



# Applying to the NSF Graduate Research Fellowship Program



Gisele Muller-Parker  
Office of Integrative Activities



# National Science Foundation

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- 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



# NSF and you!

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## Mission

- *To promote the progress of science* – **you are the future of science in the U.S.**
- *To advance the national health, prosperity, and welfare* – **your research and outreach efforts, now and in the future**
- *To secure the national defense* – **through your innovations and efforts**

These efforts will succeed if **everyone**, from **all types of schools**, can participate in STEM

NSF supports people (as well as projects)



National Science Foundation  
WHERE DISCOVERIES BEGIN

SEARCH



HOME

FUNDING

AWARDS

DISCOVERIES

NEWS

PUBLICATIONS

STATISTICS

ABOUT NSF

FASTLANE



- REU
- GRFP
- Specialized Information for Graduate Students
- Specialized Information for Undergraduate Students

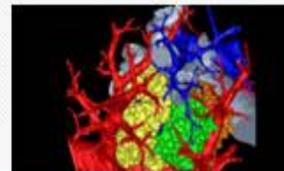
Advancing the Sciences

Funding & Supporting

Inspiring & Edu



VIMS Researchers Unravel Life Cycle of Blue-crab Parasite  
October 4, 2012



October 2, 2012

## EVENT CALENDAR



15

OCT

Center for Nondestructive Evaluation IAB Meeting

[PARTNERSHIP MEETING](#)

15

OCT

I/UCRC: Center for Laser and Plasma for Advanced Manufacturing (LPAM) IAB Meeting

[PARTNERSHIP MEETING](#)

15

OCT

I/UCRC: Center for Tire Research IAB Meeting

[PARTNERSHIP MEETING](#)

16

OCT

Science: Becoming the Messenger

[WORKSHOP](#)

17

OCT

Fall 2012: ENG Advisory Committee Meeting

[ADVISORY COMMITTEE MEETING](#)

[VIEW ALL EVENTS](#)

[Proposal and Award Policies and Procedures Guide](#)  
[Prepare a Proposal](#)  
[Upcoming Due Dates](#)  
[Submit Proposal to FastLane](#)

Customizable NSF email service



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**PART 1:** Program Information

**PART 2:** Eligibility

**PART 3:** The GRFP Application



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  - To promote the progress of science
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- **GRFP was NSF's first program, and has supported graduate students every year since 1952**



# GRFP Goals

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- 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.





# GRFP Unique Features

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- **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
  - MS, PhD, both degrees
  
- **2010 - 2018:** 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



# 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: Internships at federal agencies
  - INTERN: other internships
- Supercomputer access: XSEDE
- Career Life Balance (family leave)

*See GRFP Solicitation NSF 18-573*



### Graduate Research Fellowship Program (GRFP)

**PROGRAM SOLICITATION**  
NSF 18-573

**REPLACES DOCUMENT(S):**  
NSF 16-588



National Science Foundation

Directorate for Biological Sciences

Directorate for Computer & Information Science & Engineering

Directorate for Education & Human Resources  
Division of Graduate Education

Directorate for Engineering

Directorate for Geosciences

Directorate for Mathematical & Physical Sciences

Directorate for Social, Behavioral & Economic Sciences

Office of Integrative Activities

Office of International Science and Engineering

**Application Deadline(s)** (received by 5 p.m. local time of applicant's mailing address):

October 22, 2018

Life Sciences, Geosciences

October 23, 2018

Computer and Information Science and Engineering, Engineering, Materials Research

October 25, 2018

Psychology, Social Sciences, STEM Education and Learning



## PART 2:

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# Eligibility



# GRFP Eligibility

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





# GRFP Eligibility

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*\*Dear Colleague Letter (NSF 16-050), 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 graduate study completed yet
- 3:** Second-year graduate students (*no more than 12 months of graduate study completed by August*)
- 4:** Individuals with >12 months graduate study planning to return to graduate school after an interruption of 2+ years (*may have master's degree but no doctoral degree, and cannot be enrolled back in graduate school yet*).



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After enrolling in graduate school, you may apply only once.



# GRFP Eligibility

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- Undergraduates and post-baccalaureate individuals can apply more than once (must be ready to attend graduate school the next fall).
- Students who have already enrolled in a graduate program may apply only once



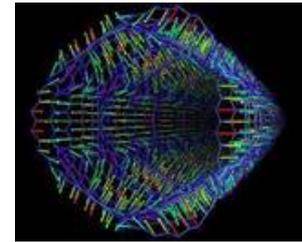
## ***RATIONALE for 1 X graduate rule:***

- 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



# 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





# NOT SUPPORTED

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- Joint science-professional degree programs
  - e.g. MD/PhD, JD/PhD
- Business administration or management
- Counseling, Social work
- Education (except in 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





# NOT SUPPORTED

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Individuals are not eligible to apply if they will conduct **biomedical 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*

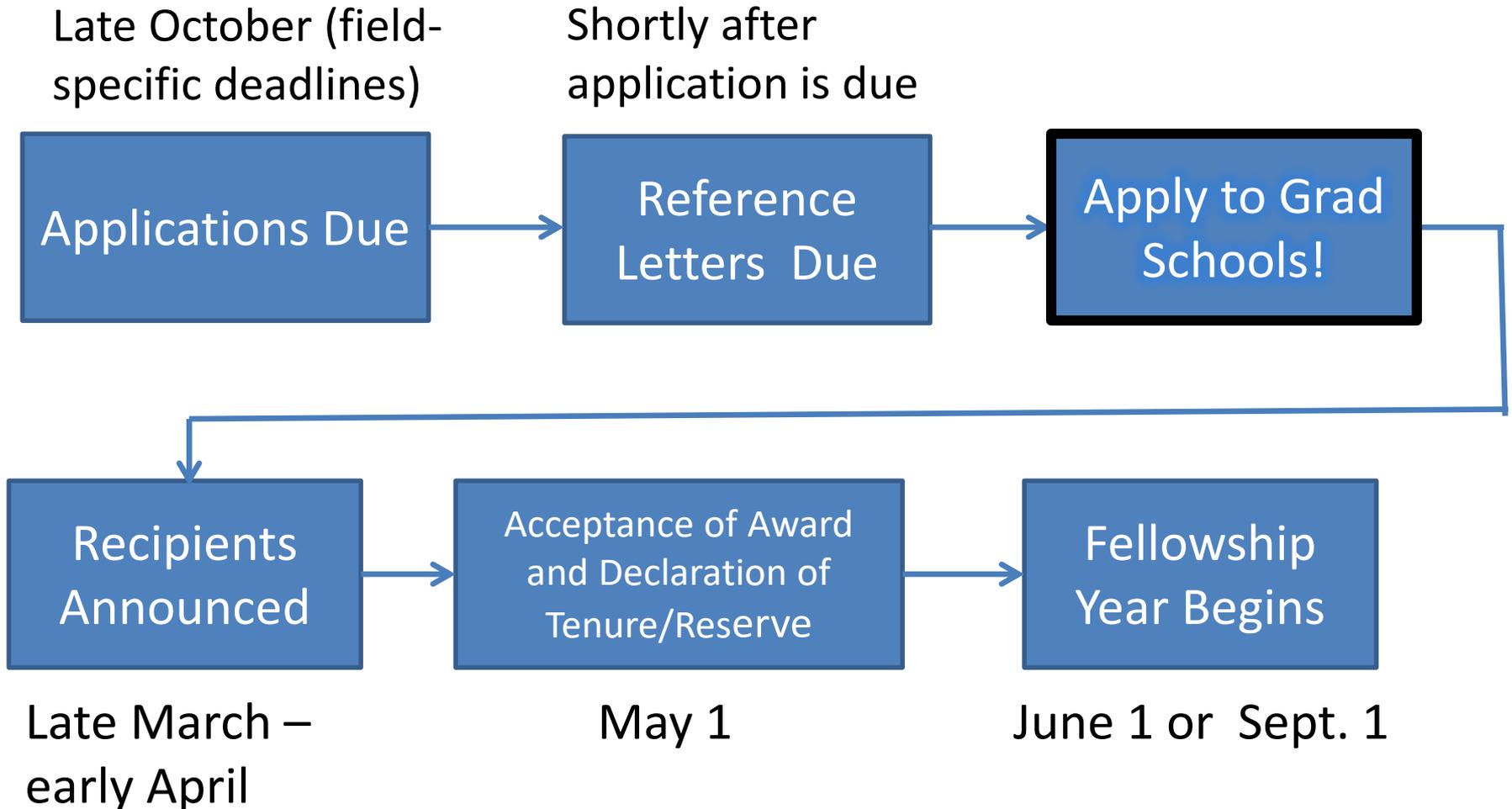


## PART 3:

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# The GRFP Application

# GRFP Application Timeline





# Before beginning your application, ask yourself

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





# GRFP Complete Application

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**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.



# NSF Review Criteria

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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?



# Intellectual Merit

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## **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.*



# Conveying your potential

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

**Having separate sections or headings for *intellectual Merit* and *Broader Impacts* can help highlight this information for reviewers.**





# Preparing a competitive GRFP Application

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## 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

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## 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



# Application 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.
- Prepare your statements with your audience in mind. See panel composition at [www.nsfgrfp.org](http://www.nsfgrfp.org).
- Holistic evaluation



# Holistic Review in GRFP

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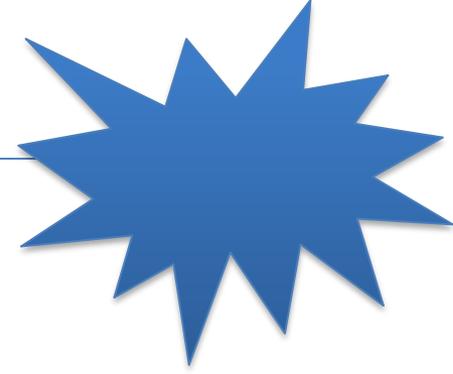
Holistic review is a flexible, individualized way of assessing an applicant's interests and competencies by which balanced consideration is given to experiences, attributes, and academic achievements and, when considered in combination, how the applicant has **demonstrated potential** for significant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





# Reference Letters

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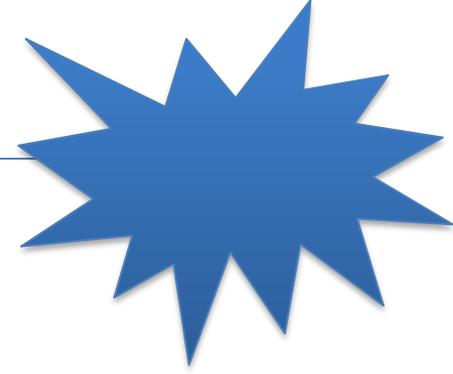


- 3 reference letters are needed for a complete application
- You can list up to 5 reference letter writers (ranked).  
The top 3 will be used.
- Reference letter deadline is shortly after application is due  
– see the *Solicitation* for details.
- If one letter fails to arrive, your application can 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.



# Reference Letters

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**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 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).



# Prepare a competitive application

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- Start early!
- Read the current Solicitation, *and read it again.*
- Look at the NSF GRFP website ([www.nsfgrfp.org](http://www.nsfgrfp.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.



# GRFP Resources

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- NSF GRFP Website: [www.nsf.gov/grfp](http://www.nsf.gov/grfp)  
*(Solicitation and links)*
- GRFP Website: [www.nsfgrfp.org](http://www.nsfgrfp.org)  
*(includes tips for applying, FAQs, and resource people)*
- To apply on FastLane: [www.fastlane.nsf.gov/grfp](http://www.fastlane.nsf.gov/grfp)
- Graduate Research Internship Program (GRIP):  
[www.nsf.gov/grip](http://www.nsf.gov/grip)
- Phone & e-mail
  - 866-NSF-GRFP (673-4737)
  - [info@nsfgrfp.org](mailto:info@nsfgrfp.org)





# Promoting GRFP on Campus

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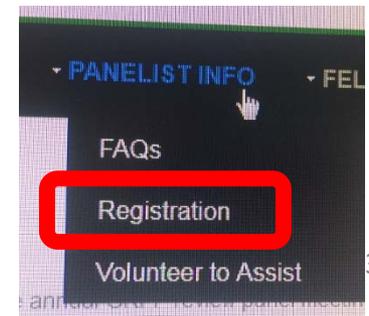
- Establish “GRFP champions” at university admin level
- Publicize GRFP on campus: focus on domestic students, undergrads and beginning grad students
- Identify faculty willing to mentor applicants
  - Encourage faculty to register to serve as reviewers for GRFP
- Establish peer mentoring system
  - Formal courses, informal advisement
- Hold workshops
  - Find faculty advisors and Fellows willing to participate
- Utilize GRFP’s web resources



# GRFP on Campus

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- Promote benefits of GRFP to undersubscribed departments
  - Juniors (REU), seniors, beginning grad students
- Partner/engage with Honors College and honors programs, REU Site Coordinators
- Reach out to GRFP Resource People on [www.nsfgrfp.org](http://www.nsfgrfp.org)
- Engage local/campus GRFP Coordinating Officials ([www.fastlane.nsf.gov/grfp/](http://www.fastlane.nsf.gov/grfp/))
- Support courses on science communication and proposal writing, include peer review



Sign up as a REVIEWER/PANELIST at [www.nsfgrfp.org](http://www.nsfgrfp.org)



# Portals for federally-sponsored opportunities in STEM for students

[stemundergrads.science.gov](http://stemundergrads.science.gov)

[stemgradstudents.science.gov](http://stemgradstudents.science.gov)

STEM OPPORTUNITIES: Graduate Students | Undergraduate Students

## STEMUndergrads.science.gov

Your Gateway to Federal Opportunities for Undergraduate Students

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STEM OPPORTUNITIES: Graduate Students | Undergraduate Students

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### Narrow Results:

- Undergraduate Program Type >
- Undergraduate Level Eligibility >
- STEM Discipline Focus >
- Institutional Location >
- Federal Agency Sponsor >
- Geographic Region >

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