Computational Sciences
  - Electrical Engineering
  - Geosciences
  - Materials Science and Engineering
  - Mathematics
  - Mechanical Engineering
  - Naval Architecture and Ocean Engineering
  - Oceanography
  - Physics



# DOD Fellowships

- ▶ Intended for students at or near the beginning of their doctoral studies in science or engineering.
- ▶ **Stipends and Allowances:** The DoD will pay the fellow's full tuition and required fees. In addition, fellows receive a stipend for 12-month tenures.
  - First Year: \$30,500, Second Year: \$ 31,000, Third Year: \$31,500
  - DOD will also pay for medical insurance coverage offered through the institution, up to a total value of \$1,000 per year.

# Additional DOD Predoctoral Opportunities

- ▶ Other DOD predoctoral opportunities are periodically available through the Congressionally Directed Medical Research Program
  - CDMRP areas of research include autism, breast cancer, ovarian cancer, lung cancer, prostate cancer.
  - For example: [DoD Breast Cancer Predoctoral Traineeship Award](#), which was active in 2010.
  - No predoctoral programs currently active through the CDMRP.
  - Active CDMRP opportunities can be found [here](#).
- ▶ To Receive Funding Opportunity Notifications by email, send request to: [help@cdmrp.org](mailto:help@cdmrp.org).

# Foundation Funding Resources

- ▶ A list of foundation funding resources is available on the Mailman School Research Resources [“Funding Resources for Graduate Students” website.](#)
- ▶ Additional foundation funding information can be found at Mailman School Research Resources [“Foundation Funding” page.](#)
  - This includes links to Foundation Center and Community of Science (another database of funding opportunities).
- ▶ Applications for foundation funding are generally submitted independently, not through Department/Mailman School.

# Using Grants.gov

- ▶ Central website for finding/ applying to government-sponsored funding opportunities
- ▶ You can search for active grant opportunities, browse opportunities by topic/ agency, sign up for email notifications, etc.
- ▶ To sign up for email notifications, click here: [http://www07.grants.gov/applicants/email\\_subscription.jsp](http://www07.grants.gov/applicants/email_subscription.jsp).

# Grant Preparation “Battle Plan”

- ▶ Initiate 6-8 weeks prior to deadline (consider starting earlier as a student/ first time applicant)
- ▶ At this point, you should have:
  - A Funding Opportunity selected
  - Your proposed project outlined.
  - Sponsors/ co-sponsors selected.

## Three Phases:

**Planning → Preparing → Submitting**

From Research Resources “Grant Prep Boot Camp”  
For Mailman School Faculty Members

# Preliminary Steps (“Planning”)

- ▶ Review Funding Opportunity closely
  - Consult [Research Resources Office](#) or contacts listed in funding announcement if you have questions about content.
  - Make sure you have the most recent announcement and forms.
- ▶ Contact Program Officers or equivalent to discuss project idea
  - Contact information should be listed in Program Announcement.
- ▶ Review application instructions (ex: “[SF424 \(R&R\) Individual Fellowship Application Guide for NIH and AHRQ](#)”; NSF “[Grant Proposal Guide](#)”)
- ▶ Register with ERA Commons/ Grants.gov, if necessary
  - Instructions for registering for Commons can be found [here](#).

# Preparing Specific Aims

- ▶ Consider the aims the most critical part of your grant
  - Not unusual to prepare a dozen or more drafts
- ▶ Review examples.
- ▶ Ask sponsors, mentors, advisors, and colleagues to review your Specific Aims.
- ▶ Determine the “**impact**” of your proposed research also at this point.

# Errors and Warnings

- ▶ You may receive errors and warning messages from grants.gov. Check your email and be available in in the days following submission.
- ▶ Warnings may not have to be addressed, but your response to **errors** is time sensitive.
- ▶ Applicants will still have a two-business-day [application viewing window](#) for grants submitted **before agency due dates**, but will **not** have two days after the due date to review and make changes.
- ▶ Submit **early** to take advantage of the opportunity to correct errors and warnings and to review the application in the eRA Commons before the deadline.



# Useful Websites

- ▶ Mailman School Research Resources Office Website:  
<http://www.mailman.columbia.edu/faculty-staff/research-resources-r2-office>
- ▶ Research Resources' "Funding Resources for Graduate Students" website:  
<http://www.mailman.columbia.edu/faculty-staff/research-resources-r2-office/funding-resources/funding-resources-graduate-students>
- ▶ Application Guides for NRSA Fellowships (download: Individual Fellowship Application Guide SF424 (R&R) – (Adobe Forms Version B Series):  
<http://grants.nih.gov/grants/funding/424/>
- ▶ UCLA NRSA Process Overview:  
<http://www.research.ucla.edu/ocga/Documents/NRSA%20Process%20Overview.pdf>
- ▶ Grants.gov
- ▶ EPA STAR Graduate Fellowship website: <http://www.epa.gov/ncer/fellow/>
- ▶ NSF Graduate Research Fellowship FAQs:  
[http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=nsf11050](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf11050)