



## **Office of Graduate Fellowships**

**Fellowship Opportunities in:**

**Atmospheric / Oceanic / Earth Sciences**

This document outlines some of the major individual fellowship and grant opportunities for graduate students in Atmospheric, Oceanic, and Earth Sciences and related research fields.

The first section aims to familiarize the reader with major federal grant and fellowship opportunities for graduate students in the sciences.

The second section presents a list of other opportunities that may be of interest, including some awards for specific subfields or areas of research and some general graduate fellowship programs open to students in a wide range of disciplines. An appendix to this section names some major international and language training opportunities open to graduate student in STEM fields, including the Fulbright U.S. Student Program.

This is not intended as a comprehensive list, and students are encouraged to familiarize themselves with search tools and databases to locate funding opportunities specific to their area of interest. These search tools can be found at the Graduate Fellowships web site.

A few notes on these awards:

- Many award programs, particularly federally funded programs, are limited to U.S. citizens (and in some cases permanent residents.) Opportunities for international students exist, but are more limited.
- Most awards are designed to support the student at a specific stage of graduate study (early stage, dissertation, etc.) However, students should be mindful of the long timeline on graduate fellowship applications and plan far ahead. Many awards require you to begin working on the application a year or more before an award will be made.
- Some fellowship and grant programs require that the application be submitted on the student's behalf by GMU's Office of Sponsored Programs (OSP). If this is the case, be aware that OSP will set an earlier deadline, and that you will need to contact them to set up a meeting with a grants administrator early in the process.
- Students are urged to always work closely with their academic mentors in preparing grant and fellowship applications, and to discuss their plans with their advisor. Some competitions require nomination by the advisor, and some applications include components that must be completed or endorsed by the advisor.
- The Office of Graduate Fellowships is available to provide advice in navigating the application process and connecting with OSP. We also offer proposal review after the advisor has vetted the proposal.

**The National Science Foundation (NSF) funds basic research in science, mathematics, engineering, STEM education, and some social science fields. For a general overview of current NSF opportunities for graduate students, visit: [https://www.nsf.gov/funding/education.jsp?fund\\_type=2](https://www.nsf.gov/funding/education.jsp?fund_type=2)**

#### **NSF Graduate Research Fellowship Program (GRFP)**

<http://www.nsfgrfp.org/>

The NSF 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 by funding outstanding graduate students in NSF-supported STEM and social science disciplines who are pursuing research-based master's and doctoral degrees. The GRFP provides three years of support, including a stipend, tuition/fees, and access to special research and training opportunities designed only for GRFP fellows. The competition is open to U.S. citizens and permanent residents who have completed LESS THAN twelve months of full-time graduate study at the time of application. For most students, this means they can apply in the fall of the first or second year of graduate study. (Note that this includes master's degrees and ALL post-baccalaureate study. The applicant may be a master's student at the time of application so long as their ultimate goal is the Ph.D.) Application deadline falls in October annually for funding to commence in the subsequent academic year. This application is completed and submitted by the applicant and NOT through the Office of Sponsored Programs. 2,000 fellowships are awarded annually.

#### **NSF Earth Sciences Postdoctoral Fellowships**

[https://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=503144&org=NSF](https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503144&org=NSF)

The NSF Division of Earth Sciences (EAR) awards Postdoctoral Fellowships to recent recipients of doctoral degrees to conduct an integrated program of independent research and professional development. Fellowship proposals must address scientific questions within the scope of EAR disciplinary programs and must align with the overall theme for the postdoctoral program. The program supports researchers for a period of up to two years with fellowships that can be taken to the institution of their choice (including institutions abroad).

**The Department of Defense supports graduate study and research for candidates focused on topics and fields of interest to the DoD.**

#### **National Defense Science and Engineering Graduate Fellowship (NDSEG)**

<https://ndseg.asee.org/>

As a means of increasing the number of U.S. citizens and nationals trained in science and engineering disciplines of military importance, the Department of Defense (DoD) annually awards approximately 200 new three-year graduate fellowships through the NDSEG program. These awards are offered to individuals in the early stages of graduate study who have demonstrated the ability and special aptitude for advanced training in science and engineering. The award provides stipend and full tuition support for three years. The application is due annually in December for funding to begin in the subsequent academic year. At the time of application, applicants must have completed LESS THAN two full-time years of graduate study (or the part-time equivalent) in the discipline in which they are applying. For most students, this means they can apply in the fall semester of the first or second semester of graduate study (including master's programs and all post-baccalaureate study. The applicant may be a master's student at the time of application so long as their ultimate goal is the Ph.D.) This application is completed and submitted by the applicant and NOT through the Office of Sponsored Programs.

### **DoD SMART Scholarships**

<https://smart.asee.org/>

The SMART Program aims to increase the number of scientists and engineers in the DoD by supporting both undergraduate and graduate students in STEM disciplines (including chemistry) whose research and career interests align with the mission of the Department of Defense. The program is particularly interested in supporting individuals that demonstrate an aptitude and interest in conducting theoretical and applied research. As such, the program primarily targets "hand-on-the-bench" researchers. Individuals applying to the program should have a strong interest in working for the DoD as a civilian research scientist or engineer after graduation, and be able to commit to mandatory paid summer internships in DoD-affiliated labs during the tenure of the award. The award provides stipend, tuition, paid research internships, and a research allowance for up to five years, plus post-graduation employment. Applicants must be U.S. citizens at the time of application. Students may apply to the SMART program at any point during their graduate studies. All DoD SMART scholars are paired with a DoD sponsoring facility, and it is important for applicants to this program and their advisors to identify and cultivate contacts with desired sponsoring facilities. The list of sponsoring facilities may be viewed at the web site.

## **NASA**

### **NASA Earth and Space Science Fellowship (NESSF)**

<https://science.nasa.gov/learners/learner-opportunities>

A program that supports graduate students in basic and applied research in Earth science and space science. Students may apply at any stage of their graduate work. This award has no citizenship restrictions, but will award preference to U.S. citizens and permanent residents when deciding between two projects of equal merit. Awards of \$45,000 per year are made for up to three years. More information and application instructions can be found at <http://solicitation.nasaprs.com/open> by searching for NESSF. This opportunity is typically posted in early November and proposals are due in early February.

### **NASA Advanced STEM Training and Research (ASTAR) Graduate Fellowships**

<https://science.nasa.gov/learners/learner-opportunities>

ASTAR fellowships are for early-stage masters and doctoral students pursuing advanced degrees in Science, Technology, Engineering, and Mathematics (STEM) in relevant NASA-related disciplines at accredited U.S. universities. This program is limited to U.S. citizens. The fellowship carries a stipend of \$25,000 (master's) or \$30,000 (doctoral) for up to 3 years, plus additional funds and benefits. More information and application instructions can be found at <http://solicitation.nasaprs.com/open> by searching for ASTAR. This opportunity is typically posted in the fall with a February deadline.

**For additional opportunities through NASA visit:** <https://science.nasa.gov/learners/learner-opportunities>

## **Other Federally Funded Graduate Research Fellowship Programs:**

### **DOE Office of Science Graduate Student Research Program (DOE SCGSR)**

<http://science.energy.gov/wdts/scgsr/>

The Department of Energy's SCGSR program prepares graduate students for science, technology, engineering, or mathematics (STEM) careers critically important to the DOE Office of Science mission. The duration of the proposed research may range from 3-12 consecutive months. Priority focus areas are announced annually. Applicant must be a U.S. citizen working toward a PhD in an eligible field who has advanced to doctoral candidacy at the time of application. The applicant must propose to do part of his/her thesis research in collaboration with a DOE national laboratory scientist in a priority research area. Additional funds support time the student will spend at the DOE laboratory.

### **DOE Computational Science Graduate Fellowship**

<http://www.krellinst.org/csgf>

The DOE CSGF is open to U.S. citizens or permanent residents who are planning full-time, uninterrupted study toward a Ph.D. in computational science and closely related fields at an accredited U.S. university. Senior undergraduate and first and second year graduate students in STEM fields are eligible to apply for the program. Annual stipend of \$36,000/year for up to four years, plus additional benefits.

### **National Center for Atmospheric Research (NCAR) Postdoctoral Fellowships**

<https://www2.hao.ucar.edu/partnerships/visitor-program/postdoctoral-fellows>

Fellowships support research, in collaboration with members of the HAO scientific staff, related to solar/stellar interiors and variability, the lower solar atmosphere, corona and heliosphere, terrestrial and planetary atmospheres, and ionospheres and magnetospheres. Projects involving radiative transfer, hydrodynamics, magnetohydrodynamics, radiation hydrodynamics, plasma physics, and other topics are pursued both out of fundamental physical interest and for their application to the above areas of research. Fellows are expected to work at HAO in Boulder, Colorado, with the exception of time spent participating in field research and observing programs. Fellows will have access to the HAO Linux/Unix computers, NCAR supercomputer systems, and the HAO and NCAR libraries and data archives from Mauna Loa Solar Observatory and other facilities. The fellowship offers support for two years.

### **National Oceanic & Atmospheric Administration (NOAA) Dr. Nancy Foster Scholarship Program**

<http://www.noaa.gov/opportunities/dr-nancy-foster-scholarship-program>

The Dr. Nancy Foster Scholarship Program recognizes outstanding scholarship and encourages independent graduate level research — particularly by female and minority students — in NOAA mission-related sciences of oceanography, marine biology and maritime archaeology, including all science, engineering, and resource management of ocean and coastal areas. Stipend is \$30,000/year for up to 4 years, plus funding for collaborative research at an NOAA facility. Two to four awards are made each year. Application opens each year in October with a December deadline. **For additional opportunities through NOAA visit:** <http://www.noaa.gov/opportunities/student-opportunities>

### **Smithsonian Institution**

<http://www.smithsonianofi.com/>

The Smithsonian Institution provides fellowships to support research and study in a variety of fields. The Smithsonian, located in Washington, DC, is the world's largest museum and research complex, consisting of 19 museums and galleries, the National Zoological Park, and nine research facilities.

## **Other Opportunities**

### **American Association of University Women (AAUW) Fellowships**

<http://www.aauw.org/what-we-do/educational-funding-and-awards/>

The American Association of University Women offers dissertation completion and postdoctoral fellowships for women who are U.S. citizens and permanent residents in all fields of study via its American Fellowships program, as well as fellowships for international women students via its International Fellowships Program. Stipends vary by type of awards and stage of study, most in the \$20,000 - \$30,000 dollar range.

### **American Meteorological Association Graduate Fellowship**

<https://www.ametsoc.org/ams/index.cfm/information-for/students/ams-scholarships-and-fellowships/ams-graduate-fellowships/>

The AMS Fellowship Program supports first-year graduate students in the atmospheric or related oceanic and hydrologic sciences. Prospective candidates from the fields of atmospheric sciences, chemistry, computer sciences, engineering, environmental sciences, hydrology, mathematics, oceanography, and physics are encouraged to apply. The fellowship is for nine months and carries a \$25,000 stipend plus support for conference travel. Open to U.S. citizens and permanent residents. Application deadline falls in January. AMS also offers a postdoctoral Congressional Fellowship program for candidates interested in applying their expertise toward a career in science policy.

### **Christine Mirzayan Science & Technology Policy Graduate Fellowship Program**

<http://sites.nationalacademies.org/pga/policyfellows/>

Funds graduate students and recent graduate degree recipients to participate in a 12-week DC-based program focused on science and technology policy. Open to students in social/behavioral sciences, medical/health disciplines, physical or biological sciences, any field of engineering, law/business/public administration, or any relevant interdisciplinary field. Application deadline falls in September and fellowship term begins in January. Fellows are expected to dedicate themselves full time to the fellowship during the spring semester.

### **Cosmos Scholars Grants**

<http://www.cosmosclubfoundation.org/scholars/grants-program.html>

Small grant (\$500-\$4,000) in support of graduate level research in any field to graduate students at D.C. metro area universities. Deadline: November 1, annually.

### **Ford Foundation Fellowship Program**

<http://sites.nationalacademies.org/PGA/FordFellowships/index.htm>

Pre-Doctoral, Dissertation, and Post-Doctoral awards for PhD and Sc.D students intending academic careers as scholars and teachers. This award is open to US citizens in most fields of study. The award aims to promote diversity in higher education by funding candidates: (a) Who are a member of an under-represented minority, including Alaska Natives, Black/African Americans, Mexican Americans, Native American Indians, Native Pacific Islanders, and Puerto Ricans. (b) Whose research and career aims demonstrate a likelihood of using the diversity of human experience as an educational resource in teaching and scholarship.

### **Paul and Daisy Soros Fellowship for New Americans**

<http://www.pdsoros.org/competition/>

Supports students who are recent immigrants (e.g. naturalized citizens of the U.S.) or the children of recent immigrants for graduate study in the United States. All fields are eligible, but student must not be beyond their second year of graduate study in their chosen field.

### **SREB-State Doctoral Scholars Program**

[http://www.sreb.org/page/1074/doctoral\\_scholars.html](http://www.sreb.org/page/1074/doctoral_scholars.html)

SREB (Southern Regional Education Board) is a regional award open to U.S. citizens and permanent residents who are members of a racial or ethnic minority and plan to become a full-time college or university faculty member after earning the Ph.D. Please note that to hold this award at GMU the applicant must be VA-domiciled. Two types of awards are offered: The Doctoral Award supports new Ph.D. students for 3-5 years. The Dissertation Award is a one-year award for students who are completing their dissertations. Open to most fields, with STEM fields particularly encouraged to apply.

**If you are interested in international research and language training opportunities, the following prestigious programs support graduate students in STEM fields:**

### **Boren Fellowships**

[http://www.borenawards.org/boren\\_fellowship](http://www.borenawards.org/boren_fellowship)

Supports overseas study and/or research with an emphasis on language training and on research/career goals related to U.S. national security interests. Projects in Western Europe are NOT eligible; see web site for list of preferred countries/languages. Open to U.S. citizens in all fields. Fellows are required to work for the U.S. federal government (in most cases for 1 year) following graduation; the Boren program provides assistance with job placement. Special opportunities exist for African and South Asian languages. Deadline: Late January.

### **Critical Languages Scholarships**

<http://clscholarship.org/>

CLS sends participants on fully funded overseas summer language programs in “critical” languages. Currently 14 languages are offered. For some, no background is required and students at all stages (including beginners) may apply. Others require some prior formal or informal study. U.S. citizens only; heritage speakers are considered so long as they require additional training to attain meaningful fluency. Open to undergraduate and graduate students in all fields of study (including STEM fields) who can demonstrate long-term commitment to the language and host culture. Applicants may apply to one language per year. Application deadline: November for subsequent summer.

### **Fulbright U.S. Student Program**

<http://us.fulbrightonline.org/>

Fulbright grants support U.S. citizens who will hold a bachelor’s degree (but not yet a Ph.D.) by the application deadline. “Research/Study” grants allow students to engage in independent self-designed research and study projects overseas for one academic year. “ETA” grants fund students to assist in ESL classrooms at various levels around the world. In addition, some countries also offer other specialized types of Fulbright grants. Open to candidates in ALL fields. Requirements vary by country. This award requires a campus-level review process; prospective applicants must consult with the Director of Graduate Fellowships. Application is due September 15 annually.