



National Science Foundation

# Graduate Research Fellowship Program



*Graduate Research Fellowship Operations Center*



# What Is the National Science Foundation (NSF)?



- Federal agency created in 1950 to “promote scientific discovery, advance national welfare, and secure national defense”
- Manages an annual budget of over \$6 billion
- Annually awards approximately 2,700 graduate fellowships, 10,000 research grants, and 30,000 graduate research assistantships

*National Science Foundation Graduate Research Fellowship Program*

More Info: [www.nsf.gov/grfp](http://www.nsf.gov/grfp) or [www.nsfgrfp.org](http://www.nsfgrfp.org)

Apply at: [www.fastlane.nsf.gov/grfp/](http://www.fastlane.nsf.gov/grfp/)



# NSF Graduate Research Fellowship Program (GRFP)



Invests in graduate education for individuals who demonstrate potential to complete graduate degree programs and become future leaders in disciplines relevant to NSF's mission

- Initiated in 1952 - NSF's oldest program
- More than 43,000 awardees since inception
- Awarded to more than 20 Nobel laureates
- Recipients have higher rate and shorter time of Ph.D. completion
- High placement in faculty positions



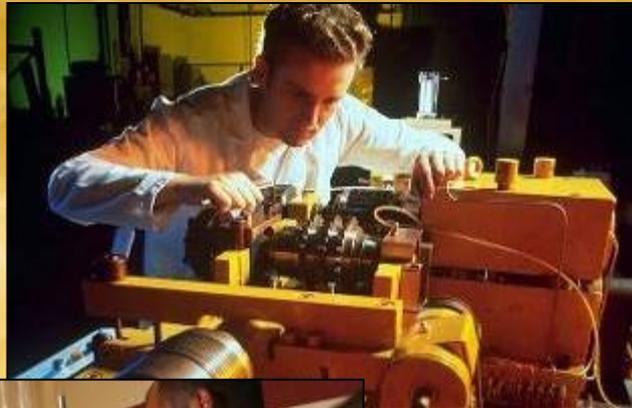
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# Graduate Research Fellowship Program Benefits



- **Three years of support** over five year graduate enrollment period
- **\$30,000** annual cost of living stipend
- **\$10,500 cost-of-education allowance** paid to institution (tuition typically waived)
- **\$1,000 one-time travel allowance**
- **TeraGrid supercomputer access** for both fellows and honorable mentions
- **No service requirement**

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# More Benefits

"The GRF has provided me with a tremendous amount of **independence** not only in terms of the college or university I attend, but the **advisor** I work with, and my **dissertation topic**, as I don't have to rely on anyone else's funding but my own. "

"**Prestige** .. is a key advantage of the GRF, particularly with respect to **future job prospects**."



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# Eligibility



- Typically college seniors, first-year graduate students, or second-year graduate students in their first semester (or not more than 24 semester hours of credit for graduate study)
- U.S. Citizen, National or Permanent Resident
- Pursuing research-based Masters or PhD in NSF-Supported Field

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# NSF-Supported Fields

- Chemistry
- Computer and Information Science and Engineering
- Engineering
- Geosciences
- Life Sciences
- Mathematical Sciences
- Physics and Astronomy
- Science Education
- Psychology (non-clinical)
- Social Sciences (non-clinical)



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# Some Areas NSF Does Not Support

- Research with disease-related goals
- Clinical work
- Business & Management
- Social work & Counseling
- Practice-oriented professional degree programs
- Joint science-professional degree programs (MD/PhD and JD/PhD)
- Medical, dental, law, or public health programs



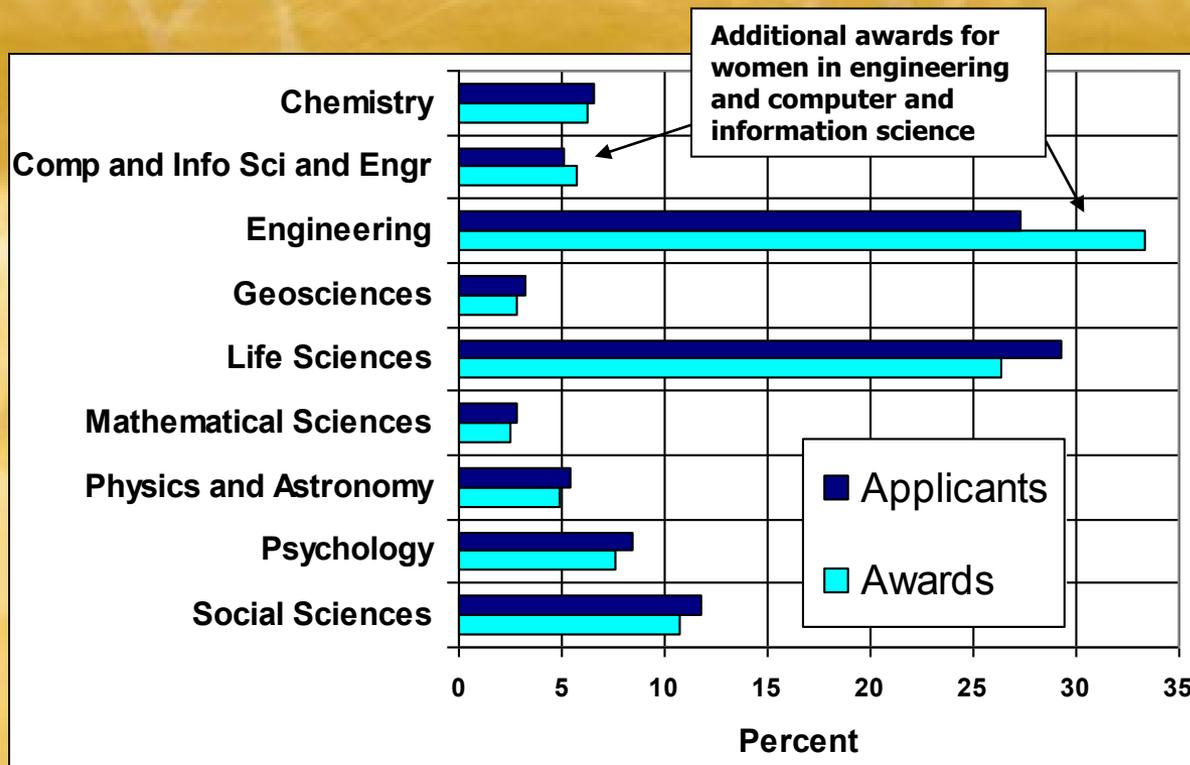
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# What Are My Chances of Winning?



- About 10% award success rate
- Additional 17% received honorable mention
- Number of awardees proportional to number of applications in each field
- Applicants evaluated alongside others with same amount of undergraduate/graduate experience

\*Data from 2007-2008 application cycle

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# Win by Believing in Yourself, Your Community, and Your Talents

## Avoid Self-Disqualification

- All other applicants are “more qualified”
- Research, activities, or contributions are not impressive enough
- Not enough experience
- Not able to express things well



*NSF funds studies of emperor penguins who are rife with belief in themselves*



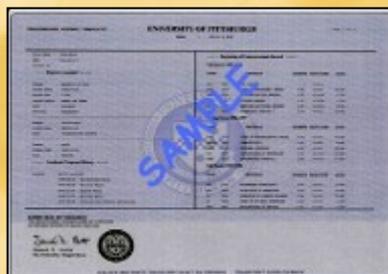
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# Application Materials



- 1) Personal Statement Essay
  - 2) Previous Research Experience Essay
  - 3) Proposed Plan of Research Essay
  - 4) Description of Completed Graduate Study Essay (Optional)
  - 5) Three Letters of Reference
  - 6) Transcripts
  - 7) GRE Scores (Highly Recommended)
- Everything submitted online except transcripts*

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# Boost Your Chances of Winning by Demonstrating the Two NSF Review Criteria



## Intellectual Merit

NSF Definition: Demonstrated intellectual ability and other accepted requisites for scholarly scientific study, such as the ability (1) to **plan and conduct research**; (2) to **work as a member of a team as well as independently**; (3) to **interpret and communicate research**

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# Intellectual Merit Unraveled

## Includes:

- Strong grades, curricula, GRE scores
- Awards & honors
- Publications & presentations
- Communication skills
- Independence & creativity
- Significant research experience
- Thoughtful, student-originated research plan
- Choice of institution



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# Boost Your Chances of Winning by Demonstrating the Two NSF Review Criteria

## Broader Impacts

NSF Definition: "Contributions that (1) effectively **integrate research and education** at all levels, infuse learning with the excitement of discovery, and assure that the **findings and methods** of research are **communicated in a broad context and to a large audience**; (2) **encourage diversity, broaden opportunities**, and **enable the participation of all citizens**-women and men, underrepresented minorities, and persons with disabilities--in science and research; (3) **enhance scientific and technical understanding**; and (4) **benefit society**."



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# Broader Impacts Unraveled

## Includes:

- Fostering diversity on all levels (across disciplines, gender, race, economical, geographical, etc)
- Active community involvement
- Involvement with underrepresented groups
- Integration of research and education
- Diversity of experience – includes international experience
- Awareness of research's potential societal impact
- Awareness of resources and programs
- Leadership roles
- Genuine and reflective essays
- Passion



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# The Rating Sheet

This is everything you  
are rated on -  
Intellectual Merit and  
Broader Impacts  
criteria!

**Intellectual Merit Criterion** Demonstrated intellectual ability and other accepted requisites for scholarly scientific study, such as the ability (1) to plan and conduct research; (2) to work as a member of a team as well as independently; and (3) to integrate and communicate research findings.

**Overall Assessment of Intellectual Merit:**

Excellent  Very Good  Good  Fair  Poor

Explain assessment to the applicant (200 character maximum):

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**Broader Impacts Criterion** Contributions that (1) effectively integrate research and education at all levels, infuse learning with the excitement of discovery, and assure that the findings and methods of research are communicated in a broad context and to a large audience; (2) encourage diversity, broaden opportunities, and enable the participation of all citizens—women and men, underrepresented minorities, and persons with disabilities—in science and research; (3) enhance scientific and technical understanding; and (4) benefit society.

**Overall Assessment of Broader Impacts:**

Excellent  Very Good  Good  Fair  Poor

Explain assessment to the applicant (200 character maximum):

Overall Score

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# Constructing a Successful Application

## Personal Statement (2 Pages)

- Fascination with research area
- Examples of leadership and unique characteristics brought to chosen field
- Personal experiences and individual strengths
- How receiving the award contributes to career goals
- Typically focuses on Broader Impacts criteria



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# Constructing a Successful Application

## Previous Research Experience Essay (2 Pages)



- Applicable experiences, relevant to research
- Key questions, methodology, findings, and conclusions
- Team and/or independent work
- Mention all publications, posters, presentations, awards, recognition, etc.

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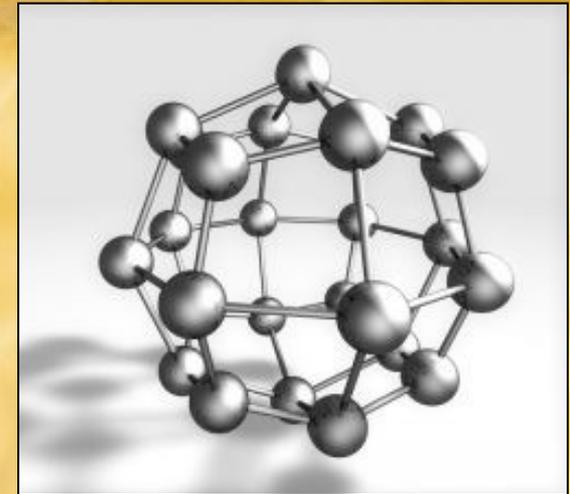
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# Constructing a Successful Application

## Proposed Research Plan (2 Pages)

- Original inquiry – introduce general theory, importance, and motivation
- How you have prepared
- Perceived scope of work during graduate study and beyond
- Detailed plan, but avoiding being overly specific
- Demonstrate research's Broader Impacts



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# Constructing a Successful Application

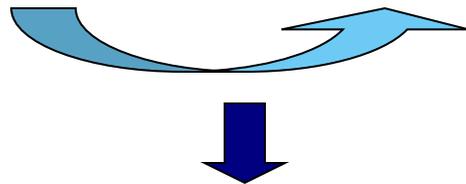
**Reflection** of experiences  
and proposed research on  
the real world



**Discussion** with  
experts, mentors,  
family and peers



**Construction**; give to  
experts, mentors, family and  
peers to review



**Polish to create final draft**

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# Constructing a Successful Application

## Reference Letters



- Choose three appropriate references
- Provide them 6-8 weeks
- Should know you as a scientist and personally
- Share application materials and review criteria (good letters address Intellectual Merit and Broader Impacts)
- Follow up with referees and track letter submission using FastLane

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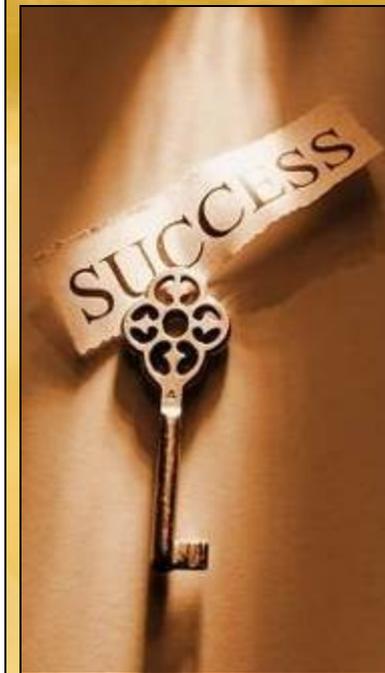
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# Constructing a Successful Application

1. Start the process early
2. Read the solicitation
3. Demonstrate review criteria in application materials
4. Be clear, concise, confident, and truthful
5. Draw on accomplishments more than promises
6. Submit application based on panel you want to review it
7. Ensure essays address all application questions
8. Check for spelling and grammatical errors
9. Verify essays upload correctly **AND** are in appropriate place
10. Press "Submit" button
11. Regularly check application status



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# Evaluation Process

- Applications evaluated by field-specific panels
  - Panelists are academic and research experts in general field, not necessarily for your research topic
- Panelists complete rating sheet
  - Evaluated by **at least** 2 panelists (higher ranked applicants reviewed a third time)
  - NSF requests panelists to provide constructive comments (applicants may view)
- Panels recommend to NSF *awardees* and *honorable mentions*



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# Insight From An Experienced Panelist

## Common Reasons Applicants Not Successful:

- Poor Broader Impacts
- Choice of prestigious school over research-matched school
- Inappropriate or uninformative references
- Weak personal statement



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# Apply to Win

Applying always produces a winning result!

Besides feedback on your ideas from experts, it is great preparation for:

- Other award applications
- Graduate school applications
- Job applications
- Writing publications
- Professional connections

**...and you just might win the fellowship too!**



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# Program Cycle

**Application:** Available online  
mid-**August**

**Deadlines:** Early **November**  
(varies by field)

**Awards:** Announced late March  
to early **April**

**Best Time to Start Preparing:**  
**Now**

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# Additional Information

## **Program Solicitation and Deadlines**

<http://www.nsf.gov/grfp>

## **Online Application, User Guides and Official Announcements**

<http://www.fastlane.nsf.gov/grfp/>

## **Operations Center, Outreach, and Helpdesk**

<http://www.nsfgrfp.org>

## **Questions about Application Process**

Telephone: 866-NSF-GRFP (673-4737)

Email: [info@nsfgrfp.org](mailto:info@nsfgrfp.org)

**A copy of this presentation can be found at**

<http://www.nsfgrfp.org>



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