NSF Grad (and Other) Fellowships: Why Apply?

(1). Chances of getting an award are significant!

2008: 10% success rate (1000 Awards)

2011: 17% success rate (2000 Awards)

2014: 2700 awards will be offered (pending available funds)

(2). Application process is great preparation for:

Proposals you'll write later

Papers you'll write later

Sorting out your research interests

NSF Grad (and Other) Fellowships: Why Apply?

(3). Three years of support from the NSF!

$32,000 stipend each year

$12,000 educational allowance to institution

Provides you enormous flexibility in your research options!

NSF Grad Fellowships: Eligibility

(1). U.S. citizens, nationals, permanent residents

(2). Enrolled in accredited US institution by Fall 2014

(3). Generally, a bachelor's degree earned prior to Fall 2014. The following students are generally eligible:

- During the senior year of college
- During the first year of graduate school
- Prior to completing the Fall term in 2nd year of grad school.

Applicants must have completed no more than 12 months of full-time graduate study or its equivalent as of Aug. 1, 2013.

You're ineligible:

-- If you've obtained a graduate degree (e.g., an MS)

-- If you've done more than 12 months of graduate work (e.g., if you're in your second year but enrolled the summer before Fall 2012…*maybe!)*

NSF Grad Fellowships: Supported Disciplines

Supported Disciplines:

All by 8 p.m. EST!

- Chemistry (Nov. 5)
- Life Sciences (Nov. 8)
- Materials Research (Nov. 4)
- Mathematics (Nov. 5)
- Physics and Astronomy (Nov. 5)
- Science, Technology, Engineering, and Math Education (STEM) – Research focused only (Nov. 7)

NOT supported:

- MD/PhD programs; Medical; Education

NSF Grad Fellowships: A Complete Application

(1). Personal Statement, Relevant background, and Future Goals essay (3 pages)

(2). Graduate Research Statement (2 pages)

(3). Transcripts, uploaded into FastLane

(4). **Three** letters of reference required

NSF Grad Fellowships: Key Review Criteria

The Two Key NSF Review Criteria:

1. **Intellectual Merit** – the potential of the research to advance knowledge
2. **Broader Impacts** – the potential of the research to benefit society

All proposals must address both of these review criteria!!

"When evaluating NSF proposals, reviewers will be asked to consider what the proposers want to do, why they want to do it, how they plan to do it, how they will know if they succeed, and what benefits could accrue if the project is successful. These issues apply both to the technical aspects of the proposal and the way in which the project may make broader contributions. To that end, reviewers will be asked to evaluate all proposals against two criteria, **intellectual merit** and **broader impacts**."

NSF Review Criteria: Intellectual Merit

Intellectual Merit is a statement about your intellectual ability to conduct scholarly research, including the ability to:

1. Plan and conduct research

2. Work both independently and as a member of a team

3. Interpret and communicate research (e.g., analyze data, read the literature, communicate your results to others, etc.)

Assessment of Intellectual Merit

The **Intellectual Merit** of your proposal will be judged based upon your:

1. Academic performance; awards and honors
2. Communication skills (i.e., well-written proposal!, previous publications and presentations)
3. Evidence of independence and creativity
4. Publication/presentation record
5. Soundness of your research plan
6. Quality of references
7. Extent of research experience
8. Access to essential resources for work proposed

NSF Review Criteria: Broader Impacts

Broader Impacts is a statement about the extent to which your proposed work will:

1. Integrate research and education, and assure that your findings will be communicated broadly and to as wide an audience as possible

2. Encourage diversity, broaden opportunities, and enable participation of all citizens – particularly underrepresented groups – in science and research

3. Enhance scientific and technical understanding

4. Benefit society

Assessment of Broader Impacts

The **Broader Impacts** of your proposal will be judged based upon your:

1. Prior accomplishments, previous outreach work, etc.
2. Integration of research and education
3. Potential to reach diverse audiences
4. Potential to impact society
5. Community outreach
6. Leadership potential

NSF Grad Fellowships: A Complete Application

(1). Personal Statement, Relevant background, and Future Goals essay (3 pages)

(2). Graduate Research Statement (2 pages)

(3). Transcripts, uploaded into FastLane

(4). **Three** letters of reference required

The **Personal Statement, Relevant Background, and Future Goals** (3 pages max):

The **Personal Statement, Relevant Background, and Future Goals** essay is where you outline your professional development plans and career goals. In this essay, you describe how you envision graduate school preparing you for a career that allows you (i) to contribute to expanding scientific understanding and (ii) to broadly benefit society:

1. Describe your personal, educational, and/or professional experiences that motivate your decision to pursue a PhD in science

2. Include specific examples of research and/or professional activities in which you have participated.

3. Present a concise description of the activities, highlight the results and discuss how these activities have prepared you to seek a graduate degree

4. Specify your role in previous research activities, including the extent to which you worked independently and/or as part of a team

5. Describe the contributions of your activity to advancing knowledge in science, technology, engineering, or mathematics fields, as well as the potential for broader impacts

Questions to address in **Personal Statement, Relevant Background, and Future Goals**:

1. Why are you fascinated by your research area?

2. What examples of leadership skills and unique characteristics do you bring to your chosen field?

3. What personal and individual strengths do you have that make you a qualified applicant?

4. How will receiving the fellowship contribute to your career goals?

5. What are all of your applicable experiences?

6. For each experience in (5), what were the key questions, methodologies, findings, and conclusions?

7. Did you work in a team and/or independently?

8. How did you assist in the analysis of results?

9. How did your activities address the Intellectual Merit and Broader Impacts criteria?

The **Graduate Research Statement** (2 pages):

In this statement, you should present an original research topic that you would like to pursue in graduate school.

You should:

1. Describe the research area (What?), why this research is important (Why?), why you are ideally suited to conduct this research (Why You?), and how you plan to perform the research (Methods?).

2. Discuss unique resources to which you have access that may be needed for accomplishing the research goal (e.g., local or national facilities, collaborations, etc.)

3. Include important literature citations.

4. Address the potential of the research to advance knowledge and understanding within science as well as the potential for broader impacts on society.

Questions to address in the **Graduate Research Statement**:

1. What issues in the scientific community are you most passionate about?

2. Do you possess the technical knowledge and skills necessary for conducting this work, and/or will you have sufficient mentoring and training to conduct the study?

3. Is your plan feasible for the allotted time and institutional resources available?

4. How will your proposed research contribute to the “big picture” outside the academic arena?

5. How does your proposed research address the Intellectual Merit and Broader Impacts criteria?

Document Formatting (Important!)

1. Read solicitation carefully and abide by all formatting rules!
http://www.nsf.gov/pubs/2013/nsf13584/nsf13584.htm

- The essays must be written using standard 8.5" x 11" page size, 12-point, Times New Roman font, 1" margins on all sides, and must be single spaced or greater.
- Only references and footnotes may be a smaller font, no less than 10-point Times New Roman.
- The **Personal Statement, Relevant Background, and Future Goals** essay has a maximum length of 3 pages, and the **Graduate Research Statement** has a maximum length of 2 pages (including all references, citations, charts, figures, and images).

Failure to comply fully with these requirements will eliminate the application from consideration by review panels.

Additionally, applications that are incomplete (missing required transcripts and/or reference letters, or that do not have "submitted" status by the application deadline) are ineligible for panel review.

Reference Letters: (due 8 p.m. Eastern time, Nov. 14, 2013)

1. Must submit **three** letters

2. Give your letter writers sufficient time to prepare strong letters

3. They should know you both personally and as a scientist (i.e., be able to address your research abilities/accomplishments)

4. Give them copies of your CV and application materials addressing Intellectual Merit and Broader Impacts (reference letters are supposed to reflect both your “intellectual merit” and “broader impacts”)

Make sure ALL letters arrive by deadline!! You can track letter submission via FastLane

Tips for Preparing a Competitive Application

1. Read solicitation carefully and abide by all rules!

http://www.nsf.gov/pubs/2012/nsf12599/nsf12599.htm

2. Make sure to address the Intellectual Merit and Broader Impacts criteria

3. Have someone proof read your proposals for grammatical and spelling errors (Celia and I can do this!)

4. If possible, associate yourself with a research group here, to increase authenticity of your proposal

5. Devise real educational outreach components, preferably attached to existing programs

6. Regularly check status of reference letters

7. Make sure to press “Submit” button

NSF Grad Fellowship Precompetition

Eligibility: You must be eligible for, and planning to submit applications to, the NSF Grad Fellowship program

Application Requirements: Following two (2) components of the NSF grad fellowship application: (i) Personal Statement, Relevant Background, and Future Goals essay (3 pages); and (ii) Graduate Research Statement (2 pages)

NSF Grad Fellowship Precompetition Timeline:

5 p.m., Oct. 14, 2013: NSF Grad Fellowship pre-competition applications are due

Oct. 25, 2013: Competition awards announced and feedback on applications provided to students

Nov. 5, 2013: Deadline for submitting full applications to NSF

For more information, see post: http://physics.illinois.edu/grad/post-details.asp?2650

Lessons from Past Precompetitions:

Problems with the Proposal as a Whole:

Submitted after the deadline

Incorrect font (Times New Roman) and font size (12)

Essays longer than maximum limit

Problems with the Personal Statement:

No motivation for proposed research, no statement of research interests or what makes student especially suited for research

No statement of career goals and how the fellowship will impact those goals

Lessons from Past Precompetitions:

Problems with the Research Experience Section:

Not suitable for a general audience (too technical, no big picture)

No indication of how various previous experiences impact your ability to be successful in future research

No statement of how previous collaborations, publications, poster presentations, etc., influence your future plans

Problems with the Research Proposal Essay:

Didn't address the What, How, Why, Why You, How Long, and Benefits Questions.

No references!

For More Information

Information: **www.nsf.gov/grfp** and **www.nsfgrfp.org**

Apply at: **www.fastlane.nsf.gov/grfp/**