

**FACULTY  
SUCCESS  
SEMINARS**



**University  
of Idaho**

*Please keep your microphone  
muted until the Q&A session*

# **NSF CAREER: GETTING STARTED ON YOUR PROPOSAL**

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

Nancy Holmes, Proposal Development Specialist  
Office of Research and Faculty Development

Expert Guest: Christine Parent, PhD  
Associate Professor, Dept of Biological Sciences and  
2018 NSF CAREER Awardee

**Please note that this session is being recorded**

# OFFICE OF RESEARCH AND FACULTY DEVELOPMENT



**I** We provide proposal development assistance across the spectrum



**I** Meet goals in the UI strategic plan – grow research and creative efforts across all disciplines

**I** Reach out to request service >>

**REQUEST RFD SERVICES**

*All services are optional and are granted on a first-come, first-served basis*



## FALL 2020

- Sept. 9** NSF Research Traineeship (NRT) Program: Tips for Writing a Competitive Proposal
- Sept. 23** NSF CAREER All Year: Getting Ready to Apply
- Sept. 30** NSF EPSCoR RII Track-2: Tips for Writing a Competitive Proposal
- Oct. 7** Find Funding Opportunities: Introduction to Pivot
- Oct. 21** NSF CAREER All Year: Getting Started on Your Proposal
- Nov. 4** UPDATE: Mountain West Clinical and Translational Research-Infrastructure Network (MW CTR-IN) Funding Opportunities
- Nov. 18** Myth-busting Department of Defense Funding Opportunities
- Dec. 2** M. J. Murdock Trust's Commercialization Initiation Program: Tips for Writing a Competitive Proposal

## SPRING 2021

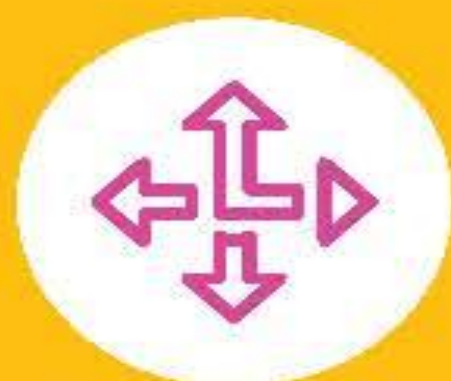
- Jan. 13** Find Funding Opportunities: Introduction to Pivot
- Jan. 27** Funding Research and Scholarly Work in the Humanities
- Feb. 3** Idaho is an EPSCoR State - What This Means for Supporting Your Research
- Feb. 17** How to Develop and Deliver an Effective Pitch
- Mar. 3** Assessing Your Grant Readiness
- Mar. 24** Early Career Faculty Research - Grant Programs
- Apr. 7** USDA NIFA AFRI: Tips for Getting Started with Your Next Proposal
- Apr. 14** Developing Data Management Plans - Best Practices and Resources
- Apr. 28** Equipment Grant Programs: An Overview

ZOOM ID

[uidaho.zoom.us/j/95865360877](https://uidaho.zoom.us/j/95865360877)



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

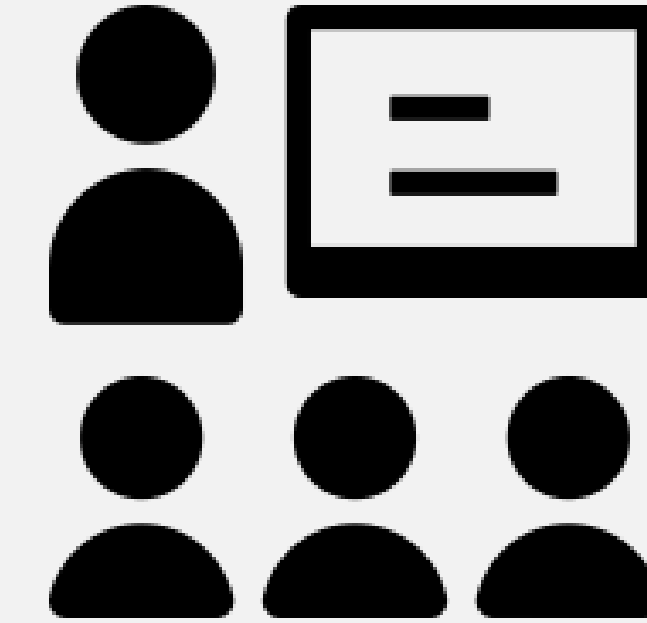
**Office of Research and  
Faculty Development**

**Email:** [ored-rfdteam@uidaho.edu](mailto:ored-rfdteam@uidaho.edu)

**Website:** [uidaho.edu/orfd](https://uidaho.edu/orfd)



# NSF CAREER: *ALL YEAR*



## Fall Semester

NSF CAREER All Year: Getting Ready to Apply - Presented  
September 21 ([access recording here](#))

NSF CAREER All Year: Getting Started on Your Proposal (today)

## Spring Semester

NSF CAREER: All Year – Proposal Conversation Groups (TBA)

# TODAY'S DISCUSSION

- I Brief overview of the NSF CAREER Award program
- I Outline steps to get started on now
- I Q&A with Dr. Christine Parent, 2018 CAREER Awardee
- I Resources
- I Reminder: RFD support for proposal development



# 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 =**

**Research Plan**

**+**

**Education Plan**

**+**

**Description of how these are integrated**

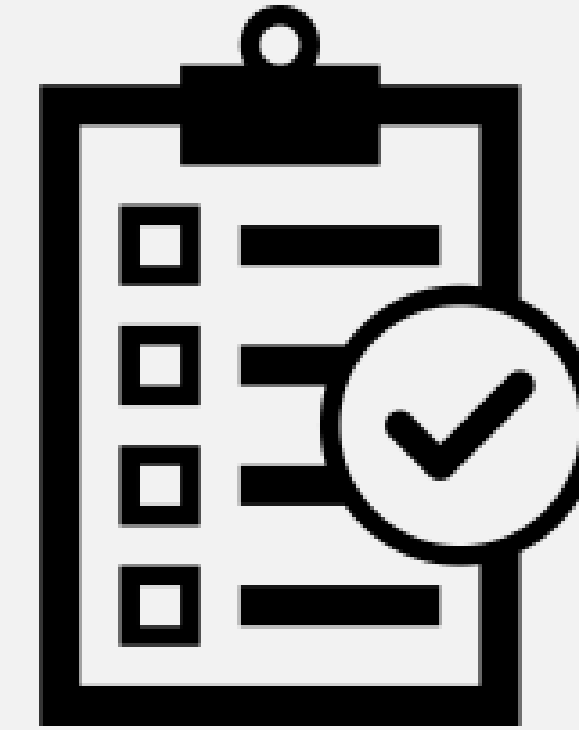
## Eligibility

- I Untenured (until Oct. 1 after due date)
- I Tenure track or equivalent
- I Assistant Professor or equivalent
- I Propose to conduct research in an area that NSF funds
- I Have not submitted a proposal to the NSF CAREER program more than twice before



## Other details

- I 5 years of funding
- I *Minimum* \$400K total; includes F&A  
(\$500K for BIO, ENG and Polar Programs)
- I Must apply to a particular program within a directorate
- I Note: different NSF directorates and divisions use the CAREER program differently



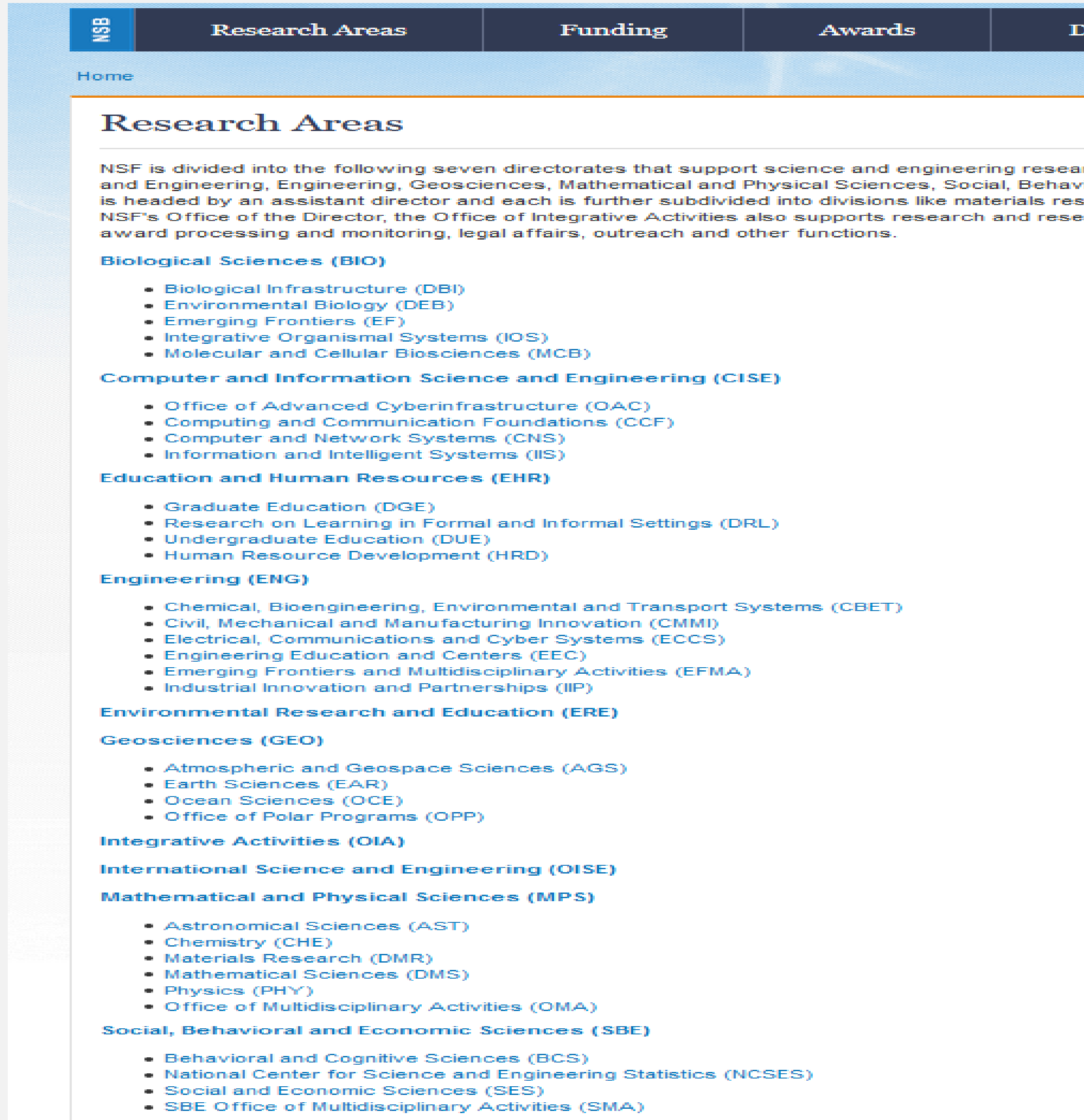
## To-do now

- Study the [NSF CAREER solicitation](#)
- Decide which NSF Directorate and Program to submit to
- Read funded CAREER proposals from that Program
- Identify your Program Officer
- Talk to your Department Head/Chair
- If you are unsure about any of the above: [Contact RFD](#)

# Decide which NSF Directorate and Program are right for your project



[https://www.nsf.gov/about/research\\_areas.jsp](https://www.nsf.gov/about/research_areas.jsp)



The screenshot shows the NSF Research Areas page. At the top is a navigation bar with links: NSF, Research Areas, Funding, Awards, and De. Below the navigation bar is a 'Home' link. The main heading is 'Research Areas'. A paragraph explains that NSF is divided into seven directorates that support science and engineering research and Engineering, Engineering, Geosciences, Mathematical and Physical Sciences, Social, Behavior, and is headed by an assistant director and each is further subdivided into divisions like materials research. NSF's Office of the Director, the Office of Integrative Activities also supports research and research award processing and monitoring, legal affairs, outreach and other functions.

**Biological Sciences (BIO)**

- Biological Infrastructure (DBI)
- Environmental Biology (DEB)
- Emerging Frontiers (EF)
- Integrative Organismal Systems (IOS)
- Molecular and Cellular Biosciences (MCB)

**Computer and Information Science and Engineering (CISE)**

- Office of Advanced Cyberinfrastructure (OAC)
- Computing and Communication Foundations (CCF)
- Computer and Network Systems (CNS)
- Information and Intelligent Systems (IIS)

**Education and Human Resources (EHR)**

- Graduate Education (DGE)
- Research on Learning in Formal and Informal Settings (DRL)
- Undergraduate Education (DUE)
- Human Resource Development (HRD)

**Engineering (ENG)**

- Chemical, Bioengineering, Environmental and Transport Systems (CBET)
- Civil, Mechanical and Manufacturing Innovation (CMMI)
- Electrical, Communications and Cyber Systems (ECCS)
- Engineering Education and Centers (EEC)
- Emerging Frontiers and Multidisciplinary Activities (EFMA)
- Industrial Innovation and Partnerships (IIP)

**Environmental Research and Education (ERE)**

**Geosciences (GEO)**

- Atmospheric and Geospace Sciences (AGS)
- Earth Sciences (EAR)
- Ocean Sciences (OCE)
- Office of Polar Programs (OPP)

**Integrative Activities (OIA)**

**International Science and Engineering (OISE)**

**Mathematical and Physical Sciences (MPS)**

- Astronomical Sciences (AST)
- Chemistry (CHE)
- Materials Research (DMR)
- Mathematical Sciences (DMS)
- Physics (PHY)
- Office of Multidisciplinary Activities (OMA)

**Social, Behavioral and Economic Sciences (SBE)**

- Behavioral and Cognitive Sciences (BCS)
- National Center for Science and Engineering Statistics (NCSES)
- Social and Economic Sciences (SES)
- SBE Office of Multidisciplinary Activities (SMA)



# Find and read funded CAREER proposals from your Program



<https://www.nsf.gov/awardsearch/advancedSearch.jsp>

Awardee Information	
<input type="text" value="Principal Investigator First Name"/>	<input type="text" value="Organization"/>
<input type="text" value="Principal Investigator Last Name"/>	<input type="text" value="State"/> Select one
<input type="checkbox"/> Include Co-Principal Investigator in name search	<input type="text" value="Zip Code"/>
	<input type="text" value="Country"/> Select one





Program Information	
<input type="text" value="NSF Organization"/> BIO - Direct For Biological Sciences	<b>HINT:</b> The "Program" box searches both program element and program reference names and codes.
<input type="text" value="Element Code"/> <input type="radio"/> Any <input checked="" type="radio"/> All	<input type="text" value="Program"/>
<input type="text" value="Reference Code"/> <input type="radio"/> Any <input checked="" type="radio"/> All	<input type="text" value="Program Officer"/>

Additional Information	
<input type="text" value="Keyword"/> CAREER:	<b>HINT:</b> Data prior to 1976 may be less complete.
<input checked="" type="checkbox"/> Search Award Title Only	<input checked="" type="checkbox"/> Active Awards <input type="checkbox"/> Expired Awards
	<input type="text" value="Original Award Date"/> Select one
	<input type="text" value="From"/> <input type="text" value="To"/>

## Advanced Search Results



Export up to 3,000  
Awards:

 CSV |  XML |  Excel |  Text

 Export All Results

Sort By: Relevance

Results size: 30 per page

Page 1 of 1

Displaying 1 - 4 of 4

Table | List


### You Searched For:

**NSF Organization** Direct For Biological Sciences

**Keyword** CAREER:

**Active Awards** true

### Refined by

 **State** Idaho

### Refine Search

#### Award Amount

Between \$500,001 - \$1,000,000(3)

More than \$1,000,000(1)

#### Award Instrument

Standard Grant(1)

Continuing Grant(3)

#### **CAREER: Establishing Links between Musculoskeletal Morphology and the Biomechanics of Bipedal Hopping in Desert Environments**

Award Number:1553550; Principal Investigator:Craig McGowan; Co-Principal Investigator:; Organization:Regents of the University of Idaho;NSF  
Organization:IOS Start Date:05/15/2016; Award Amount:\$1,114,104.00; Relevance:50.0;

#### **CAREER: Islands as Models to Study Effects of Multidimensional Selection**

Award Number:1751157; Principal Investigator:Christine Parent; Co-Principal Investigator:; Organization:Regents of the University of Idaho;NSF  
Organization:DEB Start Date:05/15/2018; Award Amount:\$661,959.00; Relevance:50.0;

#### **CAREER: Forest-atmosphere interactions in an era of fire and drought**

Award Number:1553049; Principal Investigator:Tara Hudiburg; Co-Principal Investigator:; Organization:Regents of the University of Idaho;NSF  
Organization:DEB Start Date:04/01/2016; Award Amount:\$667,129.00; Relevance:50.0;

#### **CAREER: Ecosystem Processes in the Age of Antibiotics**

Award Number:1845417; Principal Investigator:Michael Strickland; Co-Principal Investigator:; Organization:Regents of the University of Idaho;NSF  
Organization:DEB Start Date:03/01/2019; Award Amount:\$651,698.00; Relevance:50.0;

Sort By: Relevance





Page size: 30 per page

Page 1 of 1

Displaying 1 - 4 of 4

Table | List

Export up to 3,000  
Awards:

 CSV |  XML |  Excel |  Text

 Export All Results



## Award Abstract #1751157

### CAREER: Islands as Models to Study Effects of Multidimensional Selection

NSF Org:	<a href="#">DEB</a> <a href="#">Division Of Environmental Biology</a>
Initial Amendment Date:	April 22, 2018
Latest Amendment Date:	May 22, 2020
Award Number:	1751157
Award Instrument:	Continuing Grant
Program Manager:	Christopher Schneider DEB Division Of Environmental Biology BIO Direct For Biological Sciences
Start Date:	May 15, 2018
End Date:	April 30, 2023 (Estimated)
Awarded Amount to Date:	\$661,959.00
Investigator(s):	Christine Parent ceparent@uidaho.edu (Principal Investigator)
Sponsor:	Regents of the University of Idaho Office of Sponsored Programs MOSCOW, ID 83844-3020 (208)885-6651
NSF Program(s):	PHYLOGENETIC SYSTEMATICS, Systematics & Biodiversity Sci, EPSCoR Co-Funding
Program Reference Code(s):	1045, 7744, 9150, 9251
Program Element Code(s):	1171, 7374, 9150

#### ABSTRACT

This project will study the question of what governs the diversity of species using the Galapagos Islands, where factors influencing diversity range in their complexity. The islands of the Galapagos vary in age from young (less than 50,000 years old) to old (more






# Identify your CAREER program officer



<https://www.nsf.gov/crssprgm/career/contacts.jsp>



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## Contacts

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### DIRECTORATE FOR BIOLOGICAL SCIENCES (BIO)

**Directorate Contacts:**  
Engin Serpersu: 703-292-7124

**Division of Environmental Biology (DEB):** 703-292-8480  
Chris Schneider: 703-292-7920

**Division of Integrative Organismal Systems (IOS):** 703-292-8420  
Michael Mishkind: (703) 292-8413

**Division of Molecular and Cellular Biosciences (MCB):** 703-292-8440  
Engin Serpersu: 703-292-7124

**Division of Biological Infrastructure (DBI):** 703-292-8470  
Peter McCartney: 703-292-8470

### DIRECTORATE FOR COMPUTER & INFORMATION SCIENCE AND ENGINEERING (CISE)

**Directorate Contacts:**  
Almadena Chtchelkanova: 703-292-8910  
Alan Sussman: 703-292-7563



**Talk to:**

- Your department chair/head - NSF CAREER requires a Departmental Letter

**Contact:**

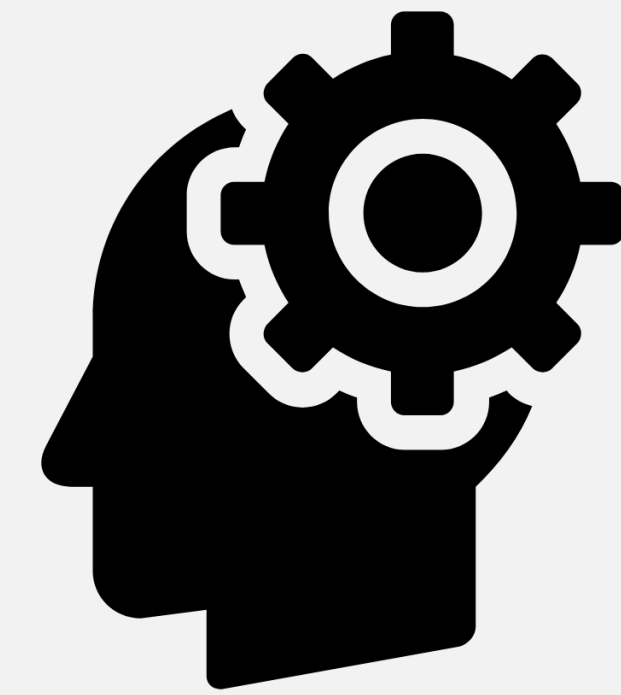
- U of I Office of Sponsored Program (OSP) Pre-Award Office

<https://www.uidaho.edu/research/about/osp/pre-award-administration>

**Find and Contact:**

- Your NSF Program Officer (more on this in a moment)





## **Begin developing your research idea**

- What do you want you to do?
- Does it address important questions/gaps in your field?
- Is it novel? Cutting edge?
- Do you have the background and resources to accomplish your goals?
- Will it contribute to your long-term career goals?
- Can you do it as a single PI?
- Is the scope appropriate for CAREER?





## **Begin developing your education plan**

- What are your interests? What types of education and outreach activities might you already be doing?
- Find existing programs with which to partner, e.g.
  - Programs with/for teachers, and/or K-12 students
  - Undergraduate research programs
  - Science camps
  - Community organizations
  - Connections with industry
- [University of Idaho list of Education and Outreach Partners](#)

# Begin formulating the Broader Impacts of your project

NSF uses two merit criteria to evaluate proposals:

1. Intellectual Merit – The potential to advance knowledge
2. **Broader Impacts** – The potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

*“Broader impacts may be accomplished through the research itself, through activities that are directly related to specific research projects, or through activities that are directly supported by, but are complementary to, the project.”*

– NSF [Proposal & Award Policies & Procedures Guide](#) (PAPPG)

## Questions to consider when formulating a BI plan

- What are the societally-beneficial impacts of my research?
- What are the societally-beneficial impacts of my education plan?
- Who is my audience(s)?
- What activities I will implement to achieve broader impacts?
- What resources will I need?
- How will I evaluate/assess/measure impact?



Visit RFD's [Broader Impacts Resource page](#)

View a recording of an RFD Faculty Success Seminar: [“Broader Impacts Really do Matter!”](#)

## NSF Broader Impacts (BI)

As part of its proposal review process, the National Science Foundation requires that all proposals substantially address the broader impact (BI) of the proposed research. The resources below can help you address this important merit review criterion.

- [NSF Report: Perspectives on Broader Impacts](#)
- [National Alliance for Broader Impacts \(NABI\) Guiding Principles](#)
- [National Alliance for Broader Impacts \(NABI\) Current State of Broader Impacts](#)
- [A Scientist's Guide to Achieving Broader Impacts](#)
- [Broader Impacts Activities Worksheet](#)

### Web resources:

- [NSF Broader Impacts page](#)
- [NSF Advancing Research Impact in Society \(ARIS\)](#)
- [NSF Advancing Research Impact in Society \(ARIS\) BI 101 webinar](#)
- [Sample Broader Impact Statements](#)
- [BioScience article: Beyond the Deficit Model: The Ambassador Approach to Public Engagement](#)
- [CoSEE Broader Impact Wizard](#)
- [Broader Impact Wizard 7-minute video](#)

# Broader Impacts worksheet

**First:** Pick 2 -3 NSF Broader Impacts/Outreach Criteria (below) that align with your research, teaching, professional service, and/or personal interests.

- Full participation of women, persons with disabilities, and underrepresented minorities in science, technology, engineering, and mathematics (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
- Create your own:

**Next:** Design activities that relate to the outcomes you picked, following these steps:

**1. Define the appropriate audience** to receive your research results or understand your research topic (e.g., general public, citizen scientists, K- 12 students, K-12 teachers, undergraduate students, policy makers, stakeholders, industry, etc.). Who needs to know?

**2. Communicate the value of your research.** In 1-2 sentences, explain the value of your research to your audience. (If you have trouble communicating the value of your research, try completing this sentence, "My research is important to <insert audience> because..."

**3. Determine what outcomes you want from the audience.** Examples: to have a better attitude about science; to be more knowledgeable about your research or a particular scientific concept, etc.

**4. Design your outreach activities and prepare outputs that will give you the outcomes you identified above.**

**5. IMPORTANT – Link your activities back to the NSF BI Criteria and communicate this in your proposal.** In the best case scenario, each audience, outcome, activity, and assessment should correspond to one of the Broader Impacts categories listed above.

**6. Plan to evaluate** whether you've made an impact. Have some way(s) to objectively evaluate/assess success.

***"Broader impacts may be accomplished through the research itself, through the activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to the project."***  
**- NSF Proposals & Awards Policy & Procedures Guide**

## **Talk to your program officer about your project**

At least 6 months ahead of proposal deadline:

- Develop a one-page concept paper or quad chart describing your research, education plan, broader impact activities
- Send a brief email, with the concept paper or quad chart and your biosketch attached, requesting a phone conversation

## **Why talk to your NSF program officer?**

- Make sure you've selected the right NSF program
- Get feedback on your planned project
- Understand who your audience (the panel) will be
- Gives the PO a heads-up to expect your CAREER proposal
- Develops a relationship with your PO



## **Questions to ask your program officer(s) about your project:**

- Does it fit the program?
- Is it suitable for CAREER?
- How are CAREERs in this division reviewed?
- What will the reviewers' backgrounds be?
- Does the PO have any recommendations?



***Listen carefully to PO's advice and comments***

**Common Mistake #1:**

**Not contacting the Program Officer**

**Common Mistake #2:**

**Contacting the Program Officer too late**



# **THE CAREER PROPOSAL**

## **PROJECT SUMMARY - 1 PAGE**

- 3 sections:
  - Overview
  - Intellectual Merit
  - Broader Impacts
- Summarizes plans for integration of research and education activities
- The summary is the most important piece, but it is the last part of the proposal you'll write





# **PROJECT DESCRIPTION - 15 PAGES**

## PROJECT OVERVIEW

- The Overview is the first page of your Project Description and must clearly present what you plan to do, why it's important, and how you propose to do it
- Presents your central idea and gets reviewers interested in the problem
- Describes landscape of your field
  - What is the knowledge gap you are looking to address?
  - Significance – what is not being done because of this gap?
- Argues how you are positioned to fill this gap, advance NSF's mission, and propel your career

## **PROJECT DESCRIPTION**

- Proposed research project
- Proposed educational plan, including plans to evaluate its impact
- Description of integration of research and education
- Broader Impacts
- Results of prior NSF support, if applicable

## **BIOGRAPHICAL SKETCH (2 PAGES)**

- Should include BOTH research and educational activities and accomplishments
- Must use the new [NSF-approved format](#)



## OTHER DOCUMENTS

- Budget
- Budget Justification
- Departmental Letter
- Current and Pending Support using new [NSF-approved format](#)
- Collaborators and Other Affiliations
- Facilities, Equipment and Other Resources
- Data Management Plan
- Letters of Collaboration
- List of Suggested Reviewers

## **RFD CAN PROVIDE:**

- Brainstorming ideas
- Timeline of proposal development tasks
- Assistance finding and contacting a Program Officer
- Assistance finding partners of the education plan and broader impact activities
- Reviews of all documents (except the budget)
- Templates for Biosketch, Current & Pending Support, Collaborators & Other Affiliations, CAREER proposal checklist
- And more...

**REQUEST RFD SERVICES**

# NSF CAREER Proposal Checklist

**NSF CAREER Proposal Checklist** ([NSF PAPPG 20-1](#)) effective 6/1/2020

PI:

Title:

Deadline: July 26, 2021 at 5:00 p.m. local time for submitting organization



**Blue hyperlinks lead to specific sections within NSF's Proposal and Award Policies and Procedures Guide and/or to UI Research and Faculty Development resource page.**

<u>Deadline</u>	<a href="#">General Formatting</a> <input type="checkbox"/> Page numbers: Each section individually paginated <input type="checkbox"/> Font: Recommend Times New Roman or Computer Modern family (11 pt +) <input type="checkbox"/> Margins: 1"+ <input type="checkbox"/> Title must begin with "CAREER:____" and follow with an informative title
	<a href="#">Single-Copy Documents</a> <i>For NSF programmatic use only, not sent to reviewers</i> <input type="checkbox"/> Collaborators & Other Affiliations document for each senior personnel ( <a href="#">Download template here</a> ) <input type="checkbox"/> List of Suggested Reviewers, optional but highly recommended -In FastLane, list the names, email addresses, and institutional affiliation of possible reviewers -May also list names of persons who should not be asked to review your proposal
	<input type="checkbox"/> <a href="#">Cover Sheet</a> : input information directly into FastLane or Research.gov If international travel is included, indicate the name(s) of the country(ies) or "Worldwide" if not known
	<a href="#">Project Summary</a> : limit 1 page -Written in third person; summarizes plans for integration of research and education activities <input type="checkbox"/> Project Overview <input type="checkbox"/> Intellectual Merit <input type="checkbox"/> Broader Impacts
	<input type="checkbox"/> <a href="#">Project Description</a> : limit 15 pages, <i>no URLs allowed</i> -Proposed research project; proposed educational activities; description of integration of research and education <input type="checkbox"/> Broader Impacts section, with heading: "Broader Impacts of the Proposed Work" <input type="checkbox"/> <a href="#">Results from prior NSF support</a>
	<input type="checkbox"/> <a href="#">References Cited</a> : no page limit; full reference required (use of " <i>et al.</i> " is not allowed) -Provide references in support of both the research and education aspects proposal -Each reference should include the names of all authors, in the sequence in which they appear in the publication
	<input type="checkbox"/> <a href="#">Biographical Sketch</a> : limit 2 pages, using <a href="#">NSF-Approved Format</a> A. Professional Preparation (Institution, Location, Major, Degree & Year) B. Appointments (reverse chronological order) C. Products <b>or</b> Publications – choose 1 of these headings; list up to 5 most closely related and up to 5 other significant D. Synergistic Activities (up to 5 examples of broader impact of professional/scholarly activities) - <i>Should include BOTH research and educational activities and accomplishments</i>



## **CAREER-Specific Resources from NSF**

**I** [NSF CAREER Program Page](#)

**I** [NSF CAREER solicitation \(RFP\)](#)

**I** [FAQs](#)

**I** [NSF contacts](#)

**I** [NSF CAREER Webinar presentation slides](#)



Dr. Christine Parent, Dept of Biological Sciences  
Awarded NSF CAREER in 2018:  
CAREER: Islands as Models to Study Effects of  
Multidimensional Selection



*Thank you for coming!*