



National Science Foundation
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Frequently Asked Questions by Ocean Sciences PIs for the CAREER Competition

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1. Why would I submit a CAREER proposal rather than a regular science proposal to OCE?

The Faculty Early Career Development (CAREER) Program offers the National Science Foundation's most prestigious awards in support of junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and research within the context of the mission of their organizations. In addition, CAREER awardees are eligible to be nominated for the Presidential Early Career Award for Scientists and Engineers (PECASE). PECASE Awards are intended to recognize some of the finest early career scientists and engineers who show exceptional potential for leadership at the frontiers of scientific knowledge during the twenty-first century.

Beyond the great honor, a CAREER proposal gives the PI an opportunity to develop expertise in both facets of his/her position-as a scholar and an educator. The research and education components should be intertwined in such a way that the PI grows in his/her skills and knowledge in both dimensions of the work. At the same time, a well-designed education component will positively impact the audience served and the institution overall.

2. **When is the right time to submit a CAREER proposal?**

A PI can submit a proposal to the CAREER program three times. Your success in writing a successful CAREER proposal may be increased with prior experience in proposal writing. In addition, prospective PIs are more successful when they more fully understand the expectations of their position within their institution and can build upon existing programs and opportunities at their institution.

3. **I recently joined the faculty as a non-tenure track Assistant Research Professor. Within the institution all new hires come under the Research Track rather than tenure track. I have teaching, service and research responsibilities just like a tenure track professor, and I get salary from the University to do those duties. Am I eligible for a CAREER award?**

NSF provides some guidance on what is considered a CAREER-eligible tenure-track equivalent appointment, but it is up to the proposer and the proposer's institution to determine whether or not the appointment meets these requirements. For a position to be considered a tenure-track-equivalent position, it must meet all of the following requirements: (1) the employing department or organization does not offer tenure-track positions to any new hires; (2) the employee is engaged in research in an area of science or engineering supported by NSF; (3) the employee has a continuing appointment that is expected to last the five years of the grant; (4) the appointment has substantial educational responsibilities; and (5) the proposed project relates to the employee's career goals and job responsibilities as well as to the goals of the department or organization. Adjunct, Instructor, or Visiting positions are not considered CAREER-eligible tenure-track-equivalent positions. Through the official submission of your CAREER proposal you are indicating that your position meets the CAREER-eligibility requirements. In addition, your Department Chair will verify that your position is CAREER-eligible in the Departmental letter.

4. **I am an assistant professor at an undergraduate institution that does not give graduate degrees. Am I eligible to apply?**

Yes. NSF encourages submission from primarily undergraduate institutions offering two or four year degrees.

5. **How can I include other experts in my work? Science research is increasingly interdisciplinary and many young scientists work on large projects with large teams. It is a way for young scientists to broaden their expertise. Yet the CAREER program does not allow any co-investigators. What can be done about this?**

You may provide funds for others to work on your research or educational activities, but they may not be listed as Co-PI or in the senior personnel section of the proposal—either in the primary budget or within a sub award to a collaborating institution. This requirement precludes including salary for other faculty or senior personnel at your institution or any subawardee institution. However, there are a number of strategies for collaborating with other experts on your CAREER project, other than having them as a co-investigator. You may pay someone outside your institution as a consultant to your project. You may pay for collaborators' travel, field/lab expenses, materials and supplies, or access fee to a laboratory, whether they are within or external to your institution.

Beyond formally including someone in your proposal, you can also develop your overall research portfolio with multiple projects, the CAREER being just one of them. This is an excellent strategy whether you submit a CAREER proposal or not. In your other projects, you may be working on an interdisciplinary team to address a large, complex problem. Your CAREER proposal could be developed as a complementary broadening investigation that allows you to build upon the expertise in the team project, but work independently on a particular research direction.

6. How do I choose a pathway for my education component?

The education component should be tightly integrated with your research. Like your scientific research it should be focused, have a clear and established need, specific goals, and a means of evaluating whether those goals are met. It is best when it is aligned with your personal goals as an educator and your institution's educational goals. Ideally, your education component is as exciting and motivating to you as the science component.

7. What are common mistakes PIs make in developing their education component?

A very common mistake is to propose too many different and unrelated activities. Choose one or two meaningful activities and do them really well.

Another common mistake is to propose activities without having done any background research on what is possible, what has already been done, or whether the work is needed. Do your homework and develop a solid plan, with clear and meaningful goals, based on a real need. Find out who has done similar work and learn from their experiences.

A third common mistake is not taking advantage of existing educational programs and services on your campus, professional societies or elsewhere that are available to you. Most universities have a teaching and learning center with resources and experts to help you develop innovative courses and determine the impact of those innovations on your students' learning. Many campuses have centers that conduct outreach to local schools. Partnering with them can provide you with critical support and guidance that can increase the potential for success in your project and reduce the time you must invest. You can include these collaborators in your proposal as consultants and other personnel, but not as co-Investigators.

8. I have heard that I need to do some evaluation of my education component. What is this and how do I do it?

Evaluation can take many forms, from elaborate to quite simple, but the goal is the same-to provide evidence of the impact of your work. Consider this analogy. In your scientific research, you are pursuing a question, testing a hypothesis, developing experimental methods, and analyzing the results to try to understand a process or phenomena. In the end, you have evidence whether your efforts have effectively tested the hypothesis and answered the question. The same process applies to your education efforts. You may develop an innovative curriculum module, a software application for use in teaching or partner with a museum on an exhibit. In any of these activities there should be a question that piques your curiosity. For example, you might wonder whether developing a new simulation-learning tool will it make it easier for students to understand a complex process? Your hypothesis might be that by allowing students to control the simulation and look at the process from multiple perspectives at different stages, they will better understand the key concept. Your goal might be for all students to understand the process, as shown by their ability to do a particular task or solve a particular problem. The evaluation would be designed to help you determine how well you designed the tool and whether it helps students learn the content better. An evaluation expert knows how to design your evaluation and how to gather the appropriate data to determine the impacts.

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