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NSF Chemistry Office Hour

Today's Topic: CAREER Proposals

May 14st, 2021

Program Director Tingyu Li



Faculty Early Career Development Program (CAREER)

From Program Solicitation NSF 20-525:

This premier program emphasizes the importance the Foundation places on the early development of **academic careers dedicated to stimulating the discovery process in which the excitement of research is enhanced by inspired teaching, enthusiastic learning, and disseminating new knowledge.** Effective integration of research and education generates a synergy in which the process of discovery stimulates learning, and assures that the findings and methods of research and education are quickly and effectively communicated in a broader context and to a large audience.

The CAREER program embodies NSF's commitment to encourage faculty and academic institutions to value and support the integration of research and education. Successful Principal Investigators will propose creative, effective research and education plans, developed within the context of the mission, goals, and resources of their organizations, while building a firm foundation for a lifetime of contributions to research, education, and their integration.



CAREER Eligibility

Proposers must meet all of the following eligibility requirements as of the annual deadline:

- Hold a doctoral degree in a field supported by NSF
- Be engaged in research in an area of science, engineering, or education supported by NSF
- Hold at least a 50% tenure-track (or tenure-track-equivalent) position as an assistant professor (or equivalent title)
- Be untenured and not associate professor at the time of application
- Have not previously received a CAREER award (Prior or concurrent Federal support for other types of awards for non-duplicative research does not preclude eligibility.)
- May submit only one CAREER proposal per annual competition
- May not participate in more than three CAREER competitions



CAREER Proposal Preparation

Deadline: July 26th, 2021 (fourth Monday in July annually thereafter)

Instructions: Follow both the latest NSF Proposal and Award Policies and Procedures Guide (PAPPG) ([NSF 20-1](#)) and the CAREER Solicitation (NSF 20-525)

The PAPPG governs submission to the CAREER solicitation with some modified provisions.



CAREER Proposal Specifics: Departmental Letter

The Departmental Letter should be no more than 2 pages in length and should contain the following elements:

- A statement to the effect that the PI is eligible for the CAREER program.
- An indication that the PI's proposed CAREER research and education activities are supported by and advance the educational and research goals of the department and the organization, and that the department is committed to the support and professional development of the PI
- A description of the relationship between the CAREER project, the PI's career goals and job responsibilities, and the mission of his/her department/organization
- A description of the ways in which the department head (or equivalent) will ensure the appropriate mentoring of the PI, in the context of the PI's career development and his/her efforts to integrate research and education throughout the period of the award and beyond.

A proposal submitted without this Letter will be returned without review



CAREER Proposal Specifics: Collaboration

Because the CAREER program is designed to foster **individual** career development, partners or collaborators may not be listed as co-principal investigators on the cover page. **Proposals submitted with co-principal investigators will be returned without review.**

If critical for a given project, support for collaborators may be requested in the senior personnel or consultant services budget line items of the proposal, or in subawards to another institution. However, while recognizing that projects may entail cross-disciplinary collaborations, it is expected that the primary support for a CAREER award will be for the PI and his/her research efforts, with support for other senior personnel commensurate with **their limited role in the project.**

CAREER Proposal Specifics – Letters of Collaboration

Letter should consist of 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.”

Letters of recommendation for the PI or other letters of support for the project are not permitted.

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, if applicable

CAREER Proposal Specifics: Integration of Research and Education

A description of how the research and educational activities are integrated or synergistic.

NSF recognizes that there is no single approach to an integrated research and education plan, but encourages all applicants to think creatively about the reciprocal relationship between the proposed research and education activities and how they may inform each other in their career development as both outstanding researchers and educators.

Because there may be different expectations within different disciplinary fields and/or different organizations, a wide range of research and education activities may be appropriate for the CAREER program.

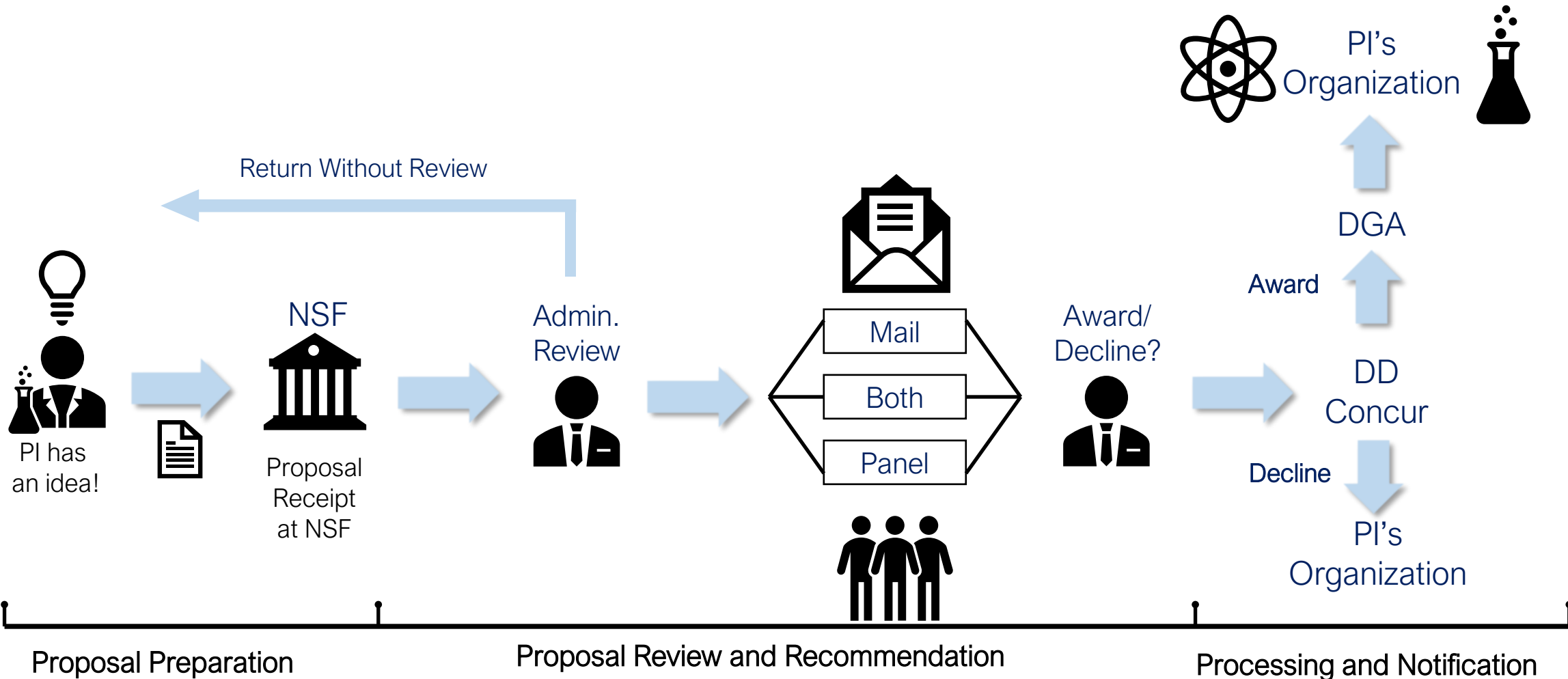
Proposers are encouraged to communicate with the CAREER contact or cognizant Program Officer in the Division closest to their area of research to discuss the expectations and approaches that are most appropriate for that area.

Presidential Early Career Awards for Scientists and Engineers (PECASE)

Each year NSF selects nominees for the Presidential Early Career Awards for Scientists and Engineers (PECASE) from among the most meritorious recent CAREER awardees. Selection for this award is based on two important criteria: 1) innovative research at the frontiers of science and technology that is relevant to the mission of NSF, and 2) community service demonstrated through scientific leadership, education, or community outreach.

- Only recent CAREER awardees are considered as potential nominees
- Applicant must be a U.S. citizen, U.S. national or U.S. permanent resident by time of nomination
- Keep program officer informed of your important work
- Submit well written and comprehensive annual reports

Life Cycle of a Proposal



Role of Reviewers and Panels

- Help to rank proposals
- Provide multiple perspectives
- Balance of priorities and risks
- Feedback on what the community believes is important and timely

Scores: The Official Definitions:

Excellent: Outstanding proposal in all respect, deserves highest priority for funding

Very Good: High quality in nearly all respects, should be supported if at all possible

Good: A quality proposal, worthy of support

Fair: Proposal lacking in one or more critical aspect, key issues need to be addressed

Poor: Proposal has serious deficiencies.

Common CAREER Proposal Flaws

- Submit to the wrong program. Search award database
- Budget too high or too low.
- Unconventional writing styles. Seeking proposal samples from friends, asking colleagues to critique your proposal, participating in workshops.
- Poor writing. Core ideas not described early and clearly.
- A core idea that appears incremental rather than transformative.
- A plan that is too narrow or too broad.
- Poorly developed educational plan/broader impacts.
- Missing key references, which is a failure to demonstrate deep knowledge of the field.
- Lack of preliminary “proof of concept” results or publications.
- Failure to convince reviewers that you will succeed and become a major player in this field of science.



Convince Reviewers That...

- You have chosen and developed an interesting and important scientific problem that is appropriate for a specific program at NSF.
- You have mastered the scientific background.
- You have mastered the tools you will need or found collaborators who could help with needed tools.
- You have clear objectives that will be attained by a solid plan A or, if necessary, by plan B.
- There is a healthy component of scientific discovery.
- Your plan is commensurate with five years of support.
- There is a very good chance you will succeed.
- Your proposed research is NOVEL, CREATIVE, ORIGINAL, IMPACTFUL and potentially TRANSFORMATIVE.
- Your education plan is INNOVATIVE, SYNERGISTIC with your research, and of appropriate SCOPE.
- You will be an effective mentor to your students.
- You are committed to broadening participation.
- Your research/education/mentoring/etc. will have broader impact.
- You are ready to have a CAREER award launch your career.