



Applying to the NSF Graduate Research Fellowship Program



Tyrone D. Mitchell, Ph.D.
Program Director
National Science Foundation
Graduate Research Fellowship Program
www.nsfgrfp.org grfp@nsf.gov

PART 1:

Program Information

National Science Foundation

- Independent federal agency created in 1950
- Mission
 - To promote the progress of science
 - To advance the national health, prosperity, and welfare
 - To secure the national defense
- Funds ~20% of all federally supported basic research conducted by America's colleges and universities

GRFP Goals

- To select, recognize, and financially support individuals who have demonstrated the potential to be high achieving scientists and engineers, early in their careers.
- To broaden participation in science and engineering of underrepresented groups, including women, minorities, persons with disabilities and veterans.



The Graduate Research Fellowship Program OVERALL GOAL is to recruit individuals into Science, Technology, Engineering, or Mathematics – or STEM *fields*.

What GRFP Fellowships Offer?

Five Year Award – \$138,000

- Three years of support
 - \$34,000 Stipend per year
 - \$12,000 Educational allowance to institution
- **Professional Development Opportunities:**
 - GRIP: Graduate Research Internship Program (Federal Internships)
 - INTERN: Non-Academic Research Internship (see NSF 18-102)
- **Supercomputer access: XSEDE**
- **Career Life Balance (family *leave*)**

GRFP Unique Features

- Awarded to individual
- **Flexible:** choice of project, choice of advisor & choice of graduate program
- **Unrestrictive:** No service requirement after completion
- **Portable:** Any accredited U.S. institution to pursue the M.S. or the Ph.D. degree
- **2010 - 2018:** 2,000 fellowships/year

2017: ~12,439 Applications
~16 % success rate

GRFP Solicitation (NSF 18-573)

Provides the following information:

- Deadlines
- Program description
- Award information
- Eligibility requirements
- Application preparation
- Submission instructions
- Application review criteria

PART 2:

Eligibility

GRFP Eligibility

- U.S. citizens, nationals, and permanent residents
- Early-career: undergraduates, baccalaureate recipients, or
- 1st & 2nd year graduate students
- Pursuing research-based M.S. or Ph.D. degrees
- Science, Technology, Engineering, or Mathematics (STEM)
- Enrolled in a full-time graduate degree program in the summer or fall of the year they are offered a GRFP award
- To accept a fellowship award, if notified, you must inform NSF of your acceptance to a graduate program, if not already enrolled



GRFP Eligibility- Academic Levels

Based on the information submitted in the applications, applicants are grouped in Academic Levels (1-4). This allows separate reviewing of applicants with no graduate study (undergraduates and baccalaureate recipients).

Academic Levels

- **1:** College Seniors or baccalaureate recipients with no graduate study
- **2:** First-year graduate students
- **3:** Second-year graduate students (no more than one year of graduate study)
- **4:** More than 12 months of graduate study with an interruption of greater than 2 years (*can have M.S. degree*)

How often can you apply?

**Dear Colleague Letter (NSF 16-050), FAQ (NSF 16-051)*

Only one application per person per annual competition

Academic Levels

- **1:** Seniors or baccalaureates with no graduate study

No restriction – can apply every year until enrolled in graduate school

- **2:** First-year graduate students

Apply only once, in 1st or 2nd year

- **3:** Second-year graduate students (no more than one year of graduate study as of August 1 of the year the application is submitted)

GRFP Fields of Study

- Chemistry
- Computer & Information Systems
Science/Engineering
- Engineering
- Geosciences
- Life Sciences (includes Biological Sciences)
- Materials Research
- Mathematical Sciences
- Physics and Astronomy
- Psychology
- Social Sciences (includes Economics)
- STEM Education

Sub-Fields of Study found at: www.nsfgrfp.org ; Applicants; Application Components;
Choosing Primary Fields (see link below)

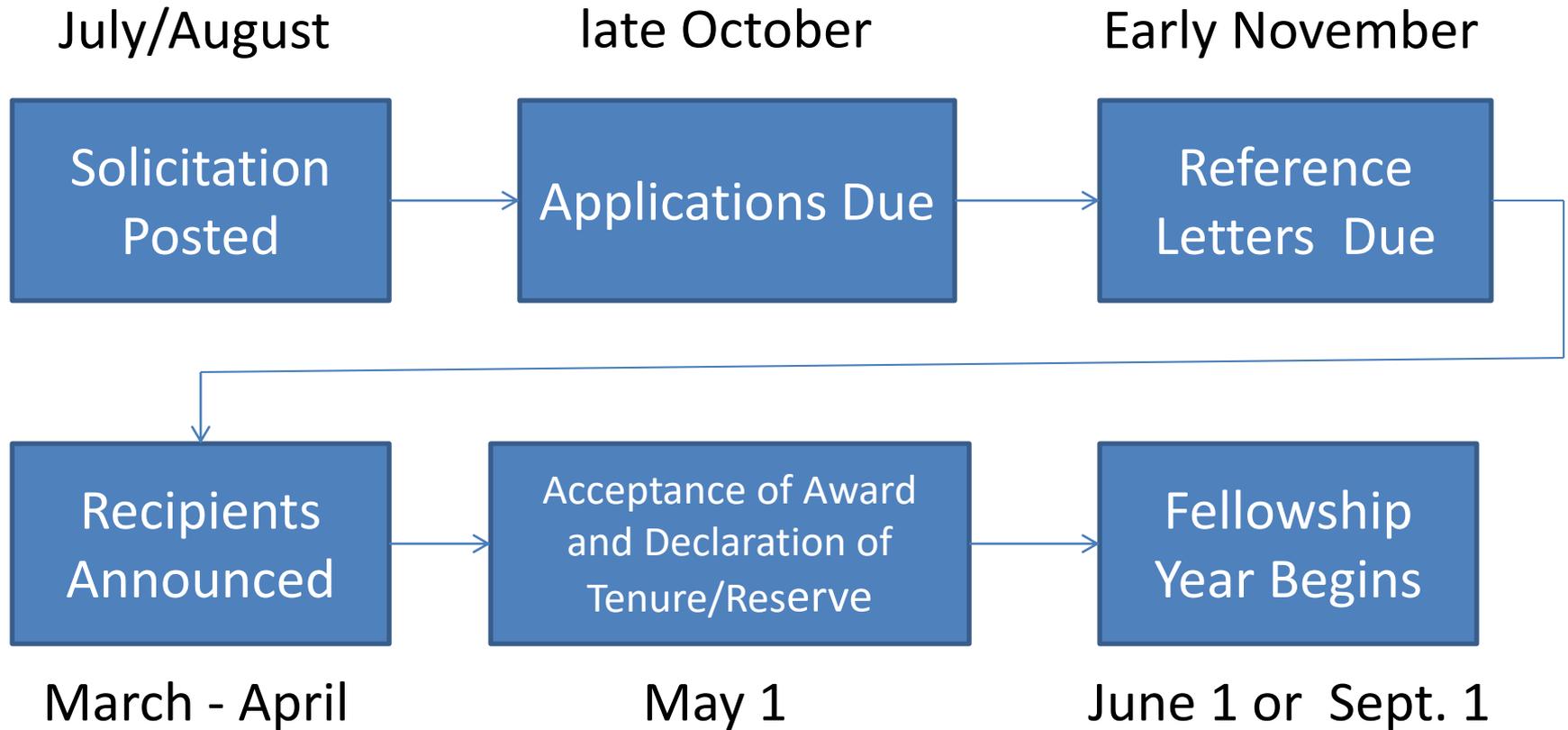
https://www.nsfgrfp.org/applicants/application_components/choosing_primary_field

NOT SUPPORTED



- Joint science-professional degree programs
 - e.g. **MD/PhD, JD/PhD**
- Business administration or management
- Counseling, Social work
- Education (except in science and engineering education)
- History (except in history of science)
- **Research with primarily disease-related goals**
- **Clinical research**
 - patient-oriented research
 - epidemiological and behavioral studies
 - outcomes research
 - health services; public health research
 - focus on disease etiology and treatment

GRFP Application Timeline



PART 3:

The GRFP Application



GRFP Complete Application

Complete Application Package: *Due in late October*

- 1) Personal Information, Education, Work/Research Experience, Proposed Field of Study, Academic honors, Publications
- 2) **Personal, Relevant Background and Future Goals Statement** (3 pages)
- 3) Graduate **Research Statement** (2 pages)
- 4) **Transcripts** (uploaded electronically)
- 5) **Three letters of reference**



Please see the most recent Solicitation (NSF 18-573) for application details and requirements.



NSF Review Criteria

Two National Science Board-approved review criteria:



- Intellectual Merit

How important is the proposed activity to advancing knowledge within its own field or across different fields?

- Broader Impacts

How well does the proposed activity benefit society or advance desired societal outcomes?



Your potential to discover new knowledge

- Your demonstrated intellectual ability (such as grades, curricula, awards, etc.)

Other evidence of your potential for scholarly scientific study, such as your ability to:

- Plan and conduct research
- Work as a member of a team as well as independently
- Interpret and communicate research
- Take initiative, solve problems, persist

The potential of your approach to your field of study and your Research Plan to lead to new knowledge

Evidence of intellectual merit can be found in all parts of the application - Personal Statement, Research Plan, letters, experiences, awards, achievements, transcripts.



Broader Impacts



- **Potential impact of the individual (you!) on society**
- **Potential impact of your research on society; why it's important**

Societal benefits may include, but are not limited to:

- Increasing participation of underrepresented groups, women, students with disabilities, veterans
- Outreach: Mentoring; improving STEM education in schools
- Increasing public scientific literacy; increased public engagement with science and technology
- Community outreach: science clubs, radio, TV, newspapers, blogs
- Potential to impact a diverse, globally competitive workforce
- Increasing collaboration between academia, industry, others

Likewise, evidence of broader impacts can be found in all parts of the application - Personal Statement, Research Plan, letters, experiences, awards, achievements.



Preparing a competitive GRFP Application

Personal Statement

Tell your story; demonstrate your potential for STEM research

- Experiences (personal and professional) that contributed to your motivation and preparation for pursuing a STEM career
- Previous research/industrial/professional experiences

What was the project?

How did you become involved? Where was it done?

Why was this project worth doing?

What was your contribution to the project?

How did your part of the project fit into the whole?

What have you learned?

Any advanced course work?

- Career aspirations and future goals

How have your experiences shaped your goals?



Preparing a competitive GRFP Application

Research Statement

Describe your Research Plan

- Communicate your research idea and approach
- Explain your research plan and methods
- What do you expect to learn? How will you know if the project is successful?
- What would you do next?

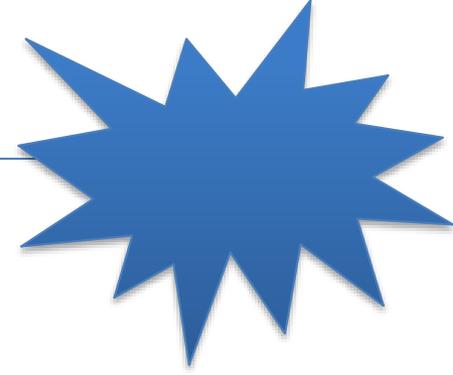
Address NSF's review criteria

Avoid jargon, and communicate clearly for non-specialists

Make your contributions clear



Reference Letters



- 3 reference letters are needed for a complete application.
- You can list up to 5 reference letter writers (ranked).
The top 3 will be used.
- Reference letter deadline is shortly after application is due.
– see the *Solicitation* for details.
- If one only two letters arrive, your application can still be reviewed (or you can withdraw it if you like).
- Select your reference letter writers carefully
(familiarity with you as a person is important).
Share your statements with them if at all possible.



Prepare a competitive application

- Start early! Look at the NSF GRFP website (www.nsfgrfp.org).
- Read the current Solicitation (NSF 18-573), and refer back to it as you prepare your application.
- Read the Frequently Asked Questions (FAQs)(NSF 17-123), and call NSF if something is confusing to you.
- Describe your honors, experiences, presentations, and any publications (etc.) clearly for the reviewers.
- Select and confirm your reference letter writers and monitor receipt of their letters on the GRFP website.
- Share your application materials and the merit review criteria with your reference letter writers.
- Pay attention to NSF's merit review criteria.
- Your statements should be interesting and clear. Ask several colleagues to read and comment on drafts.



GRFP Resources

- NSF GRFP Website: www.nsf.gov/grfp
(Solicitation & FAQs; NSF 18-573 and NSF 17-123) (Eligibility links and FAQs; NSF 16-050 and NSF 16-051)
- GRFP Website: www.nsfgrfp.org
(includes tips for applying, FAQs, and resource people)
- To apply on FastLane: www.fastlane.nsf.gov/grfp
- Graduate Research Internship Program (GRIP): www.nsf.gov/grip
- Non-Academic Research Internships for Graduate Students (INTERN);
• https://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf18102
- Phone & E-mail; 866-NSF-GRFP (673-4737); info@nsfgrfp.org



Good luck!

Questions?