

# Faculty Early Career Development Program (CAREER) National Science Foundation

*Friday April 26, 2019*



# Outline of workshop

General overview of CAREER proposals  
(Lique Coolen)

Review process (Lique Coolen)

Tips and experiences by CAREER awardees:  
Drs. Bjorn Lussem and Elizabeth Herndon

Submission process: Lori Burchard (RASP)

Program outline and college support (Lique  
Coolen)



Overview:  
Faculty Early Career Development  
Program (CAREER)  
National Science Foundation

Presented by Lique M. Coolen, Ph.D.  
Associate Dean, College of Arts and Sciences  
*Friday April 26, 2019*



# CAREER (NSF 17-537)

5 year duration  
Minimum is \$400,000  
(incl indirect costs; for BIO \$500,000)

- **Main objective:**
  - To launch the life-long career as a research scholar-teacher of a tenure-track assistant professor
- **Contains a Research Plan and an Education Plan**
- **Key to success:**
  - Research and Education plans need to be tightly integrated



[https://www.nsf.gov/publications/pub\\_summ.jsp?WT.z\\_pims\\_id=503214&ods\\_key=nsf17537](https://www.nsf.gov/publications/pub_summ.jsp?WT.z_pims_id=503214&ods_key=nsf17537)

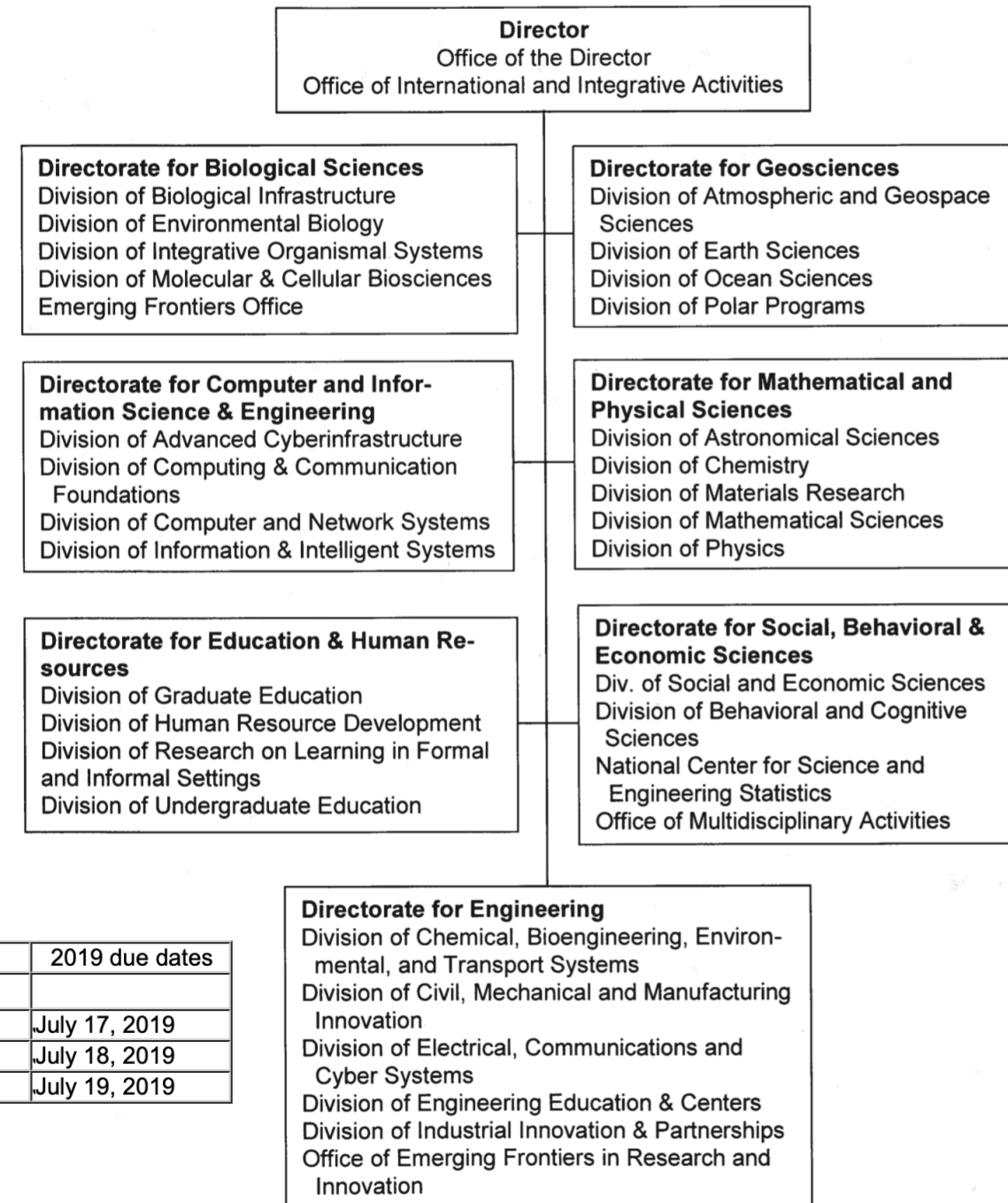
# Select Directorate and Division

- **Maximize Programmatic relevance**
- **Contact the Program Officer**
  - First contact by email
    - Use phrase “maximize programmatic relevance”
  - Send s/he Project Summary (1 Page)
    - Overview
    - Intellectual Merit
    - Broader Impacts

“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 (see <https://www.nsf.gov/crssprgm/career/contacts.jsp> for a list of CAREER contacts by division).”

From: <https://www.nsf.gov/pubs/2017/nsf17537/nsf17537.htm>

## ORGANIZATION OF THE NATIONAL SCIENCE FOUNDATION



Directorate	2019 due dates
BIO, CISE, EHR	July 17, 2019
ENG	July 18, 2019
GEO, MPS, SBE	July 19, 2019



# Project Description (15 Pages)

- The Project Description section should contain a well-argued and specific proposal for activities that will, over a 5-year period, build a firm foundation for a lifetime of contributions to research and education in the context of the Principal Investigator's organization.
- The proposed project should aim to advance the employee's career goals and job responsibilities as well as the mission of the department or organization.

From: <https://www.nsf.gov/pubs/2017/nsf17537/nsf17537.htm>

- Description of proposed research project and expected significance of results
- Description of proposed educational activities and their intended impact
- Description of how research and educational activities are integrated or synergistic
- Results of prior NSF support if any

# Project Description

1. **Overview and Objectives** (also sometimes called specific aims)
  - Scientific objectives
  - Educational objective(s)
  - Intellectual merit
2. **Background**
  - Review of literature
  - Preliminary studies
3. **Research Plan**
  - For each objective:
    - Introduction
    - Research design
    - Expected outcomes
    - Potential problems and alternative approaches
  - Timetable
4. **Educational Activities**
  - Assessments
  - Timetable
  - Integration of research and educational activities
5. **Broader Impacts**

# Integration of Research and Education

From: <https://www.nsf.gov/pubs/2017/nsf17537/nsf17537.htm>

- 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.
- In addition, NSF recognizes that some investigators, given their individual disciplinary and career interests, may wish to pursue an additional activity such as entrepreneurship, industry partnerships, or policy that enhances their research and education plans.



# Broader Impacts

- **Broader impact of research**
- **Broader impact of education**
- **Outreach**
  - May include:
    - K-12 students (schools, museums, zoos, etc)
    - Underrepresented minority populations
    - Social media   YouTube
- **Assessments**



# Additional Pages

- **References**
- **Biographical Sketch of PI (no co-PIs allowed)**
- **Proposal Budget**
- **Budget Justification**
- **Current and Pending Support**
- **Facilities, Equipment, and Other Resources**
- **Data management Plan**
- **Departmental Letter (from Chair)**
- **Letters of Collaboration (standard form)**
- **Post-doc Mentoring Plan**
  - *new:* Office of Postdoctoral Studies
- **Collaborators & Other Affiliations (COA)**

# Merit Review



- Program Officers select potential reviewers
- Reviewers indicate conflicts (COI) with proposals
- Reviewers identify level of expertise for all proposals
- Each proposal has three reviewers (primary, secondary, tertiary)
  - And sometimes has Ad Hoc reviews as well (not in the “room”)
- Reviewers submit written reviews

# Panel Review Meeting

## Panel Meeting at NSF Headquarters

- All proposals are discussed: approx. 12 minutes per proposal
- **Primary reviewer:**
  - summarizes briefly, gives her/his review of the proposal, including the strengths and the weaknesses in both intellectual merit and broader impacts, results from prior funding (if applicable), response to previous reviews (if applicable), data sharing and management, and any other comments
- **Secondary reviewer:**
  - will provide her/his evaluation of the proposal, bringing up any important points not mentioned by the primary reviewer, and summarize the key points made by the AdHoc reviewers
- **Tertiary reviewer is the Scribe.**
  - The tertiary reviewer's primary job is to take notes during the discussion, although s/he may add her/his thoughts of the proposal to the general discussion.
  - After the discussion, the Scribe will draft the panel summary for the proposal using the template provided at panel. The panel summary is a brief description of the discussion leading to the panel's ranking that will be sent verbatim to the PI, together with the written reviews.





# Written Reviews: Instructions to reviewers

- **Two criteria:**
  - The reviews must address (1) the intellectual merit, and (2) the broader impacts of the proposal.
- **Intellectual merit** encompasses the proposal's potential to advance knowledge. Focus your evaluation of the intellectual merit on the:
  - questions driving the research,
  - feasibility of the research plan,
  - impact of the research on the field.
- **Broader Impacts** encompass the proposal's potential benefit to society and contribution to the achievement of desired societal outcomes. Focus your evaluation of the broader impacts on the:
  - broadening of participation in science and/or science outreach,
  - integration of research and education,
  - dissemination of novel insights to a wider audience,
  - impact on science or society.

# 5 Review Elements: Instructions to reviewers

The following elements should be considered in the review for both criteria (intellectual merit and broader impacts):

1. What is the potential for the proposed activity to
  - Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
  - Benefit society or advance desired societal outcomes (Broader Impacts)?
2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?
4. How well qualified is the individual, team, or organization to conduct the proposed activities?
5. Are there adequate resources available to the PI (either at the home organization or through collaborations) to carry out the proposed activities?

# Rating: Instructions to reviewers

- When you submit your review, you will be asked to provide an individual rating of Excellent, Very Good, Good, Fair, or Poor:
- **Excellent** – Outstanding proposal in all respects; essentially no weaknesses; deserves highest priority in recommendation for award
- **Very Good** – High-quality proposal in nearly all respects; should be recommended for award if at all possible
- **Good** – Quality, meritorious proposal, worthy of consideration for award
- **Fair** – Proposal lacks one or more critical aspects; key issues need to be addressed
- **Poor** – Proposal has serious deficiencies

# Role of Program Officer

## PHASE II

PROPOSAL  
REVIEW AND  
PROCESSING  
6 MONTHS

4

REVIEWERS  
SELECTED

5

PEER  
REVIEW

6

PROGRAM OFFICER  
RECOMMENDATION

7

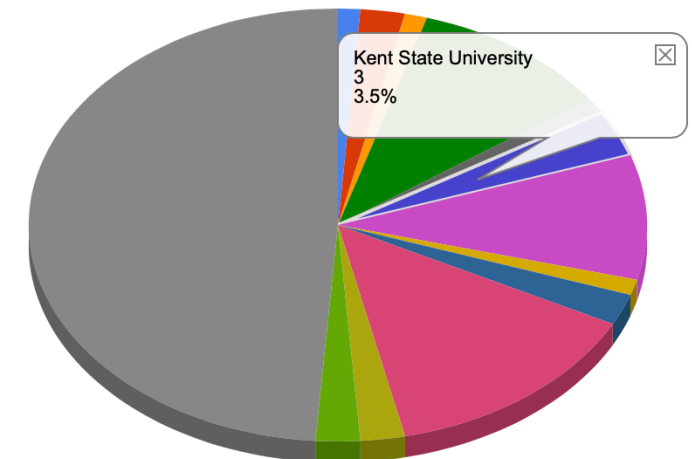
DIVISION  
DIRECTOR  
REVIEW

- During scientific review panel meetings, proposals are placed in high, medium, low categories.
- After scientific, technical and programmatic review and consideration of appropriate factors, ***the NSF Program Officer*** recommends to the cognizant Division Director whether the proposal should be declined or recommended for award.

## Ohio

Click on the name of an institution in the table below to view a list of awards for that institution.

Active Awards by Institution





# **Grant Writing Support: College of Arts and Sciences**

## **Grant Opportunity Information**

**Workshops and information sessions with internal and external speakers**

**Alerts for funding opportunities via website, emails, and in-person meetings**

## **Writing Support**

**Peer-support writing groups**

**Proofreading and compliance checking of support materials and budget pages**

## **Constructive Feedback**

**Internal faculty mentor(s)**

**External reviewer feedback**