

2014 NSF Faculty Career Development (CAREER) Program

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503214

This document summarizes information about the CAREER Program found in the following three documents:

- **Program Solicitation** (important review criteria are highlighted in red) - <http://www.nsf.gov/pubs/2014/nsf14532/nsf14532.htm>
- **FAQs about CAREER Program** - <http://www.nsf.gov/pubs/2011/nsf11038/nsf11038.jsp>
- **2014 NSF CAREER Proposal Writing Workshop** – Presentation by Dr. George Hazelrigg, NSF Program Director - Available at <http://aries.imse.ksu.edu/nsf/NSF2014/Workshopdoc.htm>

Other Resources:

- **Book (available to download as PDF): NSF CAREER Proposal Writing Tips** <http://aries.imse.ksu.edu/nsf/NSF2014/Workshopdoc.htm> **NSF Faculty Early Career Development (CAREER) Program website** http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503214
- **NSF Publication: A Guide for Proposal Writing** http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf04016
- **Grant Proposal Guide (GPG)**, February 2014 http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg
- **2014 NSF CAREER Proposal Writing Workshop**
Workshop Documents – <http://aries.imse.ksu.edu/nsf/NSF2014/Workshopdoc.htm>
Workshop Resources – <http://aries.imse.ksu.edu/nsf/NSF2014/resource.htm>

Full proposals submitted via FastLane: Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained in the NSF Grant Proposal Guide (GPG). The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg.

Full proposals submitted via Grants.gov: Proposals submitted in response to this program solicitation via Grants.gov should be prepared and submitted in accordance with the NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov. The complete text of the NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide.

The NSF CAREER program solicitation contains supplemental instructions to the Grant Proposal Guide (GPG) and NSF Grants.gov Application Guide. All standard sections of the proposal are required (i.e., the cover sheet, project summary, table of contents, project description, references cited, biographical sketch, budget, budget justification, current and pending support, facilities/equipment/other resources, and supplementary documentation). The instructions in the solicitation supplement the guidelines in the GPG and NSF Grants.gov Application Guide for the specified sections.

2014 Full Proposal Deadlines:

Proposals must be submitted via FastLane or Grants.gov by 5:00 p.m., proposer's local time, on or before the applicable deadline date below:

July 21, 2014: BIO, CISE, EHR

July 22, 2014: ENG

July 23, 2014: GEO, MPS, SBE

What's New for 2014?

- Cover sheet requiring certification of eligibility has been removed
- Restriction placed on the content allowed in letters of collaboration, 1 page max
- Length of departmental letter, 2 pages, must include specific elements (required)
- Minimum grant size in ENG, \$500K
- Removal of requirement for yearly departmental letter with annual report
- The same as 2011-2013, but beware, the Grant Proposal Guide has changed

Limit on Number of Proposals per PI:

Each PI may only submit one CAREER proposal per annual competition. In addition, a PI may not participate in more than three CAREER competitions.

Register for NSF FastLane

Principal investigators planning to submit a proposal to the NSF should register for a FastLane account. Principal investigators use FastLane to submit proposals, check the status of a review, and submit project reports. University research administrators use FastLane to authorize proposals for submission to NSF, and generate reports on their institution's recent and active awards, recent proposals and status of Final Project Reports.

To register for NSF FastLane, visit <http://www.research.ufl.edu/research/fastlane/index.html>.

REMEMBER:

- The CAREER proposal is not a research proposal
- The CAREER proposal is a proposal detailing how you will spend \$500,000 to enhance your career development
- Your career involves a research path, not a research project
- Determine your research path - your lifelong research goals - and then identify milestones toward your goals
- Detail the first one or two as the research projects for your CAREER proposal
- Build on your strengths, but differentiate this proposal from your PhD thesis work and other sponsored work

In addition to the two NSF merit review criteria (intellectual merit and broader impacts), what other factors will be considered in the review process?

Reviewers are asked to address the two NSF merit review criteria, but they are also asked to note the effectiveness of the integration of research and educational activities. Specifically they are asked to evaluate:

- The proposed research project, including preliminary supporting data where appropriate, specific objectives, methods and procedures to be used and expected significance of the results;
- The proposed educational activities, including plans to evaluate their impact;
- How the research and educational activities are integrated with one another; and
- Results from prior NSF support, if applicable.

Additional merit review considerations:

Reviewers will also be asked to evaluate the information provided in the required Facilities, Equipment and Other Resources" section of the proposal, which is used to assess the adequacy of the organizational resources available to perform the effort proposed. In addition, the cognizant NSF Program Officer will review it for programmatic and technical sufficiency.

The Departmental letter provides the information relevant to how the applicant's research and education activities mesh with the needs of the department/institution/organization.

The proposed mentoring activities, as described in the Postdoctoral Mentoring Plan submitted in the Supplementary Documents Section of the proposal (if applicable), will also be evaluated as part of the merit review process under the Foundation's broader impacts merit review criterion.

The Data Management Plan will be reviewed as an integral part of the proposal, coming under intellectual merit, broader impacts or both, as appropriate for the scientific community of relevance.

1) The Cover Sheet:

- **Program Solicitation Number.** FastLane users: **Select the CAREER program solicitation number shown at the beginning of the solicitation from the drop-down menu.** Grants.gov users: The program solicitation will be pre-populated by Grants.gov on the NSF Grant Application Cover Page.
- **Unit of Consideration.** Select at least one specific disciplinary program from the drop-down list in FastLane as the unit of consideration. Grants.gov users should refer to Section VI.1.2. of the NSF Grants.gov Application Guide for specific instructions on how to designate the NSF Unit of Consideration. For assistance in determining which program to choose, refer to the NSF [Guide to Programs](#), which provides descriptions of NSF's research-supporting programs.
 - If your proposal seems to fit in two different programs, you may designate more than one disciplinary program in the cover sheet if you think two or more programs should jointly review your proposal. It is very important that you select the most relevant program as the primary organization since that is the organization that is most likely to have primary responsibility for reviewing your proposal. Do not submit duplicate CAREER proposals to multiple disciplinary programs. Your proposal must be submitted by the CAREER deadline for the primary Directorate or Office you select. You are strongly encouraged to contact the program officer most closely related to the subject matter when preparing a cross-disciplinary proposal.
 - NSF encourages multidisciplinary proposals and every attempt is made to ensure the best fit for these proposals. Proposals with a multidisciplinary focus are commonly reviewed by different programs, or by special multidisciplinary panels and/or ad-hoc reviewers.
 - If NSF determines that your proposal is more appropriate for a different program than the primary one you selected, the proposal will be reassigned to the appropriate organizational unit. NSF will make the final determination of where your proposal will be assigned and considered. You can track your proposal's assignment and progress through FastLane.
- **Project Title.** The project title must begin with "CAREER:" and follow with an informative title.
- **Co-PIs.** No co-PIs are permitted. If Co-PI(s) are listed on the cover page, the proposal will be returned without review.
- **PI eligibility information.** The Departmental Letter, to be included as a supplementary document in the proposal, should state that the PI is eligible to participate in this program (a proposal submitted without this Letter will be returned without review).

2) Project Summary: (must not exceed one page)

The Project Summary consists of an overview, a statement about the intellectual merit of the proposed activity, and a statement about the broader impacts of the proposed activity. Proposals that do not contain an overview and separate statements on intellectual merit and broader impacts will not be accepted by FastLane or will be returned without review.

Suggested Summary Page Outline:

First paragraph of summary (within first block)

- My long-term research goal is...
- In pursuit of this goal, the research objective of this CAREER proposal is...
- The research approach is...

Second paragraph of summary (within first block)

- My long-term educational goal is...
- In pursuit of this goal, the educational objective of this CAREER proposal is...
- The educational approach is...

Third paragraph: Intellectual Merit (second block) is the contribution that your research makes to the knowledge base

- What is already known?
- What is new?
- What will your research add?
- What will this do to enhance or enable research in your or other fields?
- Why is your research important for the advancement of your field?

Fourth paragraph: Broader Impact (third block)

- What is the benefit to society at large as a result of your research? Means to benefit society include: Economic/environment/energy; Education and training; Providing opportunities for underrepresented groups; Improving research and education infrastructure
- The key issue is how your research results will be applied – why would the general public care?

3) Table of Contents (automatically generated by FastLane)

4) Project Description: (must not exceed 15 pages)

Reviewers want to know four things:

- What is it about (the research objective)?
- How will you do it (the technical approach)?
- Can you do it (you and your facilities)?
- Is it worth doing (intellectual merit and broader impact)?

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 PI's organization. The Project Description may not exceed 15 pages.

The Project Description should be developed in consultation with the department head or equivalent organizational official and should include:

- a description of the proposed research project, including preliminary supporting data where appropriate, specific objectives, methods and procedures to be used, and expected significance of the results;
- a description of the proposed educational activities, including plans to evaluate their impact on students and other participants;
- a description of how the research and educational activities are integrated with one another; and
- results of prior NSF support, if applicable.
 - **Question: If I held an NSF postdoctoral fellowship, do I need to include a "Results from Prior Support" section?**

- Yes, you must include a "Results from Prior Support" section whenever you have served as a PI or co-PI on any NSF grant within the last 5 years. This includes postdoctoral fellowships, grants in equipment programs such as Major Research Instrumentation, and educational grants. If you have received more than one prior award (excluding amendments), you must report on the award that is most closely related to the CAREER proposal. (See the GPG for the required information.)

Successful applicants will propose creative, effective and integrated research and education plans, and indicate how they will assess these components. While excellence in both education and research is expected, activity of an intensity that leads to an unreasonable workload is not. 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.

What are the expectations for the level of activities in the education component?

While excellence in both education and research is expected, activity of an intensity that leads to an unreasonable workload is not. For instance, teaching additional courses or taking on additional duties is not expected. A justification for released time may be appropriate for extraordinary curriculum development or education innovation. 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.

How much space in the proposal should be devoted to education versus research, and how much depth is required for the education component?

No number is specified. Use the 15 pages allowed for proposal Section C, Project Description, including any results from prior NSF support, to your best advantage. A major objective of the CAREER Program is to encourage the integration of 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. Remember that reviewers that are subject experts in your field will be mostly familiar with your research component. Some programs may send your proposal for review to education experts in your field, and for that reason, you should make sure that your education component is solid and well argued.

Proposed research activities may be in any area of science, mathematics, engineering and education normally supported by NSF. To help determine the appropriateness of the project for NSF and identify the disciplinary program to which it should be submitted, proposers are urged to refer to the NSF [Guide to Programs](#). Program information can also be found on Directorate web pages, which can be accessed from the NSF home page (www.nsf.gov). Proposers are also encouraged to contact the appropriate NSF Program Director before submitting the proposal.

Cross-Disciplinary Perspectives - NSF recognizes disciplinary boundaries evolve with time and that inter-, multi-, trans-disciplinary approaches are often needed to push the frontiers of research and education. We invite proposals from early-career PIs that want to pursue research and education activities that cross disciplinary boundaries. Increasingly, CAREER proposals are co-reviewed between programs within a Division, a Directorate, or across Directorates/Offices. We encourage investigators to seek research and education collaborations with partners in other areas of academia as well as from other sectors (for example, partnerships with industry, national laboratories, or schools and school districts, museums). Investigators have the option of including the associated costs in the budget line items of the proposal, or in subawards to

another institution for all necessary research and educational activities (for example, hiring an external evaluator, or securing time at a shared research facility). Because the CAREER program is designed to foster individual career development, partners or collaborators may not be listed as co-principal investigators on the cover page or as senior personnel in the budget of subawards. Proposals submitted with co-principal investigators will be returned without review.

International/Global Dimensions - NSF encourages CAREER PIs to include international/global dimensions in their projects. As appropriate, the CAREER proposal should delineate how its activities fit within the context of expertise, facilities, data, and other resources that are being applied globally in relevant areas of research and education, and how the CAREER award would position the PI and his/her organization to take a leadership role. If applicable, **the proposal should clearly state how the research and education activities will be enhanced by international engagements**, and should describe the benefits to participants in the U.S. and abroad. If an international component is included, proposers are encouraged to contact the relevant country program officer in the Office of International Science and Engineering (OISE) listed in <http://www.nsf.gov/od/ia/ise/country-list.jsp>.

Field Work in the Polar Regions - For guidance on submitting information about field work proposed in the Arctic or Antarctica, proposers should contact the program officer in the Office of Polar Programs (<http://www.nsf.gov/dir/index.jsp?org=OPP>) who is associated with the program most closely aligned with the research being proposed.

Plans for international cooperative research and education activities are encouraged. The opportunity to collaborate with outstanding foreign researchers and educators, and to gain access to unique sites, equipment or facilities, may provide substantial benefits to the research and education activities proposed. For information on the types of activities that are eligible for support, contact your disciplinary program officer and the appropriate country program officer in the Office of International Science and Engineering (<http://www.nsf.gov/div/index.jsp?org=OISE>). This web page also lists guidelines (4 bullet points) for proposals to be considered for OISE co-funding. OISE will consider co-funding successful CAREER proposals submitted to NSF disciplinary programs which adhere to these guidelines.

Education Activities - Proposed education activities may be in a broad range of areas and may be directed to any level: K-12 students, undergraduates, graduate students, and/or the general public, but should be related to the proposed research. Some examples are: designing innovative courses or curricula; supporting teacher preparation and enhancement; conducting outreach and mentoring activities to enhance scientific literacy or involve students from groups that have been traditionally underrepresented in science; researching students' learning and conceptual development in the discipline; incorporating research activities into undergraduate courses; providing mentored international research experiences for U.S. students; linking education activities to industrial, international, or cross-disciplinary work; and implementing innovative methods for evaluation and assessment. 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 NSF-supported activities or other educational projects ongoing on campus. The following resources may be helpful in developing the educational activities.

- UF Broader Impacts Resources document - http://research.ufl.edu/research-program-development/research_program_development_docs/Broader_Impacts.pdf
- NSF presentation summarizing the changes to Broader Impacts criteria: http://www.nsf.gov/bfa/dias/policy/merit_review/overview.pdf

- “Broader Impacts 2.0: Seeing—and Seizing—the Opportunity”: http://digital.library.unt.edu/ark:/67531/metadc155643/m2/1/high_res_d/bio201363302_Viewpoint_Tankersley.pdf
- National Research Council. (2000). *How People Learn: Brain, Mind, Experience, and School*. Committee on Developments in the Science of Learning. Bransford, J.D., Brown, A.L., Cocking, R.R., Editors. With additional material from the Committee on Learning Research and Educational Practice. Donovan, M.S., Bransford, J.D., and Pellegrino, J.W., Editors.
- National Research Council. (2001). *Adding it up: Helping children learn mathematics*. Mathematics Learning Study Committee. Kilpatrick, J., Swafford, J., and Findell, B., Editors.
- National Research Council. (2001). *Knowing what students know: The science and design of educational assessment*. Committee on the Foundations of Assessment. Pellegrino, J., Chudowsky, N., and Glaser, R., Editors.
- National Research Council. (2002). *Scientific research in education*. Committee on Scientific Principles for Education Research. Shavelson, R.J., and Towne, L., Editors.
- National Research Council. (2007). *Taking Science to School: Learning and Teaching Science In Grades K-8*. Duschl, R. A., Schweingruber, H. A., and Shouse, A. W., Editors.
- National Research Council. (2009). *Learning in Informal Environments: People, Places, and Pursuits*. Bell, P., Lewenstein, B., Shouse, A. W., and Feder, M. A., Editors.
- National Research Council. (2010). *Surrounded by Science: Learning Science in Informal Environments*. Fenichel, M., and Schweingruber, H.A., Editors.
- National Lab Network - <http://www.nationallabnetwork.org/>

A CAREER proposal must indicate the goals and objectives of the proposed education activities, how it will be integrated with the research component, and the criteria for assessing how these goals will be met. Principal investigators are strongly encouraged to describe how the impact of the educational activities will be assessed or evaluated. A helpful document for information on evaluating educational activities is the NSF publication *The 2002 User-Friendly Handbook for Project Evaluation* ([NSF 02-057](#)).

I am not an education expert. Must I cite the education literature to the same extent as I would for my area of research expertise?

You should read and cite some of the most relevant education publications. As an academic, you should develop some knowledge of the education and human-resource needs in SMET (sciences, math, engineering, and technology) and some of the well-documented means of addressing these needs through education, training and outreach. If you have not already done this, you should do so before you develop your education plan. When you begin to write, demonstrate that you have this foundation by identifying needs and developing a solid plan to address them. Note that the Solicitation includes a list of relevant publications to get you started. If you plan to work with k-12 students or teachers, become familiar with the local curricula and state education standards and explain how your plan will fit with these.

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

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

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AGAIN - REMEMBER:

- **The CAREER proposal is not a research proposal**
- **The CAREER proposal is a proposal detailing how you will spend \$500,000 to enhance your career development**
- **Your career involves a research path, not a research project**
- **Determine your research path - your lifelong research goals - and then identify milestones toward your goals**
- **Detail the first one or two as the research projects for your CAREER proposal**

5) References Cited:

Provide references in support of both research and education aspects of the CAREER proposal. References cited should comply with the guidelines in the GPG (http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg).

6) Biographical Sketch of Principal Investigator:

The Biographical Sketch should be prepared following the instructions in the latest GPG (http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg) and should include both research and education activities and accomplishments. The list of publications should include no more than ten publications, including up to five publications most closely related to the proposed research and educational activities and up to five other significant publications, whether or not they are related to the proposed project. The Biographical Sketch may not exceed two pages in length.

7) Budgets (Including Budget Justification)

The minimum CAREER award size is \$400,000, including indirect cost or overhead, for a five-year period for all directorates except for the Directorate of Biological Sciences (BIO), the Office of Polar Programs (OPP), and several divisions in the Directorate for Engineering (ENG) as listed here: <http://www.nsf.gov/pubs/2014/nsf14062/nsf14062.jsp> (CBET, CMMI, ECCS, and EEC). For proposals submitted to BIO, OPP, and those ENG divisions listed in the Dear Colleague Letter listed above, the minimum award size is \$500,000 over five years. Before preparing a CAREER proposal, PIs are strongly encouraged to contact their disciplinary program director or the appropriate division's CAREER contact to discuss appropriate budget requests for their proposed CAREER activities, and typical funding levels for their discipline. Many programs and Directorates prefer to make more awards by funding CAREER proposals closer to the minimum award size. Proposers should also review the list of recent CAREER awards made in their discipline for

guidance on average award size. A list of CAREER Division/Directorate Contacts can be found on the CAREER web page at <http://www.nsf.gov/crssprgm/career/contacts.jsp>.

Support for senior personnel is allowed only for the PI's salary. Support for other Senior Personnel (i.e., in the Budget Category A) is NOT permitted, either in the primary budget or in any subawards. All other allowable costs, as described in the Grant Proposal Guide, are permitted. Allowable costs include funds for postdoctoral fellows, graduate students, undergraduate students, summer salary, education or outreach activities, support for an evaluator, travel and subsistence expenses for the PI and U.S. participants when working abroad with foreign collaborators, and consultant expenses. In some cases, it may be appropriate to include academic year salary support for the PI on a CAREER budget (for example, PIs who have heavy teaching responsibilities or who must conduct field work during the academic year). Proposers should talk to the cognizant Program Director about their individual case.

A Budget Justification (maximum of three pages) must be included as part of the CAREER proposal.

May I request academic year salary on a CAREER proposal?

A PI who has heavy teaching responsibilities or whose proposed activities may involve a limited period of fieldwork or other extraordinary career-development activity in research or education may be justified in requesting academic year salary support on their budgets. Before including any academic year salary support on your CAREER budget you should contact your disciplinary program officer to discuss your individual case.

May I request funds to support the education component of my CAREER proposal?

Yes. You should support the education component with adequate resources to carry out your proposed educational activities. If resources are required, either the proposal budget or the letter of commitment/collaboration should indicate how this aspect of the program would be funded. If working with K-12, consult teachers or those working with local teachers regarding teacher stipends and substitute pay. You may also budget for materials, participant stipends and travel, and the like. Be realistic.

I will have a collaborator on my proposal. May I include the collaborator as a Co-PI or other senior personnel on my budget?

No. You may provide funds for others to work on your research or educational activities, but they may not be listed as Co-PI or in the senior personnel section of the proposal—either in the primary budget or within a sub award to a collaborating institution. However, you may pay someone as a consultant in your project, or pay for his or her travel and field/lab expenses, materials and supplies, or access fee to a laboratory.

8) Current and Pending Support

Submission is required.

9) Facilities, Equipment and Other Resources

Submission is required.

10) Supplementary Documentation:

Scan the signed original(s) of the following document(s) and upload the scans as a PDF file into the Supplementary Documents section of the proposal. Do not send paper copies to NSF. All documents must be submitted with the proposal in Fastlane or Grants.gov by the deadline.

a) Departmental Letter. (Be careful to put this in the Supplementary Documents section, not the Single Copy Documents section)

In recognition of the teacher-scholar role of beginning faculty members, NSF encourages organizations to value and reward the integration of research and education. This integration of research and education requires close collaboration between the CAREER principal investigator (PI) and his/her organization throughout the duration of the award. To demonstrate the department's support of the integrated research and education plan of the CAREER awardee, the proposal must include one (and only one) letter from the PI's department head (or equivalent organizational official). If a proposer is in two departments, the letter should be signed by the Department Head in which tenure will be granted. In those cases where tenure is a joint decision, the letter should be signed by both Department Heads. The letter, which will be included as part of the consideration of the overall merits of the proposal, should demonstrate an understanding of, and a commitment to, the effective integration of research and education as a primary objective of the CAREER award. A letter that fails to acknowledge institutional commitment to the professional development and mentoring of the PI in both research and education may disadvantage an otherwise outstanding proposal.

The Departmental Letter should be no more than 2 pages in length, and include the department head's name and title, below the signature. The letter should contain the following elements:

- An indication that the PI's proposed CAREER research and education activities are supported by and integrated into the educational and research goals of the department and the organization, and that the department is committed to the support and professional development of the PI;
- A description of a) the relationship between the CAREER project, the PI's career goals and job responsibilities, and the goals of his/her department/organization, and b) the ways in which the department head (or equivalent) will ensure the appropriate mentoring of the PI, in the context of the PI's career development and his/her efforts to integrate research and education throughout the period of the award and beyond; and
- A statement to the effect that the PI is eligible for the CAREER program.

What should be addressed in the departmental letter?

The departmental letter should acknowledge institutional commitment to the professional development and mentoring of the PI, and is part of the consideration of the overall merits of the proposal. It should follow the format prescribed in the CAREER Solicitation. A letter that fails to acknowledge institutional commitment to the professional development and mentoring of the PI may disadvantage an otherwise outstanding proposal. Department letters should be less than two pages in length, and they should not be a letter of recommendation for the PI. The letter should have a statement of how the department/institution will facilitate your career development because it values the education work that you are proposing to accomplish in the 5-year duration of your award. The letter must also include a statement to the effect that the CAREER PI is eligible for CAREER.

b) Letters of Collaboration. If applicable, the proposal should include short (1 page maximum) letters of collaboration that specify the nature of the collaboration, such as intellectual contributions to the project, permission to access a site, an instrument or facility, offer of samples and materials for research, logistical support to the research and education program, and mentoring of U.S. students at a foreign site. The letter(s) should NOT include a personal endorsement or recommendation of the investigator, but should be limited only to the description of the support that will be offered. The project description should document the nature and need for all collaborations. Requests for letters should be made by the PI well in advance of the proposal submission deadline, because they must be included at the time of submission.

Please note that letters of recommendation for the PI are not permitted, and will be removed from the proposal prior to review.

Don't include letters of collaboration if:

- They aren't letters of collaboration
- Multiple letters are identical
- They are letters from previous proposals
- They are letters of recommendation
- They are more than one page in length

What documentation should I submit to show any collaborative efforts?

Describe the collaborative efforts within the project description. In addition, submit brief letters (limited to one page or less) describing the nature of the collaboration. Letters of collaboration are vital when partnering with existing programs or when collaborating with others. The letters should briefly describe how the collaborator would contribute to the project. The specific details of the proposed collaborations should be described in the proposal's Project Description. The collaborative letters cannot be used to circumvent the 15-page limit for the Project Description. Letters of support or recommendation for the PI are not permitted and you will have to remove any letters that NSF determines are not appropriate prior to review. It is up to the PI to explain what is requested and approach the collaborator in a timely fashion to get these letters before the deadline for submission. Scan the signed and dated letter(s) into the Supplementary Documents section, and place them after the departmental letter. Do not submit any other documentation for the collaborators such as biographical sketches, appendices, or other NSF forms. You will not be allowed to submit these letters after the submission deadline, so plan in advance.

c) Postdoctoral Researcher Mentoring Plan - If the proposal requests funding for a post-doc, a one page mentoring plan must be included in the supplementary documents as per the Grant Proposal Guide (http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg).

Mentoring activities may include:

- Career counseling;
- Training in preparation of grant proposals;
- Publications and presentations;
- Guidance on ways to improve teaching and mentoring skills;
- Guidance on how to effectively collaborate with researchers from diverse backgrounds and disciplinary areas; and
- Training in responsible professional practices.

I have a postdoctoral researcher budgeted on my proposal and I am required to submit a Postdoctoral Researcher Mentoring Plan. Where in the proposal is the mentoring plan submitted and what must be included in the plan?

Each proposal that requests funding to support postdoctoral researchers must include, as a supplementary document, a description of the mentoring activities that will be provided for such individuals. In no more than one page, the mentoring plan must describe the mentoring that will be provided to all postdoctoral researchers supported by the project, irrespective of whether they reside at the submitting organization or a subawardee organization. Examples of mentoring activities include, but are not limited to: career counseling; training in preparation of grant proposals, publications and presentations; guidance on ways to improve teaching and mentoring skills; guidance on how to effectively collaborate with researchers from diverse backgrounds and disciplinary areas; and training in responsible professional practices. The proposed mentoring activities will be evaluated as part of the merit review process under the Foundation's broader impacts merit review criterion. Proposers are advised that the mentoring plan may not be used to circumvent the 15-page project description limitation.

Additional resources for developing Postdoctoral Researcher Mentoring Plans:

- FASEB's Sample Postdoctoral Mentoring
Plans: http://www.faseb.org/Portals/2/LinkClickLinks/Sample_Mentoring_Plans.pdf
- National Postdoctoral Association Toolkit for Developing Postdoctoral Mentoring
Plans: <http://www.nationalpostdoc.org/index.php/publications-5/mentoring-plans/mentoring-plan>

d) Data Management Plan - As per the Grant Proposal Guide

(http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg), all proposals must describe plans for data management and sharing of the products of research, or assert the absence of the need for such plans. FastLane will not permit submission of a proposal that is missing a Data Management Plan. Check the following website for additional information and a link to Frequently-Asked questions (FAQs) on this requirement: <http://www.nsf.gov/bfa/dias/policy/dmp.jsp>

What should be included in the Data Management Plan and where should I place this section?

Information about the contents and submission of data management plans can be found in Chapter II.C.2.j of the Grant Proposal Guide. All proposals submitted to NSF must describe plans for data management and sharing of the products of research, or assert the absence of the need for such plans. FastLane will not permit submission of a proposal that is missing a Data Management Plan. Proposals must include the plan as a supplementary document of no more than two pages. If applicable, your Data Management Plan should in some way address the following questions: What kinds of data, software, samples, and other materials will your research produce? How will you manage them (e.g., standards for metadata, format, organization, etc.)? How, if at all, will you give others access to your data, while preserving confidentiality, security, intellectual property, and other rights/requirements? How will you archive data and preserve access? We recognize that many fields do not have shared standards for data management and that circumstances vary enormously. Your plan should be appropriate to your own situation and in the context of what is acceptable in your particular area of research and education. Proposers are advised that data management requirements and plans specific to a certain Directorate, Office, Division, Program or other NSF unit may be available on the NSF website at <http://www.nsf.gov/bfa/dias/policy/dmp.jsp>.

University of Florida resource document on Data Management and Sharing

Plans: http://research.ufl.edu/research-program-development/research_program_development_docs/Data_Management.pdf

UF Libraries Guide for Research Data Management: <http://guides.uflib.ufl.edu/datamanagement>

Data Management Plan Tool: <https://dmp.cdlib.org/> (click "Get Started," select UF, and log in with UF credentials to build a Data Management Plan)

11) List of Suggested Reviewers: Optional

DO NOT INCLUDE APPENDICES. No appendices are permitted.

I would like to submit some additional tabular material that would exceed the 15-page limit on the length of the project description. Can I submit this information as an appendix?

No. The Project Description cannot exceed 15 pages (including Results from Prior NSF Support, which is limited to five pages). All visual materials, including charts, graphs, maps, photographs and other pictorial presentations are included in the 15-page limitation. Appendices are not permitted for CAREER proposals.