



WHERE DISCOVERIES BEGIN



# **Faculty Early Career Development (CAREER) Program**

## **Proposal Writing Webinar**

**Monday, April 17, 2017**

**Division of Chemical, Bioengineering,  
Environmental, and Transport Systems (CBET)**

**Directorate for Engineering**

<http://www.nsf.gov/career>



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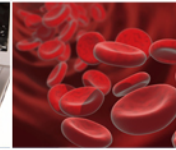
# Agenda

## Monday, April 17, 2017

<b>1:00pm to 1:05pm</b>	<b>Welcome and Introduction</b>
<b>1:05pm to 1:20pm</b>	<b>CAREER Overview: NSF and CBET</b>
<b>1:20pm to 1:45pm</b>	<b>CAREER Awards: Guidelines and Eligibility</b>
<b>1:45pm to 2:15pm</b>	<b>CAREER Proposals: Common Mistakes and Practices</b>
<b>2:15pm to 2:45pm</b>	<b>CAREER Prep: Proposal Set-Up and Integration of Research, Education, and Outreach</b>
<b>2:45pm to 3:15pm</b>	<b>Break</b>
<b>3:15pm to 3:45pm</b>	<b>CAREER Insights: Inside a Proposal Review (Video)</b>
<b>3:45pm to 4:15pm</b>	<b>CAREER Perspectives: Feedback from an Awardee</b>
<b>4:15pm to 5:00pm</b>	<b>CAREER Q&amp;A: CBET Program Directors</b>



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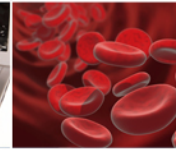
# WELCOME!

## 2017 CBET CAREER Proposal Writing Webinar

- **Starting Time?** We will begin promptly at 1:00pm Eastern Time.
- **Webinar Audio?** US/Canada participants can dial **1-800-475-8401** (toll free) or **1-517-319-9504** (toll number) and enter participant passcode: **7445443#** to be connected to audio in “listen-only” mode.
- **Q&A Session?** Questions will be accepted via the WebEx Chat pane and/or Q&A pane when announced.
- **Real Time Captioning?** You can view streaming captions from a separate browser page at [www.fedrcc.us/](http://www.fedrcc.us/) after entering the event confirmation number:  
**Confirmation # 3236422**
- **Webinar Recording?** The webinar will be recorded, and participants will be notified when the recording is available to the public.
- **Need Help?** You can send a private WebEx chat to the meeting hosts (Emily or Brandi) or call WebEx at **1-866-449-0701** or **1-800-857-8777** and press 0 for technical support.



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# Why a CAREER Webinar?

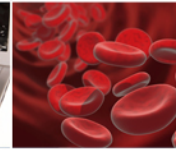
- To present a consistent message for potential CBET PIs
- To level the playing field
- To reach a wider audience

<http://www.nsf.gov/career>



# Goal of CAREER Webinar

- This will not be a “how-to” guide
- Style and Content of proposal sections often vary by program - **Contact the Program Director!**
- Intent of the webinar is to provide guidance and direction outlining CAREER proposal commonalities between CBET and, in some cases, ENG programs



# Acknowledgements

- Barry Johnson, ENG Assistant Director (Acting)
- JoAnn Lighty, CBET Division Director
- Nora Savage, CBET Program Director
- Carole Read, CBET Program Director
- Raj Mutharasan, CBET Program Director
- \*Tamara Battle, Science Analyst, CBET
- Brandi Schottel, Science Analyst, CBET
- Emily Aurand, AAAS Fellow, CBET
- James Morris, Management and Program Analyst, OIRM/DAS
- Office of Legislative and Public Affairs (OLPA)
- Alex Leonessa, Former CAREER Awardee

\* Director, Coordinator and Editor of the 2017 CBET CAREER Proposal Writing Webinar



# Guidelines and Ground Rules

- Everyone will remain in “Listen Only” mode
- There will be no oral questions
- Time for questions will be allotted following each session
- Type all questions in the Chat or Q&A windows - they will be collected and answered at the end of each session





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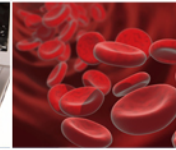


# CAREER @ NSF

<http://www.nsf.gov/career>



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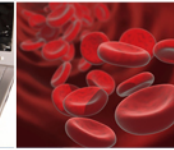
# The CAREER Program

The Faculty Early Career Development (CAREER) Program is a Foundation-wide activity that offers the National Science Foundation's most prestigious awards in support of junior 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.

<http://www.nsf.gov/career>



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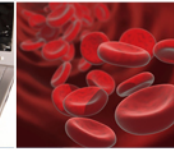
# Goals of the CAREER Program

- Provide stable support for five years ( $\geq 400\text{K}$  in most Directorates – BIO, GEO/PLR, ENG are  $\geq 500\text{K}$ ) to allow the career development of outstanding new teacher-scholars in the context of the mission of their organization.
- Build a foundation for a lifetime of integrated contributions to research and education.
- Provide incentives to universities to value the integration of research and education.
- Increase participation of those traditionally underrepresented in science and engineering.

<http://www.nsf.gov/career>



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# CAREER is NSF-Wide

- The program started in 1996
- All Directorates/Offices participate in the program
- Proposals are submitted to program of interest
- Thousands of CAREER awards have been made over the years
- **NSF Presidential Early-Career Award for Scientists and Engineers (PECASE)** are selected out of the pool of recent CAREER awardees

<http://www.nsf.gov/career>



# PECASE

- Each year NSF selects nominees for the **Presidential Early Career Award 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 the sponsoring organization or agency; and**
  2. **Community service demonstrated through scientific leadership, education or community outreach.**



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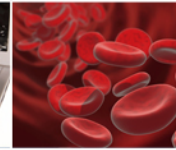


# PECASE Eligibility

- Be a US Citizen or US Permanent Resident at time of nomination to the White House's Office of Science and Technology Policy
- 20 Nominees for NSF PECASE every year, selected from the pool of recent CAREER awardees
- Number of nominees per Directorate is a function of the number of proposals submitted to the program for each Directorate



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# PECASE Awards

- Foster innovative developments in science and technology;
- Increase awareness of careers in science and engineering;
- Give recognition to the scientific missions of the participating agencies;
- Enhance connections between fundamental research and national goals, and;
- Highlight the importance of science and technology for the Nation's future.

<http://www.nsf.gov/career>





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# PECASE Awards

- Individuals cannot apply for PECASE. Awards are initiated by the participating federal agencies.
- At NSF, up to twenty nominees for this award are selected each year from among the PECASE-eligible CAREER awardees who are most likely to become the leaders of academic research and education in the 21<sup>st</sup> century.
- The White House Office of Science and Technology Policy (OSTP) makes the final selection and announcement of awardees.

<http://www.nsf.gov/career>



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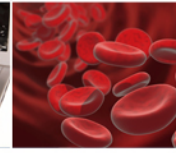
# CAREER varies across NSF

- Number of submitted CAREER proposals vary widely across NSF
- Review and Funding methods vary according to Directorate and Division practices
- Many CAREER proposals compete with other research proposals in the most appropriate research program
- NSF's CAREER Coordinating Committee (CCC) is made up of members from the different Directorates/Offices – We are the liaison between the programs and the senior management at NSF. Each Directorate also has a CCC.

<http://www.nsf.gov/career>

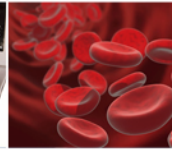


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# Which NSF Directorate Receives the Most CAREER Proposals?

- CISE
- ENG
- GEO
- MPS
- SBE
- EHR



# Answer

- CISE
- **ENG**
- GEO
- MPS
- SBE
- EHR

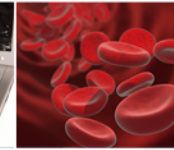


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# **Name one of the three NSF Directorates that makes the Most CAREER Awards?**

- CISE
- ENG
- GEO
- MPS
- SBE
- EHR



# Answer

• CISE

• ENG

• GEO

• MPS

• SBE

• EHR



# Merit Review of CAREERS

- Ad hoc + Panel (with other proposals in the Program – most of GEO (AGS uses ad hoc only), BIO, and SBE
- CISE, EHR, MPS varies by Division
- ENG primarily reviews CAREER proposals on dedicated CAREER panels



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# Merit Review Process

- To learn more about the Merit Review Process at NSF, go to:

[http://www.nsf.gov/news/mmg/mmg\\_disp.jsp?med\\_id=76467](http://www.nsf.gov/news/mmg/mmg_disp.jsp?med_id=76467)

<http://www.nsf.gov/career>





# Success Rates and Expectations

- CAREER proposals are submitted to a disciplinary unit or program
- They are reviewed according to the relevant Program guidelines - Talk to Program Officer or Division Contact for more information  
(<http://www.nsf.gov/crssprgm/career/contacts.jsp>)
- Make sure to check on typical award sizes in your program
- Ask about expectations for scope of research and education plans

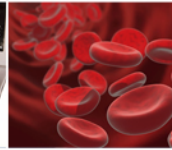


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# ENG CAREER Committee

- Dominique Dagenais, ECCS
- Elliott Douglas, EEC
- Mary Toney, CMMI,
- Nora Savage, CBET

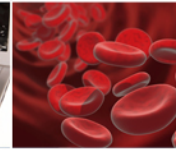


# Which ENG Division receives the largest number of CAREER proposals?

- CBET
- CMMI
- ECCS
- EEC
- IIP



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# Answer

- **CBET**
- CMMI
- ECCS
- EEC
- IIP



# CBET and CAREER

- 29% of CBET's FY16 budget was allocated to CAREER awards
- CBET received 465 proposals
- Funded 75 awards
- 16.1% success rate



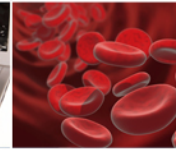
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# CAREER Guidelines and Eligibility



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# Is CAREER for You?

- Can you think of a proposal that is appropriate for NSF with research and education activities that are innovative and ambitious?
- Is your Department/Organization supportive?
- Are you seriously committed to the goals of CAREER?
- Are you at the right stage in your career?
- Would like to be considered for the Presidential Early Career Awards for Scientists and Engineers (PECASE), if eligible?
- Have you discussed your ideas with mentors, fellows, program officers?

<http://www.nsf.gov/career>



# Investigator Eligibility Criteria

- Hold a doctoral degree in a field supported by NSF by proposal deadline
- Be untenured by Oct 1<sup>st</sup> following proposal deadline
- Be employed in a tenure-track (or equivalent) position at an eligible institution as an Assistant Professor, by Oct 1<sup>st</sup> following deadline
- Have not previously received a CAREER award
- Have not had more than two CAREER proposals reviewed
- Untenured Associate Professors are NOT eligible





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# What Do You Think?

The CAREER Solicitation requires a PI to hold a doctorate degree in a field supported by NSF by the proposal submission deadline. The PI successfully defended his thesis, but will not have the actual diploma until after the submission deadline.

**Question: Is this PI eligible to submit a CAREER proposal?**

<http://www.nsf.gov/career>



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# Answer

**No!** The PI is not eligible unless the official, dated diploma, is received by the proposal deadline.

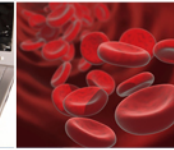


# Institutional Eligibility Criteria

- Academic institutions in the U.S., its territories or possessions, and the Commonwealth of Puerto Rico that award degrees in fields supported by NSF.
- Non-profit, non-degree-granting organizations such as museums, observatories or research labs may also be eligible to submit proposals, if the eligibility requirements of the PI's position are satisfied
- NSF encourages proposals from two- and four-year institutions, including Minority Serving and Primarily Undergraduate Institutions



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# What Do You Think?

There is no longer a CAREER eligibility certification form that comes up when I prepare my CAREER coversheet.

**Question: Should I attach an eligibility statement to my proposal, just to make sure NSF knows I'm eligible?**

<http://www.nsf.gov/career>



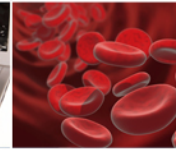
# Answer

**No!** By officially submitting your CAREER proposal through FastLane or Grants.gov, you and your institution are indicating that you have read the CAREER eligibility requirements in the Solicitation and that you meet those eligibility requirements. In addition, the Departmental Letter from your Chair must include a statement to the effect that you are eligible for CAREER.



# What should be in a CAREER Proposal?

- A compelling research plan
- Innovative but doable education plan
- A plan for the effective integration of both sets of activities (evaluation plan is a big plus)
- **Education activities** – curriculum, pedagogy, outreach, mentoring at any level, majors and non-majors, teacher preparation or enhancement, K-12 students, and/or the general public



# CAREER Education Plan

- Activities should go beyond what is expected from any Assistant Professor in your field
- Workload should not be unreasonable
- Should be informed by what has been successful in the past - intellectual merit of the education component
- Should have a plan for assessing the success of the education program
- Check with your Program Officer or search the abstracts on the web



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# Integration of Research and Education

**How will your research impact your education goals and how will your education activities feed back into your research?**

- Involving others (graduate, undergraduates, K-12, high school teachers, public) in your research using new tools, laboratory methods, field components, web outreach, cyber networks, etc...
- Partnering with those in other communities, especially those traditionally underrepresented in Sciences and Engineering





# Integration of Research and Education

**How will your research impact your education goals and how will your education activities feed back into your research?**

- Bringing the excitement of your research topics to help in the education of others
- Searching for new methods to deliver your research results to a broader audience than those in the immediate research community
- Using the broader community to gather data for your scientific pursuits (“citizen science”)



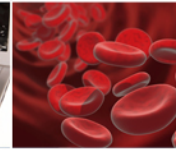
# CAREER Personnel and Budgets

- No co-principal investigators or other senior staff are allowed; however, collaborations are encouraged
- Consultants, sub-awards are allowed (no senior personnel costs in sub-awards)
- Some programs will support buy out of academic year time for teaching intensive institutions (check with your Program Officer)
- International activities are encouraged and may be supported by the Division of International Science and Engineering (ISE)
- Average award size may vary depending on the Division or program.



# Departmental Letter (2 pages)

- Support for the PIs proposed CAREER research and education activities
- Description of how the PIs career goals and responsibilities mesh with that of the organization and department
- Commitment to the professional development of the PI with mentoring and whatever is needed to forward the PIs efforts to integrate research and education
- Statement that indicates the PI is eligible for the CAREER program



# Traits of Successful CAREER Proposals

- CAREER proposals should match the expectations in the disciplinary programs in terms of research and education - This is a highly competitive program!
- Written with peer reviewers (Ad Hoc and/or Panel) in mind - **Ask your Program Officer** who will be assessing your proposal



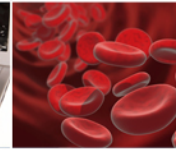
# Traits of Successful CAREER Proposals

- Appropriate scope of education and research activities. It is a 5-year plan, but should reflect foundation for your career
- Goes outside the education box of regular research proposals in your field
- Strikes a balance between doable research activities and more risky pursuits



# CAREER Myths

- “You cannot apply because you have another award”
- “It is an entry program, so apply to CAREER first”
- “I need to see a successful proposal to write a successful proposal”
- “ I read on the web that to succeed, I have to....”
- “CAREER proposals are more portable”
- “The education component does not matter”
- “You have no chance, if you are not from a research-intensive institution”

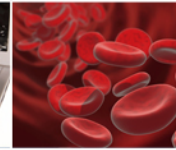


# CAREER Truths

- Most successful applicants receive a CAREER award two to four years after their initial appointment
- Most successful CBET CAREER awardees receive a grant on the first or second attempt
- Most new CBET CAREER awardees had previous experience (generally as postdocs) prior to an initial faculty appointment.



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# The CAREER website –

[www.nsf.gov/career](http://www.nsf.gov/career)

- **ENG Deadline – July 20, 2017**
- Latest CAREER Solicitation - **NSF 17-537**
- CAREER Directorate/Division Contacts
- Link to recent awards
- Link to PECASE awards
- Directorate deadlines





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# **CAREER Proposals: Common Mistakes and Practices**

**Division of Chemical, Bioengineering,  
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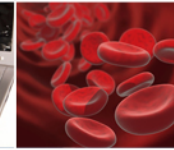
**Directorate for Engineering**

Presented by: Raj Mutharasan  
Program Director, Nano-Biosensing



# Finding the Appropriate Program

- **Check list of currently funded programs**
  - Use Advanced Search
  - (<https://www.nsf.gov/awardsearch/advancedSearch.jsp>)
  - Read titles, abstracts and resulting publications
  - READ Program Descriptions, *they do change*
- **Find a fit**
  - Contact program director
  - Prepare a one-page abstract
  - Specify appropriate program on cover sheet in addition to CAREER



# Common Mistakes in Preparing a CAREER Proposal

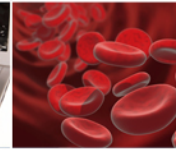
- **Ignoring rules (e.g., Updated Proposal & Award Policies & Procedures (PAPPG), January 2017)**

[https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=papp](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=papp)

- **Always read the CAREER solicitation**

[https://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=nsf17537](https://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf17537)

- **Deadline:** July 20, 5:00pm submitter's local time
- **Rushing and waiting until the last minute - poor proofreading, no internal review**



## Common Mistakes in Preparing a CAREER Proposal

- **Failing to project that the proposed work will be the basis for a long-term, successful faculty career**
- **Overlooking that education, mentoring, teaching, outreach are part of a successful academic career**
- **Failing to integrate education/outreach activities in a meaningful and sensible way to research activities**



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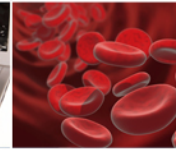
# Common Mistakes in Preparing a CAREER Proposal

- **Failing to include any assessment of educational activities.**
- **Failing to get out of the PhD and Postdoc advisors' scientific shadows.**
- **Treating the CAREER proposal as a regular unsolicited proposal, rather than a proposal that envisions the start of an independent long-term academic research trajectory.**



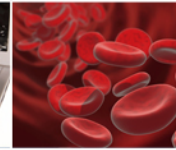
## Common Mistakes in Preparing a CAREER Proposal

- **Making the proposed work (research and education) too broad or too narrow**
- **Proposing an impossibly large amount of work rather than an amount of work that will be appropriate and well-received**
- **Repeating words without substantiating them (e.g., “innovative”, “novel”, “fundamental”, “transformative”, “first time ever”, etc.)**



# Common Mistakes in Preparing a CAREER Proposal

- **Failing to express a compelling scientific question and a clear, reasonable research plan to answer this question**
- **The proposed research is incremental (e.g., proposal reads like a parametric study or a development activity)**
- **The educational plan is ordinary (e.g., teach a class, educate students)**



## Help Yourself ....

- **Seek support from your department and university.**
- **Understand literature gaps in research and education.**
- **Do not be unrealistically ambitious.**





## A Reminder...

- **DO NOT INCLUDE APPENDICES** - Without prior written approval from the appropriate NSF Assistant Director, proposals with appendices will be Returned without Review (RWR). Note that such approvals are rarely granted (see Chapter II.A of the GPG).
- **Single page collaboration letters.**



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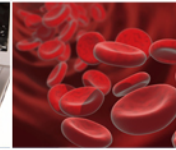
# CAREER Proposal Preparation and Submission Checklist

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

**ENG Full Proposal Deadline Date: July 20, 2017  
5:00pm submitter's local time**



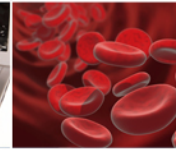
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# Results from Prior Support

I received an NSF award two years ago on a topic completely unrelated to my current CAREER proposal.

**Question: Do I need to include the results in the Results from Prior Support Section of the proposal?**



# Answer

**Yes!** The Grants and Proposal Guide (GPG) states:

If any PI or co-PI identified on the project has received NSF funding (including any current funding) in the past five years, information on the award(s) is required, irrespective of whether the support was directly related to the proposal or not.



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# Results from Prior Support

I received an NSF award three years ago and it is no longer active.

**Question: Do I need to include the results in the *Results from Prior Support* Section of the proposal?**



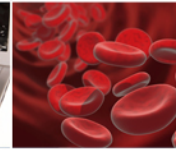
# Answer

**Yes!** The Grants and Proposal Guide (GPG) states:

If any PI or co-PI identified on the project has received NSF funding (including any current funding) in the past five years, information on the award(s) is required, irrespective of whether the support was directly related to the proposal or not.



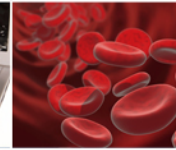
WHERE DISCOVERIES BEGIN



# Results from Prior Support

I was PI or co-PI on two (or more) NSF awards over the last four years.

**Question: Do I need to include the results from each and every award in the Results from Prior Support Section of my CAREER proposal?**



# Answer

**You should report the results from the award most closely related to this proposal. The Grants and Proposal Guide (GPG) states:**

In cases where the PI or co-PI has received *more than one award* (excluding amendments), they need only *report on the one award most closely related* to the proposal. Funding includes not just salary support, but any funding awarded by NSF.

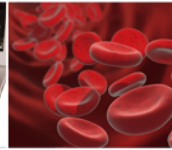




# Results from Prior Support

I was co-PI on an NSF award two years ago but did not receive salary support.

**Question: Do I need to include the results in the *Results from Prior Support* Section of the proposal?**

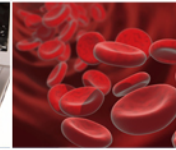


# Answer

**Yes!** The Grants and Proposal Guide (GPG) states:

If any PI or co-PI identified on the project has received NSF funding (including any current funding) in the past five years, information on the award(s) is required...

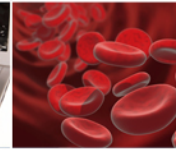
**Funding includes not just salary support, but any funding awarded by NSF!**



# Results from Prior Support

## What MUST I include in this section?

- NSF award number
- Award amount
- Period of support
- Award title
- Summary of the results
- Publications resulting from the NSF award
- Evidence of research products



# Results from Prior Support

The following information **MUST** be provided:

- the NSF award number, the title of the project, amount and period of support;
- a summary of the results, including accomplishments;
- **The results must be separately described under two distinct headings, *Intellectual Merit* and *Broader Impacts*;**
- the publications resulting from the NSF award;
- evidence of research products and their availability, including, but not limited to: data, publications, samples, physical collections, software, and models, as described in any Data Management Plan; and
- if the proposal is for renewed support, a description of the relation of the completed work to the proposed work



# Results from Prior Support

What's the maximum number of pages that I can use to describe the *Results from Prior Support*?

- 1 page
- 2 pages
- 5 pages
- 7 pages
- No maximum



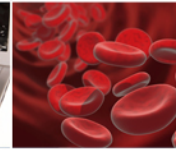
# Answer

What's the maximum number of pages that I can use to describe the *Results from Prior Support*?

- 1 page
- 2 pages
- 
- 7 pages
- No maximum



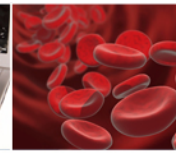
WHERE DISCOVERIES BEGIN



# Results from Prior Support

**What section of the proposal contains the “Results from Prior Support” Section?**

- Project Summary
- Project Description
- Supplementary Documents
- Data Management Plan
- Budget



# Results from Prior Support

What section of the proposal contains the “Results from Prior Support” Section?

- Project Summary
- Project Description
- Supplementary Documents
- Data Management Plan
- Budget





WHERE DISCOVERIES BEGIN



# Results from Prior Support

I'm running out of space in my *Project Description*. My previous NSF award is still active.

**Question: Can I provide this information in the Current and Pending Support Section of the proposal?**



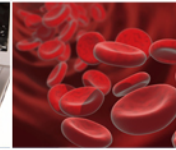
# Answer

**No!** You should list the award in the Current and Pending Support Section of the proposal; however, the additional details **MUST** be provided in the *Results from Prior Support* Section of the Project Description.

Failure to provide this information will result in your proposal being returned without review.



WHERE DISCOVERIES BEGIN



# **CAREER Proposals: Integration of Research, Education, & Outreach**

**Division of Chemical, Bioengineering,  
Environmental, and Transport Systems (CBET)**

**Directorate for Engineering**

Presented by: Raj Mutharasan  
Program Director, Nano-Biosensing



# CAREER Proposal Setup: KEY Elements (study NSF 17-537)

## FRONT END INCLUDES:

**Cover Sheet**  
"CAREER: " in Title

**Project Summary (1 page)**  
Intellectual Merit  
Broader Impacts

**Project Description (15 pages)**  
Proposed Research Project & Plan  
Proposed Education Activities,  
Integration with Research,  
and Assessment

## BACK END INCLUDES:

**Biographical Sketch (2 pages)**  
Research and Education  
Accomplishments

**Departmental Letter (2 pages)**  
Activities supported by institution  
Career development of PI

**Budget**  
Five years, \$500,000 total



# CAREER proposals must have an integrated research & education plan

- ❑ Propose creative research and education plans and how they will be integrated & assessed
- ❑ Envision how the research program will impact educational goals, and how education activities will feed back to the research
- ❑ Balance both research and education, but avoid “over proposing” activities (quality over quantity)



WHERE DISCOVERIES BEGIN

# CAREER

## PROPOSAL

Education  
Activities



Educational  
Goals



Research  
Program

### Instruction (examples)

- Innovative courses & curricula
- Integration of research into coursework

### Training & Mentoring (ex.)

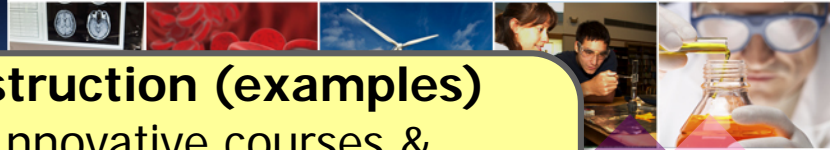
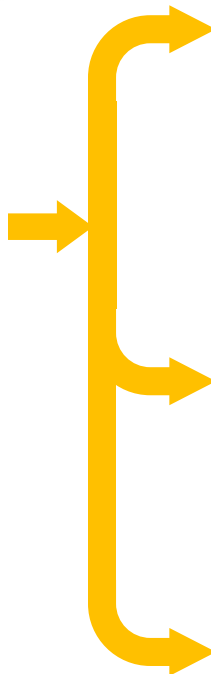
- Undergrad & grad research
- Teacher enhancement
- International opportunities for students

### Outreach (examples)

- Engagement K-12 students
- Scientific literacy of public

Evaluation & Assessment

Broadening Participation  
Under-represented groups  
in STEM Fields





# Intellectual Merit and Broader Impacts Review Criteria (revised 2013)

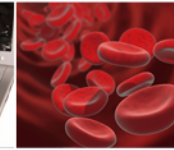
- To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?
- Well-reasoned, well-organized plan based on a sound rationale? Does the plan incorporate a mechanism to assess success?
- Qualifications of PI to conduct the proposed activities?
- Adequate resources available to PI/PI team at home/ collaborator institution?

## Intellectual Merit

Advance knowledge and understanding within its own field or across different fields

## Broader Impacts

Benefit society or *advance desired societal outcomes*



# Balance Intellectual Merit & Broader Impacts

## Intellectual Merit (Research & Education)

- Advancement and contribution of knowledge in its own field or across different disciplines?
- Creative and original concepts?
- Well-conceived and organized proposal?
- Qualifications of the PI?
- Adequate resources available to the PI?

## Broader Impacts (Broadening Participation)

- Advancement of discovery and understanding while promoting teaching, training, & learning?
- Broad dissemination to enhance scientific and technological understanding, e.g. Outreach?
- Participation of under-represented groups in STEM?
- Educational Impact, including undergraduate & K-12?





# Balance Research & Education

## Research

(10-12 pages)

- Vision for five year research & education program for a lifetime of contributions?
- Creative & original concepts?
- Advancement and contribution of knowledge in its own field or across different disciplines?
- Well-conceived and organized research plan?

## Education

(3-5 pages)

- Are the proposed activities inspired by the research program?
- Creative & original concepts?
- Are education & outreach activities well conceived & integrated with the research?
- Are these activities assessed and evaluated?
- Do these activities engage participation of under-represented groups in STEM?



# Getting Feedback & Insights: Integration of Research & Education

## Submit a Proposal Concept

Study desired Program Description on NSF Website ([www.nsf.gov](http://www.nsf.gov))

One-page Summary (Intellectual Merit & Broader Impacts) to PD by email

Program Director (PD) provides Feedback by email

## Visit NSF Arlington, VA



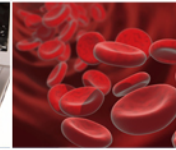
Contact cognizant Program Director with dates to visit

## Phone Call to Program Director

Request a phone conversation by email

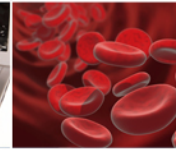
Submit a Proposal Concept

Provide a list of questions by email at least 24 hours before the call



# **Question: Whom should I contact to discuss my ideas for a CAREER proposal to be sure CBET supports the topic area?**

- France Cordova, Director of NSF
- ENG CAREER Coordinators
- CBET Program Director
- Barry Johnson, Acting Assistant Director of ENG



# Answer

- France Cordova, Director of NSF
- **ENG CAREER Coordinators**
- **CBET Program Director**
- Barry Johnson, Acting Assistant Director of ENG



WHERE DISCOVERIES BEGIN



**Question: I am non-tenured but hold the title of associate professor. May I apply to the CAREER Program?**



# Answer

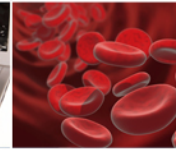
**No!** An associate professor (with or without tenure) is not eligible to apply for a CAREER award.

**Only assistant professors without tenure are eligible.**

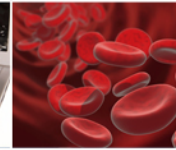
The CAREER Program is intended for faculty members who are at or near the beginning of their careers.



WHERE DISCOVERIES BEGIN



**Question: I was promoted to Associate Professor (tenured or tenure track) after I submitted my CAREER proposal. Am I still eligible?**



# Answer

- **Maybe!** As long as you remain in a tenure-track Assistant Professor (or equivalent) position until the **October 1st** following your proposal submission deadline **you will be eligible** for CAREER.
- If your appointment changes to Associate Professor (either tenure-track or tenured) on or before the October 1st following your proposal submission deadline **you are not eligible** for CAREER.



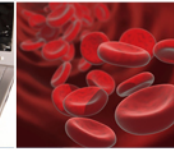


WHERE DISCOVERIES BEGIN



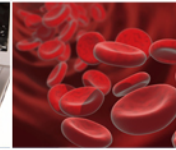
# Answer

- **\*Note\*** CAREER appointment eligibility is determined by the date your appointment becomes effective at your university, not by the date on the letter notifying you of your promotion.
- You should not submit a proposal if you anticipate your title will change to Associate Professor on or before the October 1st following the proposal submission deadline.



# Which of the following will result in a proposal being returned without review?

- A. A co-principal investigator is listed
- B. The PI did not submit to the current CAREER solicitation
- C. Departmental letter is missing



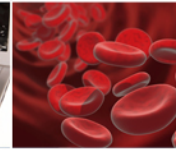
# Answer

**All of the Above**  
**A, B, and C**

- A. A co-principal investigator is listed
- B. The PI did not submit to the current CAREER solicitation
- C. Departmental Letter is missing



WHERE DISCOVERIES BEGIN



**Question: How does having another NSF grant affect the CAREER award decision?**



# Answer

- Having an NSF grant when applying for a CAREER award **does not** affect the possibility of winning a CAREER award.
- However, the content of the two proposals must be significantly different from one another, so as not to give the impression that the same proposal is being resubmitted for a second grant.



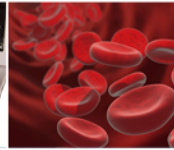
WHERE DISCOVERIES BEGIN



**Question: How are CAREER proposals reviewed? Are they mainly panel reviewed, ad-hoc/mail reviewed or a combination of these methods?**



WHERE DISCOVERIES BEGIN

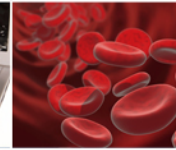


# Answer

- CAREER awards are mainly reviewed by panel review.



WHERE DISCOVERIES BEGIN

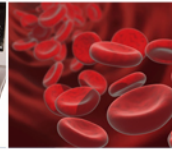


**Question: I have two possible projects. May I submit two CAREER proposals to two different Programs, Divisions or Directorates?**





WHERE DISCOVERIES BEGIN



# Answer

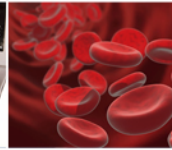
**No!** You may submit only one CAREER proposal per competition.



WHERE DISCOVERIES BEGIN



**Question: May I submit a CAREER proposal and a regular research proposal on a similar topic to NSF at the same time?**



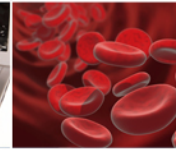
# Answer

**No!** The same work cannot be funded twice, so a proposal should be submitted only once to NSF (either as a CAREER or as a regular research proposal to any NSF program or programs).

The submission of duplicate or substantially similar proposals concurrently for review by more than one program without prior NSF approval will result in the return of the redundant proposal.



WHERE DISCOVERIES BEGIN



**Question: Do I need to involve an outside evaluator for the education component?**



# Answer

**No!** You do not need to utilize an outside evaluator.

However, you should have some sort of evaluation plan to provide feedback that could lead to future improvements.

Seek someone within your organization to help you if you have never done an evaluation. Most academic institutions have either an education department where you might find collaborators, or an evaluation system in place for coursework that could be modified to suit your needs.



WHERE DISCOVERIES BEGIN



# **CAREER Awards: Feedback from a Former CAREER Awardee**

Alexander Leonessa, Associate Professor  
Mechanical Engineering, Virginia Tech  
Former Program Director, CBET