



NATIONAL SCIENCE FOUNDATION
2415 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22314

NSF 21-029

Dear Colleague Letter: Research Internships for Graduate Students at Air Force Research Laboratory (NSF-AFRL INTERN) Supplemental Funding Opportunity

December 11, 2020

Dear Colleague:

Fostering the growth of a globally competitive and diverse research workforce and advancing the scientific and innovation skills of the Nation is a [strategic objective of the National Science Foundation](#) (NSF). The NSF and Air Force Research Laboratory (AFRL) have entered into a partnership to support the training of graduate students to meet both the NSF's strategic workforce development objectives as well as the AFRL's mission to lead the discovery, development and delivery of new technologies for our air, space and cyberspace forces.

This Dear Colleague Letter (DCL) describes this unique partnership with AFRL for submissions to the NSF INTERN Program, [NSF 21-013](#). [NSF 21-013](#) is often referred to as the [INTERN DCL](#). This DCL is referred to as the NSF-AFRL INTERN DCL.

SUPPLEMENTAL FUNDING OPPORTUNITY

NSF will consider supplemental funding requests that enable PIs (or Co-PIs) to request up to six months of additional support for graduate students supported on active NSF grants with the following goals:

1. To provide graduate students with the opportunity to augment their research assistantships or NSF Graduate Research Fellowship Program (GRFP) fellowships with AFRL research internship activities and training opportunities that will complement their academic research training;
2. To allow graduate students to pursue new activities aimed at acquiring professional development experience that will enhance their preparation for multiple career pathways after graduation; and

3. To encourage the participation of graduate students from underrepresented groups such as women, persons with disabilities, underrepresented minorities in science, technology, engineering, and mathematics (STEM), veterans, and persons from economically-disadvantaged backgrounds.

DESCRIPTION OF THE ACTIVITIES SUPPORTED

The PI or co-PI of an active NSF award may request supplemental funding for one or more graduate students to gain knowledge, skills and experiences that will augment their preparation for a successful long-term career through an internship at the AFRL.

PIs are encouraged to discuss with the cognizant NSF program director activities that are synergistic with the NSF grant project scope. It is expected that the graduate student and the PI on the NSF grant will work together to identify innovative experiences that are aligned with AFRL core competencies and that add the most educational value for the graduate student. Further, it is expected that the internship will be on-site at the AFRL (headquartered at Wright-Patterson Air Force Base in Ohio) and will be research-focused within a relevant STEM field.

ELIGIBILITY

To be eligible, graduate students must have completed at least one academic year in their graduate programs (master's or doctoral), be making satisfactory progress towards the completion of their degree and must be a US Citizen.

This opportunity is open to PIs (or Co-PIs) who are supporting graduate students through any active NSF award, including institutional Graduate Research Fellowship Program (GRFP) awards. The PI for an active GRFP fellowship (not the GRFP fellow) should contact GRFP (GRFPINTERN@nsf.gov) regarding specific requirements before submitting a supplemental funding request on behalf of a GRFP fellow.

PARTICIPATING AFRL TECHNOLOGY DIRECTORATES

AFRL is responsible for leading the discovery, development, and delivery of warfighting technologies for the air, space, and cyberspace domain. Its success depends on a high-quality internal workforce and external partners who are knowledgeable of Air Force science and technology challenges. As such, AFRL has a compelling need to foster the training and preparation of a new generation of science and engineering talent to serve its strategic needs. Opportunities for NSF supported graduate students for internships at AFRL are broad. The table below lists the organizations within AFRL that are interested in hosting graduate students and their associated Core Technical Competencies (CTCs):

AFRL Technology Directorate

Primary Location

Aerospace Systems Directorate (AFRL/RQ)

Wright-Patterson Air Force Base,
Ohio

1. Aerospace Vehicles
2. Control, Power and Thermal Management
3. High Speed Systems
4. Rocket Propulsion
5. Turbine Engines

Information Directorate (AFRL/RI)

Rome, New York

1. Processing and Exploitation
2. Connectivity and Dissemination
3. Autonomy, Command and Control and Decision Support
4. Cyber Science and Technology

Materials and Manufacturing Directorate (AFRL/RX)

Wright-Patterson Air Force Base,
Ohio

1. Structural Materials
2. Functional Materials
3. Manufacturing Technology
4. Support of Operations

Directed Energy Directorate (AFRL/RD)

Kirtland Air Force Base, New
Mexico

1. Laser Systems
2. Weapons Modeling, Simulation & Analysis
3. High Power Electromagnetics (HPEM)
4. Directed Energy and Electro Optics for Space Superiority

Munitions Directorate (AFRL/RW)

Eglin Air Force Base, Florida

1. Munitions Airframe, Guidance, Navigation and Control
2. Seeker Sciences
3. Modeling and Simulation Evaluation Sciences
4. Ordnance Sciences

Sensors Directorate (AFRL/RV)

Wright-Patterson Air Force Base,
Ohio

1. Radio Frequency Sensing
2. Electro-Optical Sensing
3. Spectrum Warfare
4. Trusted and Resilient Mission Systems
5. Multi-Domain Sensing Autonomy
6. Enabling Sensor Devices and Components

Space Vehicles Directorate

Kirtland Air Force Base, New
Mexico

1. Advanced Space Resilience Technologies
2. Space Communication and Navigation Technologies
3. Space Awareness and Command and Control
4. Space Environment

711th Human Performance Wing (711 HPW) Training

Wright-Patterson Air Force Base,
Ohio

1. Adaptive Warfighter Interfaces
2. Bioeffects
3. Bioengineering
4. Aerospace and Operational Medicine

PIs and co-PIs of NSF grants and the research advisor of the GRFP fellows are encouraged to contact Dr. Timothy J. Bunning, timothy.bunning@us.af.mil, or Dr. Milton E. Blackwood, milton.blackwood@us.af.mil, to discuss suitable opportunities for traineeships for graduate students supported on their NSF grants. However, supplemental funding requests must be submitted to the cognizant NSF program director.

SUPPLEMENTAL FUNDING REQUEST PREPARATION INSTRUCTIONS

Each supplemental funding request must include the NSF-AFRL INTERN DCL title and announcement number in the summary section of the proposal and include the following components:

1. A two-page summary that describes the internship. The request must include a concise statement from the graduate student describing how the activity will better prepare her/him to enter the workforce.
2. A resume of the graduate student (up to 2 pages) that contains (but not limited to) the following information:
 - a. Educational Preparation
 - i. Institution
 - ii. Major
 - iii. Year of study (1st year, 2nd year, etc.)
 - b. Summary of graduate coursework completed
 - c. Professional employment history
 - d. Publications
 - e. Other information relevant to the proposed internship

We encourage students supported by funding described in this DCL to register for an ORCID ID and for this identifier to be provided to NSF in the student's resume as well as the PI's annual project report. ORCID® (<http://orcid.org>) is an open, non-profit, community-driven effort to create and maintain a registry of unique researcher identifiers and a transparent method of linking research activities and outputs to these identifiers. An ORCID identifier provides a unique and persistent digital identifier to distinguish individual researchers. While NSF encourages the use of an ORCID ID, submission of the ORCID ID is optional.

3. A letter of collaboration from an authorized official at the AFRL Technology Directorate that will host the student that describes the internship opportunity and the mentoring that will be provided to the student during the internship. The letter must confirm that the student meets AFRL requirements to be allowed to intern at AFRL.
4. A letter from the PI that confirms that the student meets the eligibility requirements specified in this DCL. The letter must describe how the proposed internship activity will contribute to the student's graduate education experience and how it may impact time to degree.
5. The NSF awardee and the AFRL must agree in advance as to how intellectual property (IP) rights will be handled. A signed agreement on IP (including publication and patent rights) must be submitted prior to the award of the supplemental funding. NSF is

responsible neither for the agreement reached nor the IP information exchanged between the NSF awardee and the host organization.

6. A budget and budget justification.

SUPPLEMENTAL FUNDING AMOUNT

The total amount of funding requested must not exceed \$55,000 per student per six-month period. NSF plans to fund up to approximately 20 supplements in each fiscal year starting with FY 2021, depending on the availability of funds.

ALLOWABLE COSTS UNDER THIS DCL

Funds may be used to support travel, tuition and fees, health insurance, additional stipend, and temporary relocation costs for the graduate student. Additional stipends are not allowed for GRFP fellows on tenure, but a stipend will be considered for fellows on reserve equal to the monthly rate of the GRFP stipend. Up to \$2,500 may be used for the PI or the graduate research fellow's advisor to travel to work with the host organization in co-mentoring the student during the internship. Up to \$2,500 may be used for materials and supplies to support the student during the internship. The grantee is permitted to request indirect costs in accordance with their approved/negotiated indirect cost rate. The total requested budget cannot exceed the limits listed under the "Supplement funding amount" section above. Note: Spousal and dependent travel are not supported.

PERIOD OF SUPPORT

The supplement funding will provide up to six months of support for an internship. Up to two supplemental funding requests may be submitted on a grant per student. This would allow the student up to two internship periods up to six months each (i.e., a maximum of 12 months per student).

DUE DATES

Supplemental funding requests may be submitted at any time with a [target date](#) of April 15 for each Fiscal Year.

SUBMISSION & REVIEW

Requests for supplemental funding must be submitted electronically via FastLane. A PI / Co-PI on an NSF grant should contact his/her cognizant program director prior to submission. GRFP INTERN supplement requests are submitted by the GRFP PI, not by the GRFP fellow or the fellow's research advisor. Requests for supplemental funding submitted in response to this DCL will be reviewed internally by NSF Program Officers. All supplements are subject to

(a) the availability of funds, and (b) merit review of the supplemental funding request.

For further information, please contact: Dr. Prakash Balan, pbalan@nsf.gov.

SPECIAL AWARD CONDITION

Intellectual Property Rights: Internships under this DCL are considered equivalent to traineeships. The National Science Foundation claims no rights to any inventions or writings that might result from its traineeship awards. However, trainees should be aware that NSF, another Federal agency, or some private party may acquire such rights through other support for particular research. Also, trainees should note their obligation to include an Acknowledgment and Disclaimer in any publication.

POLICY OR CODE ADDRESSING HARASSMENT

Awardees are required to have a policy or code of conduct that addresses sexual harassment, other forms of harassment, and sexual assault. The awardee should coordinate with the AFRL to provide orientation to graduate students to cover expectations of behavior to ensure a safe and respectful environment, and to review the awardee and AFRL's policy or code of conduct addressing sexual harassment, other forms of harassment, and sexual assault, including reporting and complaint procedures. For additional information, see the NSF policies at <https://www.nsf.gov/od/odi/harassment.jsp> and the "Promising Practices" at https://www.nsf.gov/od/odi/promising_practices/index.jsp.

Sincerely,

Joanne S. Tornow, Assistant Director
Directorate for Biological Sciences (BIO)

Margaret Martonosi, Assistant Director
Directorate for Computer and Information Science and Engineering (CISE)

Karen Marrongelle, Assistant Director
Directorate for Education and Human Resources (EHR)

Dawn Tilbury, Assistant Director
Directorate for Engineering (ENG)

William E. Easterling, Assistant Director
Directorate for Geosciences (GEO)

Sean L. Jones, Assistant Director
Directorate for Mathematical and Physical Sciences (MPS)

Arthur Lupia, Assistant Director

Directorate for Social, Behavioral and Economic Sciences (SBE)

Suzi Iacono, Office Head
Office of Integrative Activities (OIA)