# INTEGRATING THE EDUCATION AND RESEARCH PLANS IN NSF CAREER PROPOSALS

## RESEARCH AND FACULTY DEVELOPMENT
## FACULTY SUCCESS SEMINAR SERIES

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University of Idaho

*Please keep your microphone muted unless you would like to ask a question*

Please note that this session is being recorded

# OFFICE OF RESEARCH AND FACULTY DEVELOPMENT

- We provide proposal development assistance across the spectrum


- Meet goals in the UI strategic plan – grow research and creative efforts across <u>all</u> disciplines

- Reach out to request service – uidaho.edu/orfd

*All services are <u>optional</u> and are granted on a <u>first-come, first-served</u> basis*


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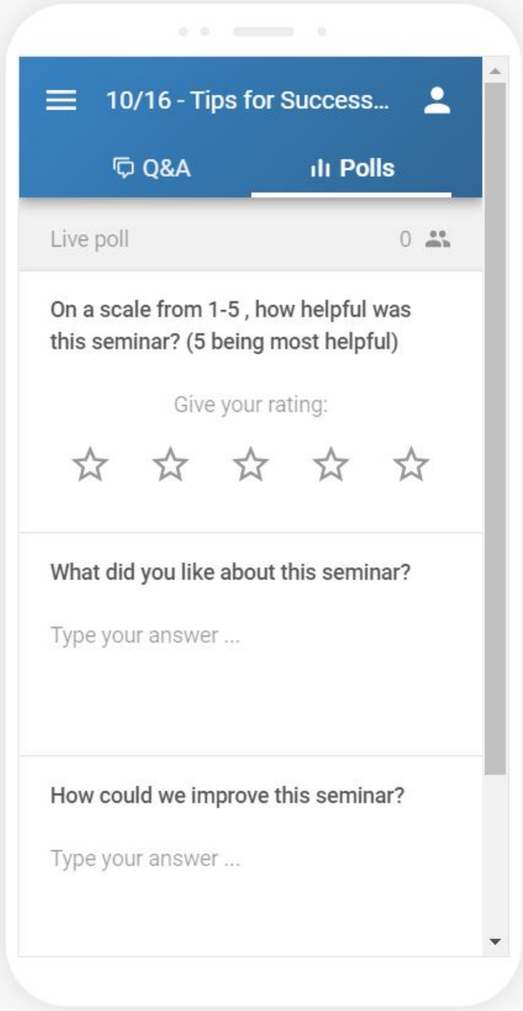


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# TODAY'S TOPICS

- Brief overview of the NSF CAREER Award program
- Crafting your education plan
- Integrating the education and research plans
- Q&A with CAREER recipient
- Take-home resources

# National Science Foundation
# Faculty Early Career Development Award

also known as

# NSF CAREER

"…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**."

# NSF CAREER Proposal =

# 5 year Research Plan + 5 year Education Plan

# + Description of how these are integrated

CAREER awardees are selected on the basis of their plans to

- develop highly integrative and effective research and education careers

- and -

- increase participation of those traditionally under-represented in STEM

# PROJECT DESCRIPTION SHOULD INCLUDE

- Description of the proposed research project
- Description of the proposed educational activities and their intended impact
- Description of how the research and educational activities are integrated or synergistic

- Intellectual Merit Statement

- Broader Impacts Statement

- Results of prior NSF support, if applicable

# I. The Education Component

**From the CAREER FAQ's**:

*Q: "What are the expectations for the level of activities in the education component?"*

A: "Your plans should reflect your own disciplinary and educational interests and goals, as well as the interests and needs of your organization….What is expected is a well-argued and specific proposal for activities over a 5-year period that will build a firm foundation for a lifetime of integrated contributions to research and education.

The research and educational activities do not need to be addressed separately if the relationship between the two is such that the presentation of the integrated project is better served by interspersing the two throughout the Project Description."

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  - Programs with undergraduate research
  - Science camps for youth
  - Connections with community organizations

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  - Connections with community organizations
- Must address diversity/broadening participation

“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.”

This is why it is essential to talk
to the program officer in your 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

**CAREER Directorate and Division Contacts:**
http://www.nsf.gov/crssprgm/career/contacts.jsp

## The education component…

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

# Education Plan Tips

- Identify the educational need you are addressing
- What is the state of knowledge about this issue, the proposed approach, etc. (cite educational literature!)
- Do you have any preliminary results or prior related experience?
- Have clear goals and measurable objectives
- Have a strong assessment plan
- Plan how you will disseminate your results
- Be sure to include funding in the budget to support your education activities
- Including undergrads in research is expected

# Typical Education Plan Structure

- Goals and objectives
- Need/rationale (cite data/literature)
- Any prior related work
- Activity 1
  - Plan for activity (with details and logistics)
  - Assessment
  - Dissemination
- Activity 2
  - Plan for activity
  - Assessment
  - Dissemination

## Assessment

- Have clear, measurable objectives
- Explain how you will assess whether you met these objectives

## Dissemination

- How will other educators benefit from what you've learned or developed?
- Will you make products of your efforts available for others to use?

**s of education activities (from the CAREER solicitation):**

rating your research activities into undergraduate courses;

g a graduate seminar on the topic of your research;

ng new, innovative courses or curricula;

g mentored international research experiences for U.S. students;

education activities to industrial, international, or cross-disciplinary work;

ng teacher preparation and enhancement;

ing outreach and mentoring activities to enhance scientific literacy or involve stud
oups that have been traditionally underrepresented in science;

ning students' learning and conceptual development in the discipline;

enting innovative methods for evaluation and assessment;

cyberinfrastructure that facilitates involvement of the citizens in the scientific ent

- Education activities may also include designing new or adapting and implementing effective educational materials and practices. Such activities should be consistent with research and best practices in curriculum, pedagogy, and evaluation.

- Proposers may build on, or otherwise meaningfully participate in, existing NSF-supported activities or other educational projects ongoing on campus.

## Broader Impacts of your Education Component

- How will your project improve education?
- How will your project enhance diversity?
- How will you reach beyond the academy?
- How will society/stakeholders benefit?

# The SECRET to Planning a Strong Education Component…

Approach it with the same rigor as your research plan!

# II. Integrating the Research and Education Plans

## From NSF's Note to Reviewers of CAREER Proposals:

"All CAREER proposals should describe an integrated path that will lead to a successful career as an outstanding researcher and educator. 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.

These plans should reflect the proposer's own disciplinary and educational interests and goals, as well as the needs and context of his or her organization."

## *Examples* of Integrating of Education and Research

- Involving others (graduates, undergraduates, K-12, high school teachers, public, stakeholders) in your research using new tools, laboratory methods, field components, web outreach, etc.
- Partnering with those in other communities, especially those traditionally underrepresented in STEM
- Searching for new methods to deliver your research results to a broader audience than those in the immediate research community.

# WHAT'S NEXT?

## NSF CAREER: All Year

## Wednesdays, 12:30-1:30 in IRIC 305

**Session 4 (2/5): Broader Impacts Really Do Matter**

Learn how to achieve BI through research and related activities, and how to address these in your proposal.

**Session 5 (3/11) : Understanding the NSF Review Process**

Understanding the NSF review process and the differences in review structure across NSF programs aids development of a strong proposal.

# FACULTY SUCCESS SEMINARS

*Let Us Be Your Guide Through the Proposal Development Process*

University of Idaho
Office of Research and Faculty Development

## JOIN US IN IRIC 305
## 12:30 P.M. – 1:30 P.M. PT

Can't join us in person? Then join us live via Zoom: uidaho.zoom.us/j/798224314. Each seminar will be recorded and be available on our website.

## FALL 2019

**Sept. 4** HERC IGEM Info Session

**Sept. 11** Find Funding Opportunities: Intro to Pivot

**Sept. 25** NSF CAREER All Year: An Introduction

**Oct. 2** W.M. Keck Foundation Info Session

**Oct. 16** Tips for Successful Proposal Writing

**Oct. 23** NSF CAREER All Year: Getting Started

**Oct. 30** Exploring Humanities Funding Opportunities

**Nov. 13** MW CTR-IN Funding Opportunities

**Nov. 20** NSF CAREER All Year: Integrating the Research and Education Plans

**Dec. 11** M.J. Murdock Trust Commercialization Initiation Program Info Session

## SPRING 2020

**Jan. 22** Developing Successful Project Management Plans for Large Proposals

**Feb. 5** NSF: Broader Impacts Really Do Matter!

**Feb. 12** NIH: Funding Mechanisms Overview (R03, R21, R01)

**Feb. 19** NIH: Developing Your First RO1 Proposal

**Mar. 4** NIH: Understanding Proposal Review

**Mar. 11** NSF: Understanding Proposal Review

**Mar. 25** Fulbright Faculty Scholar Program Info Session

**Apr. 1** Find Funding Opportunities: Intro to Pivot

**Apr. 8** NSF MRI: Creating Competitive Proposals

***WE GUIDE THE DEVELOPMENT OF COMPETITIVE EXTERNAL GRANT PROPOSALS***

**Office of Research and Faculty Development**

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**Email:** ored-rfdteam@uidaho.edu

**Website:** uidaho.edu/orfd


Request Proposal Development Assistance

# THANK YOU FOR COMING!

## *QUESTIONS AND DISCUSSION*

**BEFORE YOU GO…**

Please take a brief 3-question sli.do poll

www.slido.com or use the app

Use code #FSS