Faculty Early Career Development (CAREER) Program

Sonia Esperança, Ph. D.
Program Director, Earth Sciences
Member, CAREER Coordinating Committee

http://www.nsf.gov/career
New Solicitation being prepared for clearance by the end of the year

Deadlines expected to be in third week of July
Support for New Investigators

• All NSF programs support new investigators as part of regular ("core") research competitions

• About 1/3 of proposals submitted to NSF in 2016 were by new investigators (never funded by NSF)

• Success rate of new investigators typically lag behind those of previously funded PIs

• Faculty Early-Career Development (CAREER) Program
  – Most prestigious awards to help a junior faculty member develop activities that can effectively integrate research and education within the context of his/her organization.
Goals of the CAREER Program

• Provide stable support for five years to allow the career development of outstanding new teacher-scholars in the context of the mission of their organization.

• Build a foundation for a lifetime of integrated contributions to research and education.

• Provide incentives to Universities to value the integration of research and education.

• Increase participation of those traditionally underrepresented in science and engineering.
Investigator Eligibility Criteria

• Hold a doctoral degree in a field supported by NSF by proposal deadline
• Be employed in a tenure-track (or tenure-track equivalent) position at an eligible institution by Oct 1st following deadline
• Have educational responsibilities at the eligible institution
• Have not previously received a CAREER award
• Have not had more than two CAREER proposals reviewed
Institutional Eligibility

• Academic institutions in the U.S., its territories or possessions, and the Commonwealth of Puerto Rico that award degrees in fields supported by NSF.

• Non-profit, non-degree-granting organizations such as museums, observatories or research labs may also be eligible to submit proposals, if the eligibility requirements of the PI's position are satisfied.

• NSF encourages proposals from different institutional types, including Minority Serving and Undergraduate Institutions.
CAREER or Regular proposal?

- CAREER proposals are single PI projects that include research and education activities that are integrated, innovative and ambitious
- CAREER requires support from the Department Chair
- The CAREER goals are lofty – CAREER awards are a lot of work
- Are you at the right stage in your career to undertake the commitments of a CAREER award?
- Have you discussed your ideas with mentors, fellows, program officers?
- Have you demonstrated to others in the community that you have the commitment to both research and education?
CAREER varies across NSF

(Program Expectations)

• CAREER proposals are submitted to, and reviewed by one or more of the disciplinary research programs
• Assessment of Departmental Letter plays a role in the review of the proposal
• Typical award size vary by Directorate/Division/Program
• Expectations for scope of research and education activities varies with community norms
• Talk to Division Contact(s) for additional information (http://www.nsf.gov/crssprgm/career/contacts.jsp)
• For interdisciplinary proposals, contact all relevant Program Directors or Division Contacts
CAREER varies across NSF
(Merit Review)

• Ad hoc + Panel (with other proposals in the Program)
  ✓ most of GEO (AGS uses ad hoc only)
  ✓ BIO and SBE
• Primarily dedicated CAREER Panels
  ✓ ENG, CISE, EHR
  ✓ MPS varies by Division:
    ✓ AST : Panel only
    ✓ CHE, DMR – Mix of ad hoc and panels
    ✓ DMS – mostly panels (2 programs ad hoc only)
CAREER Proposal Ingredients

• A compelling research plan
• An innovative but feasible education plan
• A plan for the effective integration of both sets of activities (evaluation plan is a big plus)
• Departmental Letter demonstrating commitment to the career development of the investigator
• Letters of Collaboration (not of support) when appropriate
• A budget that is consistent with the scope of the research and education activities
Education Component - Critical to Success!

• Your education component should be innovative but doable
• Demonstration of previous results with successful education activities is a plus
• Leverage activities at your institution that have relevance to your research
• Make sure that the education activities are well integrated with the research or the workload will not be manageable
• State who will benefit from the proposed activities
• Demonstrate that the activities are having impact on the stakeholders
• Play on your strengths as a teacher-scholar
Integration of Research and Education

How will your research impact your education goals and how will your education activities feed back into your research?

- Involving others (graduate, undergraduates, K-12, high school teachers, public) in your research using new tools, laboratory methods, field components, web outreach, cyber networks, etc...
- Partnering with those in other communities, especially those traditionally underrepresented in Sciences and Engineering
- Bringing the excitement of your research topics to help in the education of others
- Searching for new methods to deliver your research results to a broader audience than those in the immediate research community
- Using the broader community to gather data for your scientific pursuits (“citizen science”)

National Science Foundation
Departmental Letter (2 pages)

• Commitment to the PI’s proposed CAREER research and education activities

• Description of how the PIs career goals and responsibilities mesh with that of the organization and department

• Description of how the department will contribute to the professional development of the PI with mentoring and whatever is needed to forward the PIs efforts to integrate research and education

• Statement that indicates how the PI is eligible for the CAREER program
**Letter(s) of Collaboration**

- **Project Description or Facilities, Equipment and Other Resources** must document the nature of all project collaborations, such as:
  - Intellectual contributions to the project
  - Permission to access a site, use instrumentation or facility
  - Offer to furnish samples / materials for research
  - Logistical support / evaluation services
  - Mentoring of U.S. students at a foreign site

- **Letter should contain a single-sentence statement of collaboration:**
  - “If the proposal submitted by Dr. [name of the PI] entitled [proposal title] is selected for funding by the NSF, it is my intent to collaborate and/or commit resources as detailed in the Project Description.”
  - Must not recommend or endorse PI or project
CAREER personnel and budgets

- Co-PIs are not allowed
- Consultants, sub-awards, and other personnel are allowed
- International activities are encouraged and may be supported by the Office of International Science and Engineering (OISE)
- Programs may support buy out of academic year time for teaching intensive institutions (check with your Program Officer)
- Some programs may choose making more awards at lower total budgets (check with your Program Officer)
Most Common Mistakes made by PIs (IM)

- Work is too close to what has been done before - i.e., Incremental advance
- Techniques and methodology are not cutting edge
- Project has too large a scope or is too narrowly focused to be exciting
- Proposed methods/research plan are not likely to yield results that will address the stated goals of the project
- The experiment/theoretical/analytical design is flawed
- Resources not available or PI does not have demonstrated expertise in it
Most Common Mistakes made by PIs (BI)

• Education component is generic and what is expected of any PI in your field - one more student is not enough!
• Unrealistic education activity - "will impact K-12 education in the state of X"
• Reinventing the wheel - another blog, another website
• Research and education plans are not aligned or integrated – “parallel lines that will never intersect”
• Lack of understanding of what is effective in education - literature search helps here too
• Not highlighting Broader Impacts that go beyond education
PECASE (Presidential Early Career Award in Science and Engineering)

• PECASE Eligibility – Be a US Citizen or US Permanent Resident by the time of nomination to the White House’s Office of Science and Technology Policy

• Several federal agencies nominate individuals for the PECASE (over 100 nominees in total)

• 20 nominees are put forward from NSF each year selected from recent CAREER awardees

• Number of nominees per Directorate is based on number of awards made in the Directorate
PECASE (Presidential Early Career Award in Science and Engineering)
QUESTIONS ?