The NSF Graduate Research Fellowship Program
NSF Graduate Research Fellowship Program Goals

- To increase the Nation’s human capacity in science and engineering by providing fellowships for early-career graduate students who pursue research-based master’s and doctoral degrees in NSF-supported disciplines

- To support the development of a diverse and globally engaged US science and engineering workforce
GRFP Unique Features

• Flexible: choice of project, advisor & program
• Unrestrictive: no service requirement
• Portable: any accredited U.S. institution
  MS → PhD
• 2,000 awards made in 2015
  (16,500 applicants: ~12% success rate)
• 1,053 women; 494 URMs
GRFP Successes

- 48,000 Fellowships since 1952
- 40 Nobel Laureates
- 450 members of the National Academy of Sciences
- Founders of corporations to authors of books
- Higher Ph.D. completion rates
- Enhanced diversity
GRFP Key Elements

- Five Year Award – $138,000
- Three years of financial support:
  - $34,000 stipend per year
  - $12,000 cost-of-education allowance to institution per year
- International research opportunity through GROW
- Access to XSEDE cyberinfrastructure resources
GRFP General Eligibility

• U.S. citizens, nationals, and permanent residents

• Early-career students

• Pursuing research-based MS or PhD in NSF fields

• Enrolled in accredited U.S. institution by fall 2017

• Applicants must self-certify in the application that they meet the GRFP Eligibility criteria
GRFP Supported Disciplines

- Chemistry
- Computer and Information Science and Engineering
- Engineering
- Geosciences
- Life Sciences
- Materials Research
- Mathematical Sciences
- Physics and Astronomy
- Psychology
- Social Sciences
- Science, Technology, Engineering and Mathematics Education (research-focused)
Not Supported by NSF GRFP

- Business administration or management
- Social work
- Medical, dental, law, or public health programs
- Joint science-professional degree programs, e.g., MD/PhD, JD/PhD, etc.
- Education (except research-focused STEM Education programs)
- See Solicitation (www.nsfgrfp.org)
• **Application**: Available online August

• **Deadlines**: late October (varies by field)

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

• Best Time to Start Preparing: **Now**
NSF FastLane

• Personal, Relevant Background and Future Goals Statement (3 pages)
• Graduate Research Statement (2 pages)
• Transcripts, uploaded into FastLane
• Three letters of reference required

• Additional information required for some candidates
See Solicitation for eligibility requirements (available on www.nsfgrfp.org)
Resources

NSF GRFP Website (nsf.gov/grfp)
• Solicitation
• FAQ and Guide links

Fastlane.nsf.gov/grfp
• Online application, user guides, official announcements

Phone and email
• 866-NSF-GRFP (673-4737)
  info@nsfgradfellows.org
Resources at nsfgrfp.org

- Tips for applying
- Frequently asked questions (FAQ)
- Find GRFP contacts
- Important links for the GRFP
- Panelist registration
Two National Science Board-approved Review Criteria:

• **Intellectual Merit**: the potential to advance knowledge (academic record, research plan, presentations/pubs, LORs)

• **Broader Impacts**: the potential to benefit society (education, training, dissemination of results, broadening participation)
Multiple reasons to apply

Besides constructive feedback, the application is great preparation for:

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

2015
- 2,000 Awards
- 16,500 applications reviewed
- ~12% Success
Tips for Applying

We surveyed recent awardees and panel reviewers to ask for their input and advice to help you prepare a high quality application. Here are their recommendations:

Top Tips from Awardees

1. Start early, taking significant time to compose essays, and rewrite.
2. Demonstrate your personal motivation and excitement for research.
3. Spend time to thoroughly research your topic.
4. Integrate essays to create singular theme, link the content together.
5. Keep essays clear and simple to read.
6. Give essays to many people for review.
7. Get input from professors or university administration.
8. Get input from previous applicants or winners.
9. Thoroughly address both Intellectual Merit and Broader Impacts.
10. Be sure you adequately address the Broader Impacts criterion.
11. Be sure to include all volunteer, leadership, and extracurricular activities.
12. Highlight the significance of your research and how it will impact society.
13. Pay close attention to language in the Program Solicitation.
14. Focus on getting strong recommendation letters.
15. Mention what sets you apart from a typical applicant - be unique!

Top Tips from Reviewers

1. Gain research experience, especially at the undergrad level (for example, see NSF's REU program).
2. Become involved in leadership roles and community service.
3. Write clear and scientifically-sound essays.
4. Strive for scientific publications and presentations.
5. Have a strong academic record.
6. Be sure to demonstrate the Broader Impacts criteria well.
7. Select strong recommenders.
8. Link your teaching and research experiences.
9. Ensure you display a history of accomplishments.
10. Thoroughly address both Intellectual Merit and Broader Impacts.
11. Highlight any international experience you may have.
12. Display your passion and motivation in the essays.
13. Be knowledgeable of your research topic.
14. Demonstrate the significance of your proposed work.
15. Make sure the proposed research is realistic.

Be sure to carefully read through the Application Materials and Review Criteria for the award. We encourage you to make use of the Experienced Resource Persons List to contact someone from your institution who has volunteered to give their advice about the program to you.
Review Criteria

Applications will be reviewed by panels of disciplinary and interdisciplinary scientists, mathematicians, and engineers and other professional experts in graduate education. Applications will be assigned to panels based on the applicant’s chosen field(s) of study and the discipline(s) represented. Thus, applicants are advised to select the fields of study in the FastLane applicant module that are most closely aligned to the proposed graduate program of study and research plan. Applications to interdisciplinary fields of study are reviewed by interdisciplinary panelists based on the disciplines indicated by the applicant and review of the application by the GRFP staff.

Each application, therefore, will be reviewed independently on the basis of merit using all available information in the completed application. In considering applications, reviewers will be instructed to address the two Merit Review Criteria as approved by the National Science Board – Intellectual Merit and Broader Impacts (Grant and Proposal Guide, NSF 10-1). Applicants, therefore, must address each criterion in their written statements to provide reviewers with the information necessary to respond fully to both.

1. **Intellectual Merit**
   a. How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields?
   b. 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.)
   c. To what extent does the proposed activity suggest and explore creative, original, or potentially transformative concepts?
   d. How well conceived and organized is the proposed activity?
   e. Is there sufficient access to resources?

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

*See [this NSF document](#) for representative Broader Impacts activities*

For each criterion, panelists evaluate and comment on the applicant’s strengths and areas for improvement on the rating sheet, assign an "excellent", "very good", "good", "fair" or "poor" rating for each criterion, and determine an overall point value.

**Intellectual Merit**

Panelists will consider factors including: the strength of the academic record, the proposed plan of research and whether it is potentially transformative, the description of previous research experience, references, and the appropriateness of the choice of institution relative to the proposed plan for graduate education and research.

**Broader Impacts**

The broader impacts criterion includes contributions that 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.

A strong application will encourage diversity, broaden opportunities, and enable the participation of all citizens—women and men, underrepresented minorities, and persons with disabilities—in science and research.

In addition to reaching a broad audience, a strong application must demonstrate how it will enhance scientific and technical understanding, while benefiting society.

Applicants may provide characteristics of their background, including personal, professional, and educational experiences, to indicate their potential to fulfill the broader impacts criterion.
General Suggestions for the GRFP application

Please pay careful attention to the application preparation instructions in the FastLane module and the Program Solicitation.

**Note your application deadline.** Your application deadline will be determined by the primary field of study listed on the Proposed Graduate Program section of the application. If you designate your primary field as "Engineering - Electrical", for example, you must submit your application on the Engineering deadline, even if your program is in a Computer Science department.

**Do not wait until the last minute to prepare and submit your application materials.** Give yourself time to review your entire application before you submit it.

**Use the preview feature** available in the FastLane application to make sure the uploaded essays are the ones you want submitted. Make sure you have not uploaded a draft version, and double check that you uploaded each essay correctly. Once an application has been submitted, it is not possible to change the essays in any way.

**Make sure you follow the essay formatting instructions** regarding page limits, font type and size, margins, and line spacing. Failure to follow the instructions may result in your application being ineligible for review.

**Save a copy of your application.** You can download a PDF file of the application on FastLane by selecting "View/Print Application" under the Application Package Optional Task List.

If you have any questions about the application process or requirements, please contact the GRF Operations Center at info@nsfgrfp.org or (866) 673-4737.

Application Materials

The following material is required from all applicants to the NSF Graduate Research Fellowship Program:

1. [Personal Statement Essay](#)
2. [Previous Research Experience Essay](#)
3. [Proposed Plan of Research Essay](#)
4. [3 Reference Letters](#)
5. [Academic Transcripts](#)

Personal Statement

**Important questions to ask yourself before starting the essay:**

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. How does the information in your Personal Statement address the Intellectual Merit and Broader Impacts criteria?

Previous Research Experience

**Important questions to ask yourself before starting the essay:**
1. What are all of your applicable experiences?
2. For each experience, what were the key questions, methodology, findings, and conclusions?
3. Did you work in a team and/or independently?
4. How did you assist in the analysis of results?
5. How did your activities address the Intellectual Merit and Broader Impacts criteria?

Proposed Plan of Research

Important questions to ask yourself before starting the essay:

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, or will you have sufficient mentoring and training to complete the study?
3. Is this plan feasible for the allotted time and institutional resources?
4. How will your research contribute to the "big picture" outside the academic context?
5. How can you draft a plan using the guidelines presented in the essay instructions?
6. How does your proposed research address the Intellectual Merit and Broader Impacts criteria?

Reference Letters

Applicants are required to submit three reference letters. Reference writers should use letterhead, if possible, and include the following information: Name and Title of reference writer, Department, and Institution or Organization.

The reference letter should provide details explaining the nature of the relationship to the applicant, comments on the applicant's potential and prior research experiences, statements about the applicant's academic potential and prior research experiences, statements about the applicant's proposed research, and any other information to enable review panels to evaluate the application according to the NSF Merit Review Criteria of Intellectual Merit and Broader Impacts.

Applicants can improve their chances of obtaining strong reference letters by doing the following:

1. Choose your references carefully; choose people that can speak to your abilities and potential, rather than someone with a prominent title.
2. Provide referees sufficient time to write a strong letter.
3. Discuss the application and share your essays with them.
4. Inform them that reference letters should reflect both your “intellectual merit” and “broader impacts.”
5. Track submission of letters using your status page in the FastLane application module - if necessary, remind reference writers about deadline. No late letters will be accepted under any circumstances.
6. Have a backup reference in case one of your other reference writers cannot submit their letter.

Academic Transcripts

Your academic transcript is the evaluators’ opportunity to view the courses you have taken, allowing them to determine your level of preparation for your proposed plan of research. Thus, it is a significant component of a complete application.

An academic transcript is required for every institution you have listed in the application module. If the same transcript applies to more than one listing in the Education and Work Experience section of your application, you should upload the same transcript for each applicable listing.