



# The NSF Graduate Research Fellowship Program

[nsf.gov/grfp](https://nsf.gov/grfp)  
[www.nsfgrfp.org](https://www.nsfgrfp.org)



# 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
- ▶ Fund ~20% of all federally supported basic research conducted by America's colleges and universities



National Science Foundation  
WHERE DISCOVERIES BEGIN

SEARCH

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## Site Features

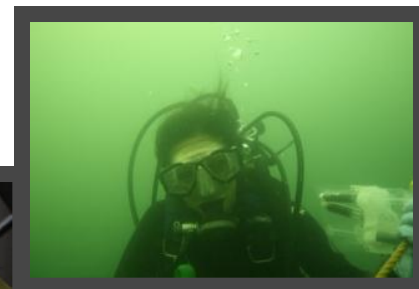
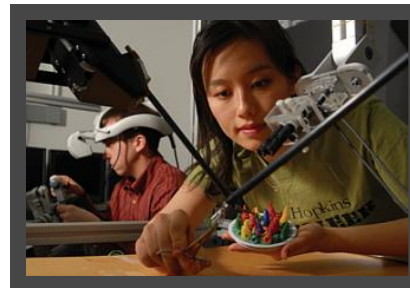
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# GRFP Overview

- ▶ Initiated 1952
- ▶ 46,500 Fellows to date
- ▶ 30 Nobel Laureates & 440 National Academy of Sciences members
- ▶ 4,600 Active Fellows in 200 institutions
- ▶ Higher Ph.D. completion rates
- ▶ Enhanced diversity







# GRFP 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 Key Elements

## Five Year Award – \$126,000

- ▶ Three years of support
  - \$30,000 Stipend per year
  - \$12,000 Educational allowance to institution
- ▶ International research opportunities
- ▶ Supercomputer access





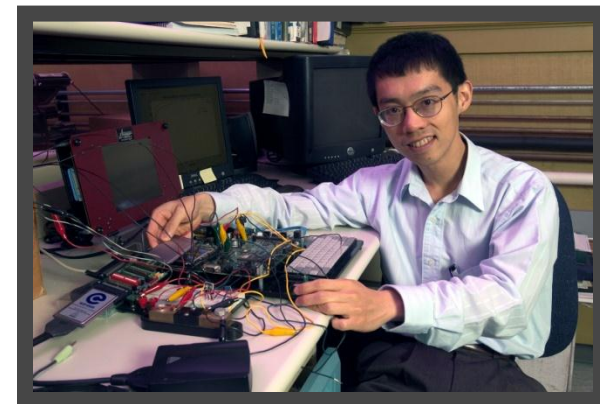
# GRFP Unique Features

- ▶ **Flexible:** choice of project, advisor & program
- ▶ **Unrestrictive:** No service requirement
- ▶ **Portable:** Any accredited U.S. institution
  - MS —————> PhD
  
- ▶ **2010, 2011, 2012:** 2,000 Fellowships each year
  - 12,000 Applications – ~17% success rate



# GRFP Eligibility: self-certified

- ▶ U.S. citizens and permanent residents
- ▶ Early-career graduate students
- ▶ Pursuing research-based MS and PhD
- ▶ NSF supported fields
- ▶ Enrolled in accredited institution in US



## Academic Levels

- ▶ 1: Seniors/baccalaureates; no graduate study
- ▶ 2: First-year graduate students
- ▶ 3: Second-year grad students
  - $\leq 12$  months of graduate study by August
- ▶ 4:  $>12$  months graduate study
  - Interruption in graduate study of 2+ years

Academic levels evaluated together







# Ineligible

- ▶ Those who do not hold US citizenship, national, or permanent resident status by the application deadline (November 2012)
- ▶ **Those who have earned any graduate or professional degree**
  - Exception: applicants who have completed a joint BS/MS program and have not completed any further graduate study outside the joint program
- ▶ Those who were previously awarded a fellowship from the NSF GRFP and accepted it
- ▶ Those who have declined the offer of the NSF GRF and who did not notify NSF by the published deadline (May 1<sup>st</sup>) for accepting the Fellowship
- ▶ Current NSF employees



# Ineligible Areas of Graduate Study and Research

- ▶ Counseling
- ▶ Business administration or management
- ▶ Social work
- ▶ Education (except in science and engineering education in an NSF-supported discipline)
- ▶ History (except in history of science)
- ▶ Clinical study
  - patient-oriented research
  - epidemiological and behavioral studies
  - outcomes research
  - health services research



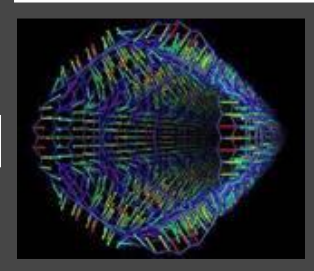
# Ineligible Areas of Graduate Study and Research

- ▶ Research with disease-related goals:
  - work on the etiology, diagnosis or treatment of physical or mental disease
  - abnormality, or malfunction in human beings
- ▶ Exception
  - research in bioengineering, with diagnosis- or treatment-related goals, that applies engineering principles to problems in biology and medicine while advancing engineering knowledge is **eligible** for support
  - bioengineering research to aid persons with disabilities also is **eligible**



# NSF-Supported Fields of Study

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





# GRFP Solicitation (NSF 12-599)

- ▶ Contains the following information:
  - Program Description
  - Award Information
  - **Eligibility requirements**
  - **Application preparation and submission instructions**
  - **Application Review Information Criteria**
  - Award Administration Information





# GRFP Application

- ▶ Application preparation
  - Start early
  - Read Solicitation
  - Read Solicitation **again**
  - Read NSF GRFP websites

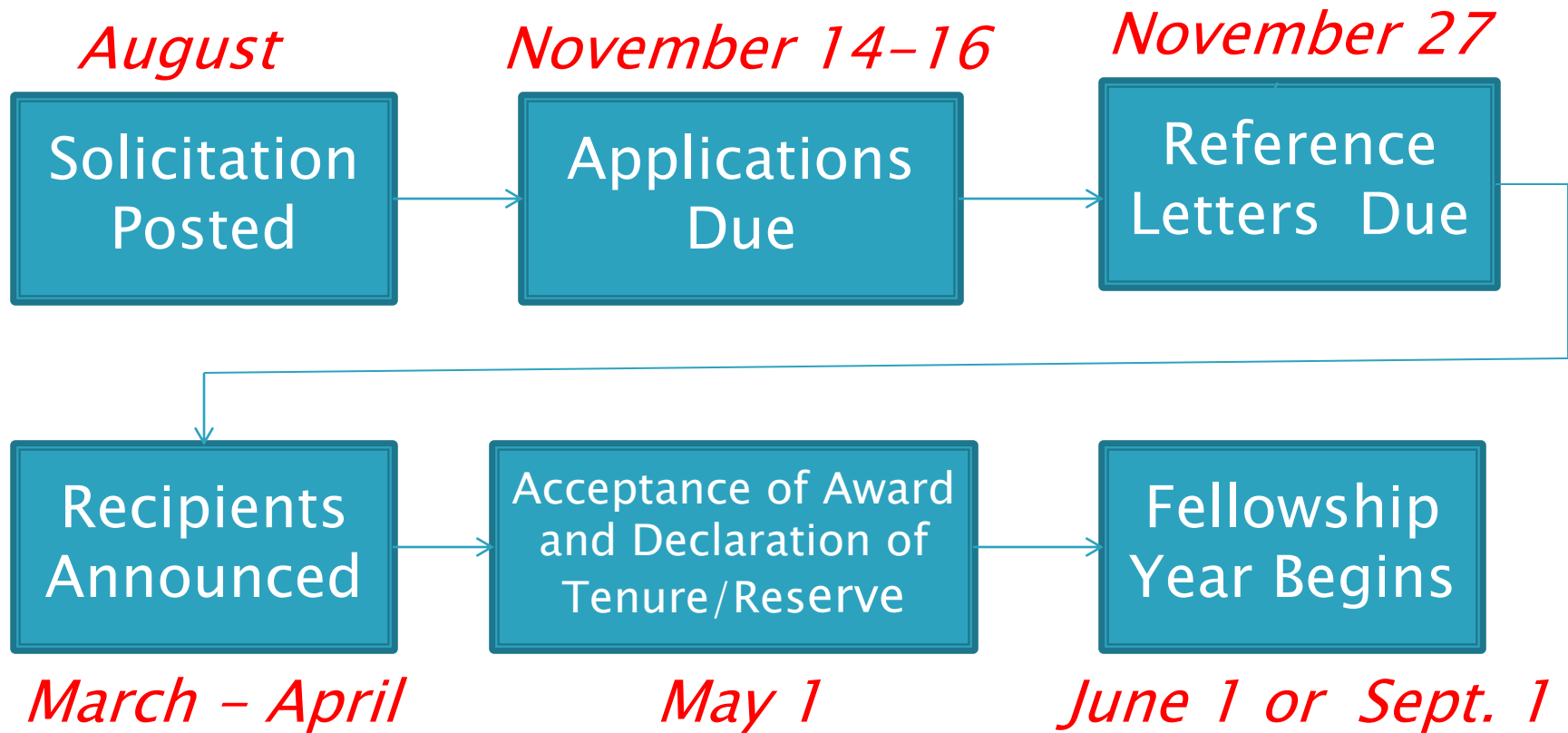


# When to apply?

- During the senior year of college (Level 1)
- After graduating from college and prior to entering graduate school (Level 1): no time limit
- During the first year of graduate school (Level 2)
- Prior to completing the Fall term of the second year of graduate school (Level 3)
  - Must have completed no more than 12 months of full-time graduate study or its equivalent as of August 1, 2012. There is no credit hour limit for students who have completed only full-time graduate study; eligibility for full-time students is based on the length of time enrolled in the graduate program
  - Part-time graduate study, or a combination of part-time and full-time graduate study, must have completed no more than 24 semester hours or 36 quarter hours or their equivalent as of August 1, 2012



# GRFP Application Timeline





# GRFP Complete Application

## NSF FastLane

- ▶ Personal statement (2 pages)
- ▶ Previous research experience (2 pages)
- ▶ Proposed plan of research (2 pages)
- ▶ Three letters of reference
- ▶ Transcripts (uploaded electronically)





# Personal Statement Essay

Fellows are expected to become **globally engaged knowledge experts and leaders** who can contribute significantly to research, education, and innovations in science and engineering

- ▶ Purpose is to demonstrate your **potential** to satisfy this expectation
- ▶ Ideas and examples not confined to the discipline that you have chosen to pursue





# Personal Statement Essay

- ▶ Describe the **experiences** that contributed to your preparation and desire to pursue advanced study in STEM
- ▶ Describe your **leadership potential**
  - how you see yourself currently or in the in future **contributing** to research, education, and innovation in science and engineering
- ▶ Describe **career aspirations** and **goals** you hope to achieve



# Previous Research Experience Essay

- ▶ Describe any scientific **research activities** in which you have participated:
  - Undergraduate research programs
  - Research experience gained through summer or part-time employment
  - Work-study programs
  - Other research activities, either academic or job-related
  
- ▶ Describe any activities that you believe have prepared you to undertake research



# Previous Research Experience Essay

- ▶ Explain the **purpose (aims)** of the research and your specific **role** in the research
  - include the extent to which you worked **independently** and/or as part of a **team**
  - include what you **learned** from your research experience
  
- ▶ Describe how you disseminated your results (i.e. conference, symposium, publication)



# Previous Research Experience Essay

- ▶ If you have no direct research experience, describe any activities that you believe have **prepared** you to undertake research



# Proposed Research Essay

- ▶ Present a complete plan for a **research project** that you plan to pursue during the Fellowship period
- ▶ Statement should demonstrate **understanding** of research design and methodology
- ▶ Statement should explain the relationship to your previous research, if any





# Proposed Research Essay

- ▶ **Format:**
  - Introduction and problem statement
  - Hypothesis
  - Methods to test hypothesis
  - Anticipated results or findings
  - Expected significance and broader impacts
  - Short list of important literature citations
  
- ▶ Your proposed plan must be in fields within NSF's mission (i.e. Field of Study)
  
- ▶ Proposed research is reviewed to assess your potential for graduate level research



# Reference writers

- ▶ Select your reference writers carefully, as they will provide important **information** about your character, and potential as a leader, researcher, and educator
- ▶ You may request up to 5 references
- ▶ Your selected reference writers will submit their own references
- ▶ It is **your responsibility** to ensure three letters of references are submitted by the published deadline in order for your application to be complete and reviewed



# Application Review Process

- ▶ Applications will be reviewed by panels of disciplinary and interdisciplinary scientists and engineers and other professional graduate education **experts**
- ▶ Applications **assigned** to panels based on the applicant's chosen Field(s) of Study and the discipline(s) represented
- ▶ Applicants are advised to select the Field of Study that is most closely **aligned** with the proposed graduate program of study and research plan



# GRFP Reviews

- ▶ Panels of faculty, experts in fields of study
- ▶ Each application has multiple reviewers
- ▶ Merit of each application is assessed based on the potential/promise of the individual applicant
- ▶ **Emphasis on holistic review** of the application to determine if the applicant has demonstrated potential for significant achievements in science and engineering research



# Intellectual Merit

- ▶ How important is proposed activity to advancing knowledge and understanding within its own field or across different fields?
- ▶ How well qualified is the applicant to conduct the project?
- ▶ To what extent does the proposed activity suggest and explore creative, original, or potentially transformative concepts?
- ▶ How well conceived and organized are proposed activities?
- ▶ Is there sufficient access to resources?
- ▶ If international activities are proposed, are they relevant and do they benefit applicant?





# Intellectual Merit

- ▶ Demonstrated **intellectual ability** and other accepted requisites for **scholarly scientific study**, such as the **ability** to:
  - Plan and conduct research
  - Work as a member of a team as well as independently
  - Interpret and communicate research



# Intellectual Merit

- ▶ **Panelists may consider the following:**
- ▶ Academic performance (grades, curricula, etc.)
- ▶ Awards/honors
- ▶ Communication skills
- ▶ International experience
- ▶ Independence/creativity
- ▶ Publication/presentations
- ▶ Research plan
- ▶ Choice of institution
- ▶ References
- ▶ Research experience

**Note: Not all of these are required for every application**



# Broader Impacts

- ▶ How well does the proposed activity advance discovery and understanding while promoting teaching, training and learning?
- ▶ How well does the proposed activity broaden participation of underrepresented groups?
- ▶ To what extent will it enhance infrastructure for research and education?
- ▶ Will the results be disseminated broadly?
- ▶ What may be the benefits of proposed activity to society?



# Broader Impacts

- ▶ **Panelists may consider the following:**
- ▶ Prior accomplishments
- ▶ Future plans
- ▶ Individual experiences
- ▶ Integration of research and education
- ▶ Potential to reach diverse audiences
- ▶ Impact on society and connectivity
- ▶ Community outreach
- ▶ Leadership potential

**Note: Not all of these are required for every application**



# www.nsfgrfp.org

## National Science Foundation Graduate Research Fellowship Program

### Welcome to [www.nsfgrfp.org](http://www.nsfgrfp.org)

The National Science Foundation's Graduate Research Fellowship Program (GRFP) helps ensure the vitality of the human resource base of science and engineering in the United States and reinforces its diversity. The program recognizes and supports outstanding graduate students in NSF-supported science, technology, engineering, and mathematics disciplines who are pursuing research-based master's and doctoral degrees at accredited US institutions. The NSF welcomes applications from all qualified students and strongly encourages under-represented populations, including women, under-represented racial and ethnic minorities, and persons with disabilities, to apply for this fellowship.

***The results of the 2011 GRFP are now available.***

***The 2011 awardees and honorable mentions list is posted on the [FastLane GRFP page](#). Notification e-mails have been sent to all reviewed applicants.***

***Rating sheets have been posted on FastLane.***

If you did not receive a notification, please check your spam/junk mail folder. Please e-mail [info@nsfgrfp.org](mailto:info@nsfgrfp.org) for further instructions if the notification is not in your junk mail folder.

**GRFP Fellows Receive the Following:**



**Register to Receive NSF GRFP  
Announcements**





# GRFP Resources

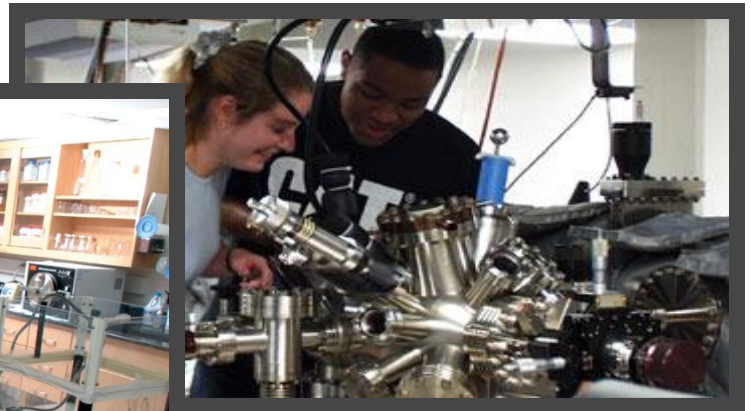
- ▶ NSF GRFP Website ([nsf.gov/grfp](http://nsf.gov/grfp))
  - Solicitation and links
- ▶ NSF GRFP FastLane Website ([fastlane.nsf.gov/grfp](http://fastlane.nsf.gov/grfp))
  - Application, guides, announcements
- ▶ GRFP Website ([nsfgrfp.org](http://nsfgrfp.org))
- ▶ Current & former fellows
- ▶ Phone & e-mail
  - 866-NSF-GRFP (673-4737)
  - [info@nsfgrfp.org](mailto:info@nsfgrfp.org)







# NSF Graduate Research Fellows





# Questions?