2022 NSF CAREER

Kick-Off & Faculty Panel

Hosted by
The Office of Sponsored Programs and Research Development (OSP/RD)
&
The Office of Faculty Development and Diversity (OFDD)

Presented by
Tiffany Fleming,
Research Impacts & Partnerships Manager, OSP/RD

December 10, 2021
Agenda

01. Welcome, Overview and Introductions

02. NSF CAREER: Integrating Research, Education, & Broader Impacts

03. CAREER Winners Faculty Panel Q&A
2022 NSF CAREER Workshop Series

- **OSP/RD: NSF CAREER Workshop Series & Resources**
  - [https://researchservices.cornell.edu/resources/nsf-career-101](https://researchservices.cornell.edu/resources/nsf-career-101)

- **OFDD: Making Time to Write: A Weekly Writing Accountability Group**
  - [https://facultydevelopment.cornell.edu/making-time-to-write/](https://facultydevelopment.cornell.edu/making-time-to-write/)
Action Items:

- Schedule an individual meeting with RD staff to kick-start your planning process [here](#). Ask your colleagues to read their successful applications.
- Find and read winning abstracts for your field at [https://www.nsf.gov/awardsearch/](https://www.nsf.gov/awardsearch/)

**NSF CAREER 2022 SUBMISSION DATE: JULY 25, 2022**

**OSP DEADLINE: JULY 18, 2022 (CALS HAS DIFFERENT TIMELINE)**
2022 NSF CAREER Workshop Series

• **WHO?** The *Faculty Early Career Development* (CAREER) Program is open to early career, tenure-track faculty at all CAREER-eligible organizations. This is a single-PI grant, but you can budget senior personnel with a limited collaborator role.

• **WHAT?** The CAREER Program supports 'early-career' 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**. Think of this as your IDP or career development plan.

• **WHY?** To build a firm foundation for a lifetime of leadership in integrating education and research.

• **HOW?** Three chances to submit, as long as you are untenured on October 1 following your submission.

• **WHEN?** July 25, 2022, at 5pm for ALL Directorates


Connect and Communicate

- Identify the target directorate and division(s)
  - If you aren’t sure which is the “right fit” division, ASK!

- Identify the Program Officer(s)
  - CAREER POs are not necessarily the same as they are for other NSF proposals.

- Contact Program Officer(s)
  - Craft a BRIEF e-mail, attaching a project summary (<1 pg.) describing your research and ask to set up a phone call to discuss in greater detail.
The Structural Basics

What makes a Good Proposal?

- Clear, Concise, Correct, Compelling, and Complete

Project Summary - One Page to Glory!

- Written for an educated layperson
- Must cover objectives, intellectual merit and broader impacts

Project Description - Your Career Development Plan in 15 pages

- A description of the proposed research project, including preliminary supporting data where appropriate, specific objectives, methods and procedures to be used, and expected significance of the results;
- A description of the proposed educational activities and their intended impact;
- A description of how the research and educational activities are integrated or synergistic;
- A description of other broader impacts, besides the education activities, that will accrue from the project; and
- Results of prior NSF support, if applicable.

Strike a good balance between research objectives (2/3 or 10-12 pages) and educational objectives (1/3 or 3-5 pages)
Budget Details

• **Budgetary Limitations:**
  – Biological Sciences, Engineering, or Polar Programs: $500,000
  – All other directorates: $400,000
  – Budget is for total costs over the 5-year project period
  – Minimum may equal Maximum: negotiation VERY likely
  – **Right-scoping** your research is critical

• No co-PIs allowed, but can have collaborators and evaluators

• Allowable costs: funds for postdocs, undergrad & grad students, summer salary, education or broader impacts activities, evaluator or limited collaborator, travel and subsistence expenses for the PI and U.S. participants when working abroad with foreign collaborators, and consultant expenses

• Everything should be fully justified
Merit Review Criteria

• NSF funds basic scientific research not development
  – Clearly state your research objective up front
  – Lay out methodology and chronological plan with metrics
  – Repeatable and verifiable

• Your idea must be research worthy, original, evidence-based, and knowledge-advancing

• Intellectual Merit
  – Be bold and brave: Propose significant leaps forward not incremental steps
  – Address contingencies
  – Reference seminal literature

• Broader Impacts (BI)
  – Integrate intellectual merit with societal benefit
  – NSF values “specific, desired societal outcomes”
### NSF Broader Impacts: Desired Societal Outcomes

| Full participation of women, persons with disabilities, and underrepresented minorities in 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 United States | Enhanced infrastructure for research and education |
“NSF’s mission is particularly well-implemented through the integration of research and education and broadening participation in NSF programs, projects, and activities.” (PAPPG Merit Review, 2019)
Approach BI in a manner like your research and education plan:
- Choose a BI area that you are passionate about
- Gain some experience, establish credibility; leverage credibility
- Address a societal problem relevant to your research, establish need, urgency
- Focus on goals, aims and outcomes (but have a clear activity plan)
- Be strategic: Align your goals and activities with NSF goals

Balance innovation and novelty with PLAUSABILITY
- Be ambitious, but don't overpromise: Choose a path that you can do well
- Self-reflect, engage resources, form partnerships
- Budget resources for this work (time and other resources)
- Set annual timeline of activities and track progress
- Scale up over time and plan to share outcomes

https://researchservices.cornell.edu/resources/nsf-broader-impacts-resources
RECAP

- Plan Your Strategy
- Talk to Your Program Officer
- Write Your Project Summary
- Get Feedback
- Write Your Proposal
- Get Help & More Feedback
- Submit Early
Research Development Services

For proposal support, contact Research Development Team
  – Email us @ proposal-adv-osp@cornell.edu
  – Make an appointment: weekly office hours (Tue., Wed., & Thurs.)
  – https://outlook.office365.com/owa/calendar/ResearchDevelopmentOfficeHou rs@cornellprod.onmicrosoft.com/bookings/

For CALS Faculty, contact Josephine Martell @ jem522@cornell.edu

Notify your College/Departmental Research Administrator as soon as you've decided to begin the CAREER process.
Panelists:

- **Margaret Frank**, Assistant Professor, School of Integrative Plant Science  
mhf47@cornell.edu  

- **Greg Fuchs**, Associate Professor, School of Applied & Engineering Physics, 2013 CAREER and PECASE winner-MPS/DMR;  
gdf9@cornell.edu

- **Ziv Goldfeld**, Assistant Professor, Electrical & Computer Engineering;  
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- **Eun-Ah Kim**, Professor, Physics;  
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- **Malte Ziewitz**, Assistant Professor, Department of Science & Technology Studies;  
mcz35@cornell.edu  
Abstract:  

- **David Shmoys**, Professor, Operations Research & Information Engineering;  
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