Applying for Federal Fellowships

T. M. Murali

September 23, 2010

Slides will be available on the Department’s web page for graduate fellowships
Federal Fellowships

- Very prestigious
- Extremely competitive
- Provide independence to awardee
- Make awardee highly competitive in post-PhD job market
- Lots of $$,$$$!
- Most applications due between November and January.
Available Fellowships

▶ NSF Graduate Research Fellowship Program (GRFP):
   http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=6201,
   http://www.nsfgrfp.org

▶ National Defense Science and Engineering Graduate Fellowship (NDSEG):
   http://ndseg.asee.org/

▶ DOE Computational Science Graduate Fellowship (CSGF):
   http://www.krellinst.org/csgf/index.shtml

▶ DOE Office of Science Graduate Fellowship (SCGF):
   http://scgf.orau.gov

▶ American Society for Engineering Education SMART Scholarship:
   http://smart.asee.org

▶ National Academies Research Associateship Programs (RAP):
   http://sites.nationalacademies.org/pga/rap
Eligibility

- NSF GRFP: U.S. citizens or nationals, or permanent resident aliens by the application deadline.
- NDSEG: U.S. citizens or nationals
- DOE CSGF: U.S. citizens or permanent resident aliens.
- SMART: U.S. citizens
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- DOE CSGF: U.S. citizens or permanent resident aliens.
- SMART: U.S. citizens
- Other conditions:
  - Full time students.
  - Some require applicant be a senior undergraduate or in the first two years of graduate studies.
  - SMART fellowship awardees must be able to participate in summer internships at DoD laboratories and be willing to accept post-graduate employment with the DoD.

- Read the application materials very carefully!
Application Materials

- Each application has its own set of formats, rules and requirements, online application page.
- Usually require three letters of recommendation.
- CV
- Description of proposed research
- May require personal statement, research experience.
- Lengths vary dramatically (2 pages for NSF, 300 words for DOE).
Planning Your Applications

- Plan ahead, give yourself enough time to complete each application ($\geq 1$ month).
- Give letter writers enough time to write their letters. They will be besieged with letter requests in late Fall and early Spring.
- High GPA is important, but not necessarily a pre-requisite.
- Have a compelling research plan. Work closely with your advisor.
- Revise, revise, revise.
- Essays must appear to be written by you, not your advisor! (Don’t take Project Summary from advisor’s NSF application.)
- You can reuse content across applications, but it is best to write each application from scratch because of enormously different length constraints.
Departmental Resources: Many Awardees

- NSF GFRP
  - Meg Dickey-Kurdziolek (2006, Deborah Tatar)
  - Anamary Leal (2010, Doug Bowman)
  - Chris Poirel (2010, T. M. Murali)
  - Ricardo Quintana-Castillo (2008, Manuel Prez-Quiones)
  - Ashley Robinson (2007, Francis Quek)
  - Greg Wilson (2010, Scott McCrickard)

- NDSEG
  - John Linford (2007, Adrian Sandu)
  - Thomas Scogland (2009, Wu Feng)

In 2009, at least two faculty reviewed each NSF GFRP application.

We will continue the practice this year.

We will request at least one previous winner to review each application.

We will extend reviews to other applications depending on demand.
Timeline

- NSF GFRP: November 15, 2010 (Interdisciplinary Fields of Study), November 18, 2010 (CS)
- DOE SCGF: late November 2010 (was November 30, 2009 for the last cycle)
- SMART: December 1, 2010
- NDSEG: December 17, 2010
- DOE CSGF: January 11, 2011
Timeline

- Submit draft NSF GFRP applications: Friday, October 15, 2010.
- NSF GFRP: November 15, 2010 (Interdisciplinary Fields of Study), November 18, 2010 (CS)
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Information Session for the NSF GRFP and Other Federal Fellowships

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September 23, 2010
Overview

- DOE Computational Science Graduate Fellowship
- DOE Office of Science Graduate Fellowship
- DOD National Defense Science and Engineering Graduate Fellowship
- NSF Graduate Research Fellowship Program
DOE Computational Science Graduate Fellowship (CSGF)

- http://www.krellinst.org/csgf
- Extremely competitive: ~ 4% of 531 applicants in 2010
- Requirements:
  - GRE Scores (preferred)
  - Transcripts
  - 3 Reference Letters
  - Lists of: Research Experience, Publications, Employment, Awards, Extracurricular
  - Plan of Study
  - 3 Essays (300 words):
    - Field of Interest: “How will computational science spur advances in your field?”
    - Program of Study: “How will your proposed coursework help you?”
    - HPC and Research: “How will HPC improve your research?”
DOE Office of Science Graduate Fellowship (SCGF)

- [http://scgf.orau.gov](http://scgf.orau.gov)
- Extremely competitive: 150 of 3,200+ applicants in 2010
- Requirements:
  - Transcripts
  - 3 Reference Letters
  - Top 10 Awards
  - 2 Essays:
    - Personal Statement (1000 words): Describe academic career and relevant experiences.
    - Proposed Plan of Research (1200 words): Specific structure, laying out your research goals and plans.
DOD National Defense Science and Engineering Graduate Fellowship (NDSEG)

- [http://ndseg.asee.org](http://ndseg.asee.org)

- **Requirements:**
  - GRE Scores
  - Transcripts
  - 3 Reference Letters
  - Lists of: Research Experience, Publications, Employment, Awards, Extracurricular
  - Summary of Goals (3,000 chars): Describe research interests, long term goals and how you plan to accomplish them.
NSF Graduate Research Fellowship Program

- [http://www.nsfgrfp.org](http://www.nsfgrfp.org) – “unofficial” information resource
  - [https://www.fastlane.nsf.gov/grfp](https://www.fastlane.nsf.gov/grfp) – where you actually submit

- Requirements:
  - NO GRE Scores in 2010
  - Transcripts
  - 3 Reference Letters (advisor, research mentor, employer)
  - 3 Essays (2 page each):
    - Personal Statement
    - Research Experience
    - Plan of Research
NSF GRFP Essays

Intellectual Merit:

Broader Impacts:

Try to stress BI as much as possible, IM will show.
NSF GRFP Essays

Intellectual Merit:

- “How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields?”
- “How well qualified is the proposer to conduct the project?”
- “How well conceived and organized is the proposed activity?”
- “Is there sufficient access to resources?”

Broader Impacts:


- How well does the activity advance discovery and understanding while promoting teaching, training and learning?
- Poster Presentations
- How well does the proposed activity broaden the participation of underrepresented groups?
- AWC volunteer
- What may be the benefits of the proposed activity to society?

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NSF GRFP Essays

Personal Statement:

- Less Formal: Tell a story about your academic career.
- What brought you to your field and what do you love about it?
  Personal experience?
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Research Experience

- More Formal: Cite your personal publications and research presentations.
- Discuss your most important research or work experiences (2 or 3).
- Preferably use the last experience to detail current research.
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Plan of Research
- Formal: Title, Keywords, Sections, Literature Citations.
- Sec.: Intro, Hypothesis, Research Plan, Anticipated Results, IM, BI
  ▶ Explain how your chosen coursework enhances your research plan.
- Clearly label and address each required section.
Words of Wisdom:

- Start early, don’t procrastinate. It will be worth it.
- Draft, Draft, Draft . . .
- Use version control or store revisions of each draft.
- Make every word count – these essays are short.
- Reinforce don’t reiterate.
- For NSF
  - Stress the broader impacts. The intellectual merit is bound to show.
  - Discuss your coursework to enhance research plan, especially if you are conducting interdisciplinary research.

- Use the CS reviews being organized by Murali.
Thanks

Good Luck

https://bioinformatics.cs.vt.edu/~poirel/presentations

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