



FAS RESEARCH DEVELOPMENT 2020 NSF CAREER AWARD GUIDANCE FOR FACULTY

The Faculty Early Career Development (CAREER) Program is a Foundation-wide activity that offers the National Science Foundation's most prestigious awards in support of early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization. Activities pursued by early-career faculty should build a firm foundation for a lifetime of leadership in integrating education and research. The CAREER competition is open to scholars in all of the fields supported by NSF. NSF anticipates making 500 new and continuing awards this year.

Deadline: August 11, 2020

NEW THIS YEAR: NSF will have one submission deadline for all CAREER proposals, regardless of Directorate.

NOTE: Applications must be submitted to Harvard's Office for Sponsored Programs for internal review and approval by August 4, 2020.

Award Information

- 5 year duration
- **\$400,000 minimum (including indirect costs)**, except for applications to the Office of Polar Programs (OPP), Directorate for Engineering (ENG), and Directorate for Biological Sciences (BIO), which have a **minimum of \$500,000**
- No maximum award size – funding should be requested in accordance with the scope of your project. When determining the size of your request, review prior awards made by the Program(s) considering your application and discuss your planned request with your Program Officer(s) (see [NSF Organization List](#) and [Division CAREER contacts](#)).

Eligibility

- **Applicants must hold at least a 50% tenure-track (or tenure-track-equivalent) position as an Assistant Professor as of the annual deadline. Associate Professors are not eligible for the CAREER program.**
- CAREER eligibility is not limited by time from degree or years in a tenure-track appointment.
- There are no citizenship restrictions.
- You may only receive one CAREER award.
- You may participate in three CAREER competitions; you may submit one proposal per competition.
- You may not submit a proposal for a project that is substantially the same as another currently under review by NSF.
- You may not submit a proposal that was previously declined by NSF and has not been revised to take into account the major comments from the prior review.

First Steps

- 1) Carefully review the [program solicitation](#) and [FAQs](#).
- 2) Discuss your ideas with your Department Chair, academic mentors, and peers that have been successful in obtaining awards from NSF. For a list of NSF CAREER Award winners at Harvard, contact FAS Research Development at research_development@fas.harvard.edu.



- 3) Determine which program area(s) at NSF is/are most appropriate to review your proposal (i.e. Molecular and Cellular Biosciences, Earth Sciences) and identify a Program Officer in those area(s). For a list of NSF's program areas, see <http://www.nsf.gov/staff/orglist.jsp>.
- 4) Also identify the appropriate contact for the CAREER program in those Division(s), listed at: <http://www.nsf.gov/crssprgm/career/contacts.jsp>.
- 5) If your project has an international component, identify the appropriate country representative(s) in the [Office of International Science and Engineering](#).
- 6) Send an email to the contacts you have identified, including a brief description of your proposed project and a request for feedback. Below are several questions you may want to ask:
 - Is the project a good fit for the program?
 - What are the expectations for the scope of research and education plans in this particular program area?
 - What is the typical award size in this program?
 - What type of review process does this program undertake (i.e. panel or ad hoc reviews)?

Developing the Education Plan

NSF's CAREER program requires that you include an education plan in addition to your plans for research and broader impacts. The research and education plans can be described separately within the Project Description, or you may present them together in an integrated narrative. Remember that reviewers who are subject experts in your field will be mostly familiar with your research component. Some programs may also send your proposal for review to education experts in your field, and for that reason, you should make sure that your education component is solid and well-argued. Education activities should be consistent with research and best practices in curriculum, pedagogy, and evaluation. Education plans must cite relevant publications, and local curricula and state education standards to be addressed, if applicable (e.g. for work with K-12 classes).

While NSF expects your education plan to be distinctive, innovative, and beyond what is expected from a typical Assistant Professor in your field, it should also be doable and not require so much time that other professional activities are compromised. In addition, it is important to choose activities that really matter to you, and that fit well with your Department's mission and priorities.

Proposed education activities may be in a broad range of areas and may be directed to any level: K-12 students, undergraduates, graduate students, and/or the general public, but should be related to the proposed research and consistent with the career goals of the PI.

Some examples are:

- designing innovative courses or curricula;
- supporting teacher preparation and enhancement;
- contributing to museum exhibits or programs;
- conducting outreach and mentoring activities to enhance scientific literacy or involve students from groups that have been traditionally underrepresented in science;
- researching students' learning and conceptual development in the discipline;
- incorporating research activities into undergraduate courses;
- teaching a graduate seminar on the topic of the research;
- engaging the broader public with your research;
- creating cyberinfrastructure that facilitates involvement of the broad citizenry in the scientific enterprise;
- providing mentored international research experiences for U.S. students;
- linking education activities to industrial, international, or cross-disciplinary work;
- implementing innovative methods for evaluation and assessment;
- designing new or adapting and implementing effective educational materials and practices, and plans for disseminating them;



- build on, or otherwise meaningfully participate in, existing NSF-supported activities or other educational projects ongoing on campus; and
- using new or existing tools to broadly disseminate your research and education activities.

A competitive proposal will include plans for assessing or evaluating your educational activities, tools, or materials. You are encouraged to make connections with appropriate education experts, and to include the necessary letters of commitment in your application. NSF recommends that applicants leverage existing NSF-supported activities or other educational projects on campus. **For assistance identifying resources and programs at Harvard that you can leverage, contact FAS Research Development at research_development@fas.harvard.edu. See the appendix to this document for examples of Harvard programs with which CAREER applicants commonly collaborate. Please note the recommended deadlines listed in the table below if you plan to request this type of assistance.**

Broader Impacts

The Project Description in your CAREER proposal must include a separate section entitled “Broader Impacts.” While your discussion of broader impacts will likely refer to the education and outreach activities outlined in your education plan, you will also want to include information in this section about how your research advances scientific knowledge and contributes to the achievement of societally relevant outcomes, such as: full participation of women, persons with disabilities, and underrepresented minorities in science, technology, engineering, and mathematics (STEM); improved STEM education and educator development at any level; increased public scientific literacy and public engagement with science and technology; improved well-being of individuals in society; development of a diverse, globally competitive STEM workforce; increased partnerships between academia, industry, and others; improved national security; increased economic competitiveness of the U.S.; use of science and technology to inform public policy; and enhanced infrastructure for research and education. FAS Research Development can provide samples of particularly exemplary education plans and broader impacts statements.

Application Components

- ✓ Cover Sheet (completed by administrator)
- ✓ Project Summary (1 page limit divided into Overview, Intellectual Merit, Broader Impacts)
- ✓ Project Description (15 pages, including Broader Impacts and Results from Prior NSF Support sections)
- ✓ References Cited (no page limit)
- ✓ Budget and Budget Justification (5 pages)
- ✓ PI Biosketch (2 pages, provided through use of an [NSF-approved format](#))
- ✓ Current and Pending Support (provided through use of an [NSF-approved format](#) for each individual designated as senior personnel)
- ✓ Facilities, Equipment and Other Resources (no page limit)
- ✓ Departmental Letter from Chair committing institutional support for the professional development and mentoring of the PI, supporting the proposed activities and confirming that they fit well with the department/organization’s mission, and certifying that the PI is eligible to apply (2 pages)
- ✓ Letters of Collaboration, NOT letters of support or recommendation (1 page each, should use NSF’s single-sentence format)
- ✓ Data Management Plan (2 pages)
- ✓ Post-doctoral Mentoring Plan, if applicable (1 page)
- ✓ Collaborators and Other Affiliations Information (in NSF Excel template)



Research Support Services Provided for Faculty by FAS Research Development

Application Component	Service
<i>Pre-application Planning</i>	<ul style="list-style-type: none"> ▪ Assistance with determining the appropriate directorate(s)/program(s) for your proposal ▪ Provide samples of successful Harvard proposals, including examples of outstanding Education Plans and Broader Impacts statements
<i>Project Narrative</i>	<ul style="list-style-type: none"> ▪ Introduction to Harvard program(s) to support your education plan and related assessment/evaluation activities (draft proposal ideally provided at least one month in advance of NSF deadline) ▪ Resources for identifying external evaluators ▪ Recommendations on how to leverage existing resources for your Broader Impacts plan ▪ "Responsiveness Review" to ensure your narrative addresses NSF's evaluation/review criteria ▪ Coordinate an internal review panel of FAS faculty members prior to submission (draft proposal ideally provided at least one month in advance of NSF deadline) ▪ General grantsmanship advice and strategy ▪ Resubmission advice/strategies for drafting a successful resubmission if you were declined in a previous round
<i>Departmental Letter</i>	<ul style="list-style-type: none"> ▪ Template available
<i>Letters of Collaboration</i>	<ul style="list-style-type: none"> ▪ Obtain detailed information about the support services partner organizations/programs will provide, along with letters of commitment
<i>Data Management Plan</i>	<ul style="list-style-type: none"> ▪ Template available
<i>Postdoctoral Mentoring Plan</i>	<ul style="list-style-type: none"> ▪ Template available

For assistance, please contact Jennifer Corby, jcorby@fas.harvard.edu, 617-495-1590, or Susan Gomes, susan_gomes@harvard.edu, 617-496-9448.



Appendix A

The Derek Bok Center for Teaching and Learning

Mission: By supporting experimentation, innovation, and evidence-based practices, the [Derek Bok Center for Teaching and Learning](#) seeks to create transformational learning experiences for faculty, graduate students, and undergraduates in Harvard's Faculty of Arts and Sciences and John A. Paulson School of Engineering and Applied Sciences.

Requested Timeline: In order to provide the most effective support, the Bok Center requests that CAREER applicants initiate discussions at least one month prior to the grant deadline.

Fee for Services: No

Contacts:

For pedagogy support:

Marty Samuels, Associate Director for Science
msamuels@fas.harvard.edu, 617-495-8946

For support with K-12 outreach:

Susan Johnson, Assistant Director for Socially Engaged Learning
susanjohnson@fas.harvard.edu, 617-496-3457

Potential activities by which the Bok Center can support faculty applying for NSF CAREER proposals:

- Brainstorming educational activities to include in your CAREER proposal.
- Helping faculty design new courses or revise existing courses to engage students with scientific inquiry and incorporate evidence-based teaching practices. Example activities might include:
 - developing active learning exercises to transform the classroom;
 - creating exercises or case studies in which students investigate original data;
 - developing multimedia materials that allow faculty to share their research with students;
 - designing alternative assignments that allow students to explore concepts and data in ways other than traditional problem sets or essays; and
 - implementing a blended learning approach that combines out-of-class assignments and videos with in-class activities.
- Offering guidance to faculty interested in working with K-12 students or teachers. The Bok Center works directly with several programs for K-12 students and teachers, and can also provide advice for developing outreach activities.
- Identifying appropriate references to cite in your Education Plan.



Appendix B

Media Production Center

Mission: The [Media Production Center \(MPC\)](#) provides video and audio production services in support of teaching and learning, outreach, and research at Harvard. We work with faculty and their students, administrators, departments, and staff across the University to create instructional, training, and promotional videos, podcasts, musical recordings, live streams in-studio or on-location, and arts performance documentation, and course capstone projects.

The MPC operates a multi-camera video studio in Widener Library in Harvard Yard, and a sound & video studio and post-production suites at 59 Plympton Street. Contact us today to set up a tour and discuss your project.

Requested Timeline: If you are considering working with the MPC, please reach out as soon as possible. We can be reached at mpc.fas.harvard.edu, 617-495-9440, or ims_mpc@fas.harvard.edu. Reservations for the studios are typically made at least two weeks in advance.

Fee for Services:

Studio recording, Hauser Studio: no charge
Studio recording, Plympton Studio: \$89/hr
Location recording varies based on the required crew size (starting at \$89/hr).
Video and audio post production: \$89/hr

Contact:

Kevin McGowan, Production Coordinator
kmmcgow@fas.harvard.edu, 617-495-9440

Potential Activities:

Short Form Video Production

The Media Production Center produces short-form video for instruction and promotional use. Work with our producers to hone your message and create a production plan for shooting in-studio or on-location, capture supporting B-roll footage, add voiceovers and graphics, and edit, finish, and deliver your final product.

Studio Recording

Record audio and video in a controlled, high-quality, studio environment. It is our top priority to make our Harvard partners look and sound their best possible. Deliverables can be either raw files for your team to edit, or comprehensive post-production services are available from our Plympton Street team.

Audio & Video Post-Production

MPC staff can work with you to edit video and audio material recordings in our studios or elsewhere. We can encode video files that will be ready to share online. We can also help with closed captioning.