



**Applying to
the National Science Foundation's
Graduate Research Fellowship
Program**

GRFP
Graduate Research Fellowship Program

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You are invited to join the other webinars in this series!

For undergraduates (especially rising seniors)
Webinar #1: **Are You Ready for Grad School? Finding Fellowship Funding**
(Common misconceptions about graduate school; how to apply to NSF's Graduate Research Fellowship Program—its benefits, eligibility, parts of the application, review process, and basic tips for putting together a competitive application)

For all SUNY students:
Webinar #2: **Applying to NSF's Graduate Research Fellowship Program**
(All the basics, such as GRFP's benefits, eligibility, parts of the application, the review process, and basic tips for putting together a competitive application)

Webinar #3: **Winning Strategies for GRFP (and How to Get Started)**
(NSF's review criteria, how to maximize your intellectual merit and broader impacts, and other winning strategies)

Webinar #4: **Write! (As if Your Career Depends on it)**
(Write about your research in an interesting and lively way, tailored to your audience)

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PART 1: Program Information

PART 2: Eligibility

PART 3: The GRFP Application

PART 4: Questions!

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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 was NSF's first program, and has supported graduate students every year since 1952**



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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.



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GRFP predicts the future!

- Scientists, entrepreneurs, public figures
- 4 (of 12) astronauts in NASA's class of '17
- Many go on to win awards for science and leadership; many Nobel Prize Winners

Nobel Prize Field	# GRFP Awards	Delay between GRFP & Nobel
Chemistry	8	33 years
Economics	9	40 years
Physics	17	31 years
Physiology or Medicine	5	30 years
Total	39	(41 were offered GRFPs)




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GRFP Fellows



Source: NSF Division of Graduate Education Open House, 2016

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GRFP Unique Features

- Fellowship:** Awarded to individual
- Flexible:** Choice of project, advisor & graduate program
- Unrestrictive:** No service requirement afterward
- Portable:** Can be used at any accredited U.S. institution
 - Master's, PhD, both degrees
- 2010 - 2019:** 2,000 Fellowships yearly
 - 2016: ~16,800 Applications - ~12 % success rate
 - 2017: ~13,200 Applications - ~15 % success rate
 - 2018: ~12,400 Applications - ~16 % success rate
 - 2019 and 2020: (*about the same as 2018*)

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GRFP Benefits

Five Year Award – \$138,000

- Three years of support
 - \$34,000 stipend per year
 - \$12,000 educational allowance to institution
- Professional Development Opportunities: *GRIP* and other internships
- Supercomputer access: XSEDE
- Career Life Balance (family leave)

*See GRFP's Solicitation
(updated ~90 days before deadlines)*




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GRFP Benefits Graduate Research Internship Program

GRIP
NSF Graduate Research Internship Program

\$5,000 Research allowance

Additional research support varies with host

Current Hosts:

- Office of Naval Research
- Smithsonian Institution
- Department of Homeland Security
- Federal Bureau of Investigation
- Environmental Protection Agency
- National Oceanic & Atmospheric Administration
- U.S. Census Bureau
- U.S. Dept. of Agriculture
- U.S. Geological Survey

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GRFP Benefits

NSF-Wide Program: Non-Academic Research Internships for Graduate Students (NSF 17-091)

- Support for internships in industry, non-profits, agencies
- Supplements to existing NSF awards
 - To complement academic research training
 - To enhance preparation for multiple career pathways
 - To encourage underrepresented participants
- \$55,000 per student for six months (12-mo. max)
- Look online for deadlines

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PART 2:

Eligibility

GRFP Eligibility

- U.S. citizens, nationals, and permanent residents
- Early-career: undergrad and grad students
- Pursuing research-based master's or PhD
- Science and Engineering
- Enrolled in accredited institution in US by Fall

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GRFP Eligibility

*Dear Colleague Letter (NSF 16-50), FAQs, Solicitation (NSF 18-573)

Academic Levels

1: Seniors or baccalaureates who have not yet enrolled in graduate school

2: First-year graduate students (with no master's or other previous graduate degree)

3: Second-year graduate students (with no master's or other previous graduate degree)

4: Individuals with >12 months graduate study planning to return to graduate school after an interruption of 2+ years (*may have a master's degree with no doctoral degree--but cannot be enrolled back in graduate school yet.*)

You can apply multiple times at this level.

Once you enroll in graduate school, you may apply only once.

Always check the *Solicitation* for up-to-date info.

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GRFP Eligibility

RECAP:

- Undergraduates and post-baccalaureate individuals can apply more than once (*but must be ready to attend graduate school the next fall – no deferrals except for medical reasons or military deployment*).
- Students already enrolled in any graduate program may apply only once.

RATIONALE for 1 X graduate rule:

- Increases success rate for applicants
- Increases diversity of applicant pool and institutions
- Eases workload for applicants, referees, reviewers
- Maximizes benefits of receiving the fellowship early

Dear Colleague Letter (NSF 16-50)

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GRFP Fields of Study

- Chemistry
- Computer & Information Science/Engineering
- Engineering
- Geosciences
- Life Sciences
- Materials Research
- Mathematical Sciences
- Physics and Astronomy
- Psychology
- Social Sciences
- STEM Education

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NOT SUPPORTED

- Joint science-professional degree programs
– e.g. MD/PhD, JD/PhD
- Business administration or management
- Counseling, Social work
- Education (except STEM education)
- History (except for history of science)
- Research with disease-related goals (unless Biomedical Engr)
- Clinical research
 - Patient-oriented research
 - Epidemiological/behavioral studies
 - Outcomes research
 - Health services research



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NOT SUPPORTED

Individuals are not eligible to apply if they will conduct **research for which the goals are directly health-related**, such as etiology, diagnosis or treatment of physical or mental disease, abnormality, or malfunction in humans and other animals.

Research activities using **animal models of disease**, for developing or testing of **drugs or other procedures for treatment of disease**, and statistical modeling for **which the purpose is diagnosis or epidemiology** also are not eligible for support.

There are areas of **bioengineering research** directed at medical use that *are* eligible. These include research projects in bioengineering to aid persons with disabilities, or to diagnose or treat human disease, provided they apply engineering principles to problems in medicine while primarily advancing engineering knowledge. Applicants planning to study and conduct research in these areas of bioengineering should select **biomedical engineering** as the field of study.

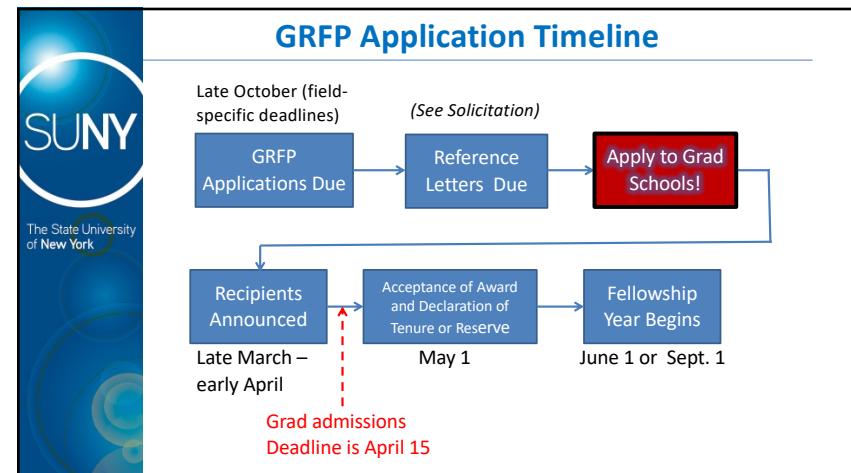
See GRFP Solicitation for more details

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PART 3:

The GRFP Application

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Before beginning your application, ask yourself

- What's special, unique, distinctive, and/or impressive about you and/or your life story?
- What details of your life might help the reviewers better understand you or set you apart from other applicants?
- What are your research achievements? How did you become interested in your field, and what have you learned about it (and yourself) that has convinced you that you're well suited to this field?
- How have you pursued your field so far—through classes, readings, seminars, work or other experiences, or conversations with people already in the field?
- What is your personal story so far – what reasons can you give for the reviewers to be interested in you?



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 Graduate Research Fellow Program

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 most recent Solicitation for application details and requirements.

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NSF Review Criteria

 Graduate Research Fellow Program

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?



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Intellectual Merit

 Graduate Research Fellow Program

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.

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Broader Impacts

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- 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.

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Review Process

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- Your application is reviewed by a panel of disciplinary and interdisciplinary scientists and engineers.
- Applications are assigned to panels based on your chosen Primary Field(s) of Study. Select the Primary Field of Study most closely aligned with your proposed graduate program of study. You may select more than one, but the first one you select determines which panel will review your application. See fields of study at www.nsfgrfp.org.
- Prepare your statements with your audience in mind!
- Holistic evaluation

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Holistic Review

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Holistic review is a flexible, individualized way of assessing an applicant's interests and competencies by which balanced consideration is given to experiences, attributes, and academic achievements and, when considered in combination, how the applicant has **demonstrated potential** for significant achievements in science and engineering.



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Convey your potential

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Essential: Address **Intellectual Merit** and **Broader Impacts** separately, in both your Personal Statement and your Research Statement.

Strongly recommended: Using separate sections or headings for **Intellectual Merit** and **Broader Impacts** can help highlight this information for reviewers.



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 **Prepare a competitive application to** 

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
 - What inspires you?*
 - How have you taken initiative or dealt with obstacles or hardships?*
- Previous research/industrial/professional experiences
 - What was the project? How did you become involved?*
 - Why was it 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?*

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 **Prepare a competitive application to** 

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 if the project doesn't go as planned?
- What would you do next?

Address NSF's review criteria

Avoid jargon, and communicate clearly for non-specialists
Make your contributions clear

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 **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 typically shortly after the application is due, but this may change - see the *Solicitation* for details.
- If one letter fails to arrive, your application can still be reviewed (or withdraw it if you will be eligible next year)
- Select your reference letter writers carefully
(familiarity with you as a person is important).
Share your statements with them if at all possible.

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 **Reference Letters** 

GRFP letters differ from regular grad school letters.

- Make sure your reference writers know about GRFP and NSF's **Intellectual Merit** and **Broader Impacts** criteria.
- Ask them *if they think they know you well enough to write a strong letter.*
- Discuss with them why you think you're a good candidate for this fellowship (show them your statements before you apply).
- **Advice to faculty letter-writers:**
 - GREs are *not* part of the application. Don't mention them.
 - Strong letters say things that students can't say about themselves.
 - if you describe the student's research, do not overshadow them.

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Prepare a competitive application

- Start early!
- Read the current Solicitation, *and read it again.*
- Look at the NSF GRFP website (www.nsfgfp.org)
- Describe your honors, experiences, presentations, 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.
- Write with your audience in mind!

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GRFP Resources

- Your SUNY campus's Fellowships Office can help!
- 2019 SUNY-wide [GRFP press release](#)
- NSF's GRFP Website: www.nsf.gov/grfp
(*Solicitation and links*)
- How-to GRFP Website: www.nsfgfp.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
- NSF contact info
 - 866-NSF-GRFP (673-4737)
 - info@nsfgfp.org



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One more (great!) reason to apply for a fellowship

- If NSF or a similar prestigious federal fellowship program) recognizes you with an award OR with Honorable Mention, and if you remain within the SUNY system for your graduate study, SUNY will give you \$5,000 in unrestricted funds (for research, travel, professional development, or to augment your stipend!).

The Chancellor's Graduate Research Scholarship

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One more (great!) reason to apply for a fellowship

- You may qualify for a CGRS award if you win any of these prestigious federal fellowships :

	# awards	Stipend	CoE	Portable?	Previous master's?	Timing
NSF GRFP	2,000	\$34,000	\$12K	YES	NO	early yrs
DoD NDSE	< 200	\$38,400	full tuition	YES	YES	early yrs
DoE CSGF	(few)	\$36,000	full tuition	YES	YES	early yrs
NASA	(few)	\$27K-36K	varies			any yrs
NIH NRSA (F30, F31)	(many)	\$24,816		NO	YES	final yrs
Canadian awards: NSERC, SSHRC, CIHR	(many)	(varies)				

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SUNY NEWS / PRESS RELEASES / APRIL 2020 / 4-21-20 NATIONAL SCIENCE FOUNDATION Awardees

SUNY Recognizes National Science Foundation Awardees from Five Campuses

April 21, 2020

14 SUNY Students Win Graduate Research Fellowships and 13 Receive Honorable Mentions

SUNY Announces the Inaugural Winners of the Chancellor's Graduate Research Scholarship

Albany – State University of New York Chancellor Kristina M. Johnson today congratulated 14 students from five SUNY campuses who have been offered prestigious fellowships by the National Science Foundation's (NSF's) Graduate Research Fellowship Program (GRFP). At the same time, the NSF recognized 13 SUNY students with an honorable mention, also a significant national achievement. Historically, GRFP awardees and honorable mention recipients go on to make research breakthroughs, invent new technologies, win Nobel Prizes, teach in colleges and universities, found and lead companies, and head federal agencies.

SUCCESS at SUNY Campuses

<https://www.suny.edu/suny-news/press-releases/04-2020/4-21-20/nsf-awardees.html>

"Every year since 1952, the NSF has empowered the future by recognizing and supporting early-career talent in science and engineering," said SUNY Chancellor Johnson. "I am proud to celebrate the accomplishments of these extraordinary SUNY students, who have already become leaders in their fields."

GRFP awards provide three years of financial support within a five-year fellowship period, which amounts to a \$34,000 annual stipend and \$12,000 cost-of-education allowance to the graduate institution. That support is for graduate study that leads to a research-based master's or doctoral degree in a STEM field. This year, GRFP fellowships were offered to 2,076 students around the country. Over 1,700 students were recognized with honorable mention.

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Thank you!

Questions?

UPCOMING:

Webinar #3: Winning Strategies for GRFP (and How to Get Started)
(NSF's review criteria, how to maximize your broader impacts and intellectual merit, and other tips and winning strategies)

Webinar #4: Write! (As if your Career Depends on it)
(Write about your research in an interesting and lively way, tailored to your audience)

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