

# Applying for Graduate Research Fellowships

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# Available Graduate Fellowships

- NSF Graduate Research Fellowship
- Hertz Foundation Fellowship
- DOE Office of Science Graduate Fellowship
- National Defense Science and Engineering Fellowship
- ...

# Some General Guidelines for Proposal Writing

- Follow Directions!
  - Find out what the agency wants to fund, and address your proposal to those aims
  - Check off all the boxes
  - Follow formatting requirements
  - Get all your materials in on time
- What Makes Your Application Unique?
  - Your application is an advertisement for you
  - Make it enjoyable to read– Say it simply
- Finish Early– Get Feedback
  - Have other grad students, postdocs, or faculty read your proposal

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# The NSF Graduate Research Fellowship

- **Basic Information about the Fellowship**
  - 3 years of research funding (salary) \$30,000 per year
  - 3 years of tuition offset
  - Access to super-computing facilities
  - Fellowship Website: [www.nsfgrfp.org](http://www.nsfgrfp.org)
- **Who is Eligible?**
  - U.S. Citizens, Nationals, and Permanent Residents
  - Graduating Seniors
  - Graduate students who have completed no more than 12 months of graduate study at time of application (one academic year = 9 months)
- **Why Apply?**
  - More Time for Research
  - Looks Good on the Resume: Research Positions in Academia, Industry, Education
  - Good Practice
- **Deadline: Early November**

# What You Need to Submit

- Basic Personal Information
- Transcripts
- 3 Letters of Recommendation
- Essays
  - Personal Statement
  - Previous Research Experience
  - Proposed Plan of Research
- Choice of Research Institution

# Letters of Recommendation

- Choose letter writers who know you
- Give your letter writers lots of warning (1 month at least)
- Show your letter writers your application materials
- Try to choose one or more people from NCSU
  - If undergrad applying elsewhere, letter writer from that university is helpful.
- Any letter writer who can comment on past research experience is a plus.

# Essay: Proposed Plan of Research

- I have an intended research mentor/ am working on a project already.
  - Write about your project!
  - What is novel/new? Why is it important?
- I'm not sure what I want to work on yet.
  - Identify a research area that interests you
  - Write about problem(s) in that area that seem interesting to you
- Be ambitious but realistic
- Research your subject area and write correctly about it
- Make sure your research project is appropriate for your intended institution

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# Essay: Previous Research Experiences

- Discuss any past research experiences
- Show how these experiences demonstrate your initiative/creative thinking
- Link previous research experiences to proposed plan of research
- I don't have any past research experience!

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# What Counts As Previous Research Experience?

- REU, REG experiences
- Senior Thesis
- Final Project in Course
- Attending Research Seminars
- Keeping up with Research Trends in Mathematics
- If you don't have formal research experience, talk about something that shows your initiative.
- **Don't leave this blank!**

# Essay: Personal Statement

- Why are you fascinated by your research area?
- What examples of leadership skills and unique characteristics do you bring to your chosen field?
- What personal and individual strengths do you have that make you a qualified applicant?
- How will receiving the fellowship contribute to your career goals?
- How do these activities address the Intellectual Merit and Broader Impacts criteria?

# Some General Advice for the Essays

- Integrate essays to create singular theme, link the content together
- Display your passion and motivation in the essays
- Mention what sets you apart from a typical applicant - be unique!
- Keep essays clear, simple to read, scientifically sound, and professional
- Thoroughly address both Intellectual Merit and Broader Impacts

# Review Criterion: 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 (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of prior work.)
- To what extent does the proposed activity suggest and explore creative, original, or potentially transformative concepts?
- How well conceived and organized is the proposed activity?
- Is there sufficient access to resources?

# Review Criterion: Broader Impacts

- How well does the activity advance discovery and understanding while promoting teaching, training, and learning?
- How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)?
- To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships?
- Will the results be disseminated broadly to enhance scientific and technological understanding?
- What may be the benefits of the proposed activity to society?

# Summary and Further Information

- Getting a graduate research fellowship can have a huge positive impact on your life
- Start working on applying for fellowships now
- Choose topics for your essays carefully, and integrate them
- Contact your letter writers early, use them to get advice on your essays
- NSF Graduate Research Fellowship Website:  
<http://www.nsfgrfp.org/>