NSF Graduate Research Fellowship Program

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REU Summer 2015

TEXAS STATE UNIVERSITY
The rising STAR of Texas
NSF GRFP

• Oldest graduate research fellowship of its kind
  • And one of the most well-known
  • Some programs make all 1st-year grad students apply
• ~50,000 Fellowships awarded since 1952
  • Including 40 Nobel Laureates
• 2014: 2,000 Fellowships
  • ~14% success rate
  • Also some Honorable Mentions
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NSF GRFP Fellows have...
* Higher Ph.D. completion rates
* More diversity
Financial Details

• 5 year award
  • 3 years of support
  • Can be deferred up to 24 additional months

• Annually:
  • $32,000 stipend
  • $12,000 cost-of-education allowance
    • This one is to the university, not the student!
    • A reason to choose an inexpensive state school
  • Professional development opportunities
  • XSEDE access
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- Portable
  - Can be awarded at any accredited U.S. institution (and can transfer between schools)
  - Can start in M.S. program, bring award to Ph.D. at another school
Eligibility

• U.S. citizens, nationals, permanent residents

• Pursuing a Master’s or Ph.D. in an NSF field
  • No medical, public health, law, education (except STEM research), business management

• Early career
  • Senior year of undergrad
  • Between undergrad and grad school
  • First two years of grad school
Application Cycle

- Application usually online in August
  - https://www.nsfgrfp.org
  - Tracked via NSF FastLane

- **Deadline**: late October to early November
  - Varies by field

- Awards announced: Late March to early April

- 2015 application screenshots online if you want to start early
Application

• Online application
  • Education/work experience
  • Proposed graduate program
    • Tentative — you can change your school choice later

• Two essays
  • Personal Statement, Background, & Future Goals (3 pages)
  • Proposed Research (2 pages)

• Three letters of reference
• **Personal Statement, Relevant Background, and Future Goals**
  
  • Outline your career goals. How will grad school prepare you to contribute to science/society?
  
  • Describe personal/educational/professional experiences motivating your goals
    • Describe activities, highlight results
    • Discuss independent work vs. where you worked as part of a team
    • Describe how activity advanced knowledge or contributed to society
    • How did these activities prepare you for graduate school?

• Order this however best tells your story
Essay #2 (2 pages)

- Graduate Research Statement
  - Present original research topic you would like to pursue in graduate school
  - Describe your approach
  - Describe any unique resources needed
  - Address the potential of the research to advance knowledge and understanding and its broader impact on society
- Get a trusted professor’s help with this!
- Cite sources (related literature)
NSF Review Criteria

• Intellectual Merit
  • The potential to advance knowledge

• Broader Impacts
  • The potential to benefit society and contribute to the achievement of specific, desired societal outcomes

• Important: include separate statements for both criteria in BOTH essays!!
Intellectual Merit
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• Personal Statement
  • Does the applicant have the potential to advance knowledge based on previous research and educational experience?
  • What are the applicant’s qualifications for the specific proposed project?
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• Proposed Research
  • How would the proposed project advance science?
  • Is there a detailed plan with realistic objectives and measurable outcomes?
Broader Impacts
Broader Impacts

• Personal Statement
  • How do applicant’s personal/educational/professional experiences indicate potential for societal benefit?
  • Does applicant have demonstrated record of service to the community, commitment to encouraging diversity, K-12 outreach?
  • Do applicant’s future plans suggest future broader impacts?
  • The identity of an individual does not in itself constitute a broader impact!
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• Proposed Research
  • How will this research contribute to desired social goals?
    • E.g., bring low-cost/low-energy supercomputing to the masses allowing transformative advances across broad scientific domains
  • Why should the government fund your project (with tax dollars!) over everyone else’s?
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Google “Broader Impacts” for more help!
How to Get Good Letters of Reference

• Recommendation letters should be *personal*!
  • Don’t choose the famous name or impressive letterhead who barely remembers you and will send generic boilerplate

• Provide a written list of things you want your letter writer to mention
  • *Including the Review Criteria* — they should clearly address Intellectual Merit and Broader Impacts

• Choose letter sources so letters confirm the narrative in your personal statement

• Preferably multiple professors

• Give your letter writers lots and lots of time (and send reminders!)
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  • But… Undergraduate TA’ing experience and a demonstrated desire to teach someday both helped me
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  • But… My large, entire-class research project course definitely helped: real research component, I had a leadership role
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  • Off-topic work doesn’t help you
    • But… My public policy double major was cited by reviewers as an indication of future broader impacts (experience thinking about societal impact of tech)
One More Time…

!!! Intellectual Merit !!!
!!! Broader Impacts !!!

• Panelists are ONLY allowed to score your application (including background, essays, and letters!) on the 2 Review Criteria

• Don’t make them synthesize this information on their own!
  • My application had bold headings at the bottom of each essay summarizing a few bullet points for each criterion

• Last bit of advice: START EARLY!
Resources

• NSF GRFP website
  • List of contacts at your university
  • FAQ and application tips

• Several recipients have advice and their essays online (not all CS)
  • e.g., www.alexhunterlang.com/nsf-fellowship

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  • But note the essay change since 2011 (2 essays vs. 3)
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Good Luck!