

NSF Proposal Basics

University of Alaska Fairbanks April 6, 2016



Speaker

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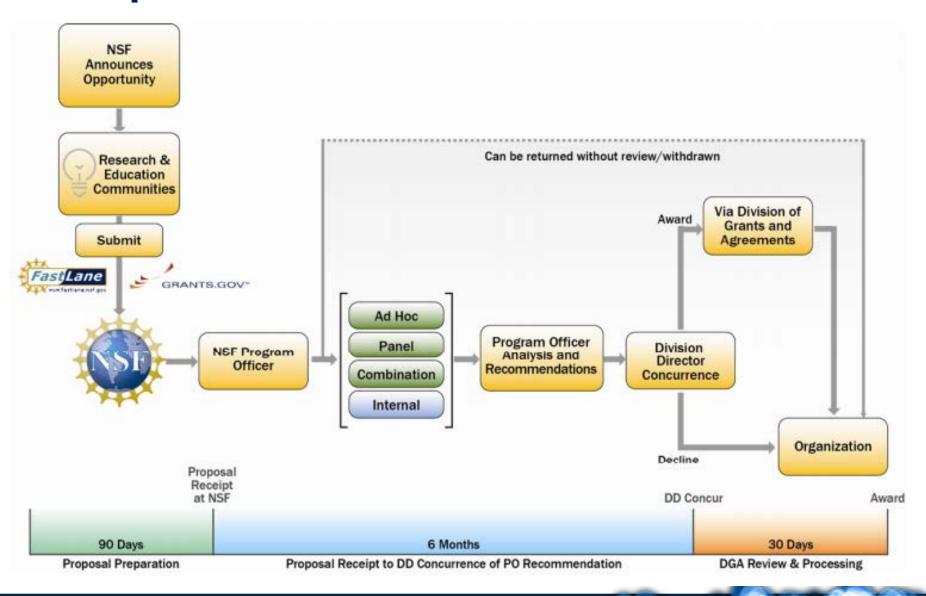


Topics Covered

- Proposal and Award Policies and Procedures Guide (PAPPG)
- Types of Proposal Submissions
- Sections of an NSF Research Proposal
- Types of Proposals
- Merit Review
- Faculty Early Career Development Program (CAREER)



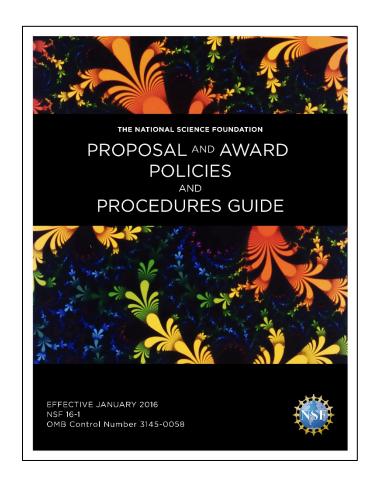
Proposal & Award Process Timeline





The Proposal & Award Policies & Procedures Guide

The Proposal & Award Policies & Procedures Guide (PAPPG) contains documents relating to NSF's proposal and award process. It has been designed for use by both our customer community and NSF staff and consists of two parts.

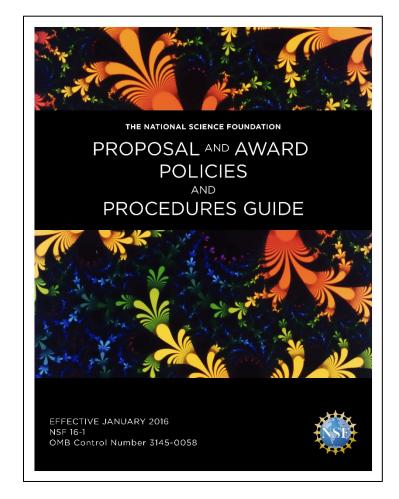




The Proposal & Award Policies & Procedures Guide

Part I is NSF's proposal preparation and submission guidelines – the NSF Grant Proposal Guide (GPG) and the NSF Grants.gov Application Guide.

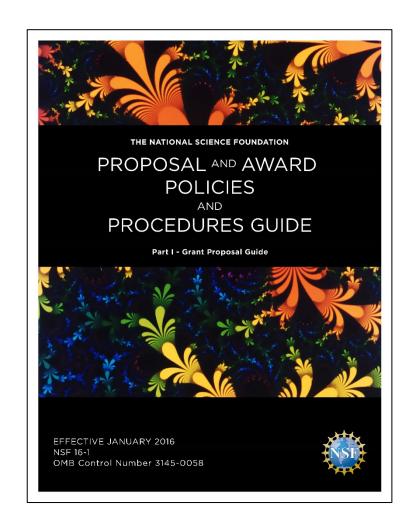
Part II is NSF's Award and Administration Guide (AAG) – the documents used to guide, manage, and monitor the award and administration of grants and cooperative agreements made by NSF.





Grant Proposal Guide

- Provides guidance for preparation and submission of proposals to NSF
- Describes process and criteria – by which proposals will be reviewed
- Outlines reasons why a proposal may be returned without review
- Describes process for withdrawals, returns, and declinations





What to Look For in a Program Announcement or Solicitation

- Goal of Program
- Eligibility
- Special proposal preparation and/or award requirements



Navigating a Program Description

ivision of Mathematical Sciences

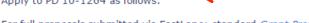
Algebra and Number Theory

CONTACTS

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<u>Victoria Powers</u>	vpowers@nsf.gov	(703) 292-2113	1025 N

PROGRAM GUIDELINES

Apply to PD 10-1264 as follows:



For full proposals submitted via FastLane: standard <u>Grant Proposal Guide</u> proposal preparation guidelines apply.

For full proposals submitted via Grants.gov: the NSF Grants.gov Application Guide; A Guide for the Preparation and Submission of NSF Applications via Grants.gov Guidelines applies. (Note: The NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: http://www.nsf.qov/publications/pub_summ.jsp? ods key=grantsgovquide)

Important Information for Proposers

A revised version of the NSF Proposal & Award Policies & Procedures Guide (PAPPG) (NSF 15-1), is effective for proposals submitted, or due, on or after December 26, 2014. The PAPPG is consistent with, and, implements the new Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance) (2 CFR § 200). Please be advised that the guidelines contained in NSF 15-1 apply to proposals submitted in response to this funding opportunity.

DUE DATES

Full Proposal Target Date: October 9, 2015 Second Friday of October

Second Friday in October, Annually Thereafter

Research proposals (as opposed to conference proposals) are expected to be submitted by the target date. An extension may be granted under unusual extenuating circumstances, provided that approval is obtained from the cognizant Program Director prior to the target date.

SYNOPSIS

The Algebra and Number Theory program supports research in algebra, algebraic and arithmetic geometry, number theory, and representation theory.

Conferences

Principal Investigators should carefully read the program solicitation "Conferences and Workshops in the Mathematical Sciences" (link below) to obtain important information regarding the substance of proposals for conferences, workshops, summer/winter schools, and similar activities.

For conference proposals with budgets not exceeding \$50,000, which in accordance with NSF policy can be reviewed internally at NSF, the following target dates are in effect: For an event that will take place at some time prior to October 1 during a given year, the proposal should be submitted in October of the previous year. For an event that will occur in the period October 1 through December 31 of a given year, the proposal should be submitted in May of that year. A conference proposal with a budget request exceeding \$50,000 should be submitted roughly seven months before the event is scheduled to take place, in order to allow time for external review.

RELATED PROGRAMS

Focused Research Groups in the Mathematical Sciences
Research Training Groups in the Mathematical Sciences

Faculty Early Career Development Program

Mathematical Sciences Postdoctoral Research Fellowships

NSF Graduate Research Fellowship Program

RELATED URLS

Conferences and Workshops in the Mathematical Sciences

THIS PROGRAM IS PART OF

Disciplinary Research Programs

What Has Been Funded (Recent Awards Made Through This Program, with Abstracts)

Map of Recent Awards Made Through This Program

Nows



Navigating a Program Solicitation

Enhancing Access to the Radio Spectrum (EARS)

PROGRAM SOLICITATION

NSF 15-550

REPLACES DOCUMENT(S):

NSF 14-529

National Science Foundation

Directorate for Mathematical & Physical Sciences Division of Astronomical Sciences

Directorate for Engineering
Division of Electrical, Communications and Cyber Systems

Directorate for Computer & Information Science & Engineering Division of Computer and Network Systems

Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):

June 02, 2015

IMPORTANT INFORMATION AND REVISION NOTES

Any proposal submitted in response to this solicitation should be submitted in accordance with the revised NSF Proposal & Award Policies & Procedures Guide (PAPPG) (NSF 15-1), which is effective for proposals submitted, or due, on or after December 26, 2014. The PAPPG is consistent with, and, implements the new Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance) (2 CFR § 200).

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

Enhancing Access to the Radio Spectrum (EARS)
Opportunities for interdisciplinary research that increases the efficiency of the radio spectrum, expanding the access to wireless-enabled services for all Americans.

Synopsis of Program:

The National Science Foundation's Directorates for Mathematical and Physical Sciences (MPS), Engineering (ENG), and Computer and Information Science and Engineering (CISE) are coordinating efforts to identify bold new concepts with the potential to

Award Information

Anticipated Type of Award: Standard Grant

Estimated Number of Awards: 20 to 25

Each proposal may request up to \$750,000 in total funding over a period of up to three years.

Anticipated Funding Amount: \$15,000,000

Eligibility Information

Who May Submit Proposals:

Proposals may only be submitted by the following:

- Universities and Colleges Universities and two- and four-year colleges (including community colleges) accredited in, and having a campus located in, the US acting on behalf of their faculty members. Such organizations also are referred to as academic institutions.
- Non-profit, non-academic organizations: Independent museums, observatories, research labs, professional societies and similar organizations in the U.S. associated with educational or research activities.

Who May Serve as PI:

There are no restrictions or limits.

Limit on Number of Proposals per Organization:

There are no restrictions or limits.

Limit on Number of Proposals per Pl or Co-Pl:

A proposer may be a Principal Investigator (PI) or co-PI on up to two proposals.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

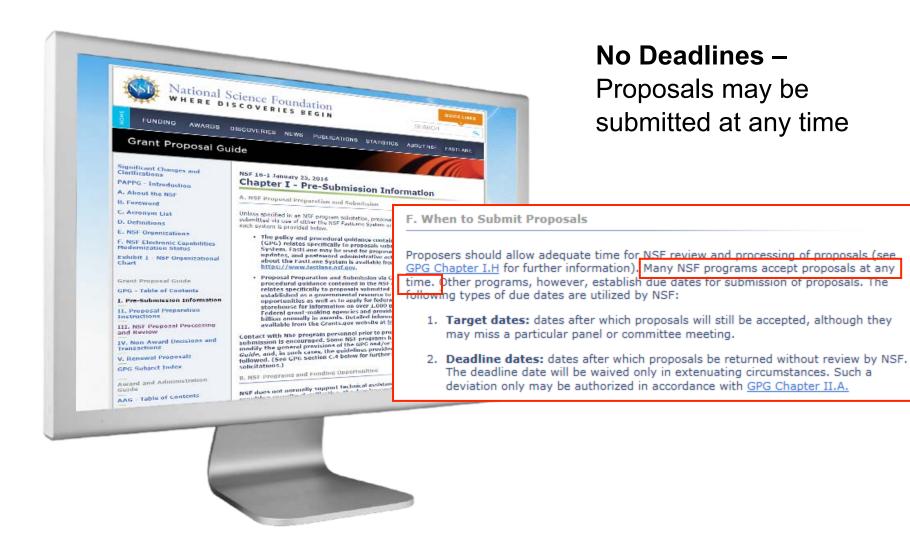
· Letters of Intent: Not required

Preliminary Proposal Submission: Not required

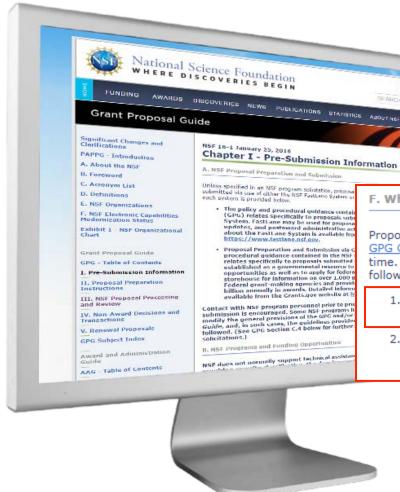
Full Proposals:

Full Proposals submitted via FastLane: NSF Proposal and Award Policies and
 Procedures Guide, Part I: Grant Proposal Guide (GPG) Guidelines apply. The complete









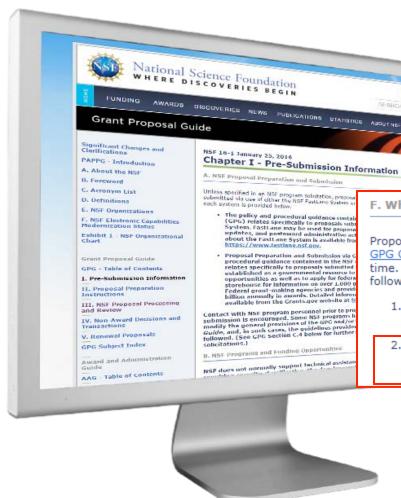
Target Dates –
Talk to the Program
Office if you think you
might miss the date

F. When to Submit Proposals

Proposers should allow adequate time for NSF review and processing of proposals (see GPG Chapter I.H for further information). Many NSF programs accept proposals at any time. Other programs, however, establish due dates for submission of proposals. The following types of due dates are utilized by NSF:

- Target dates: dates after which proposals will still be accepted, although they
 may miss a particular panel or committee meeting.
- Deadline dates: dates after which proposals be returned without review by NSF.
 The deadline date will be waived only in extenuating circumstances. Such a
 deviation only may be authorized in accordance with GPG Chapter II.A.





Deadline Dates –

Proposals will not be accepted after this date and time (5 p.m. submitter's local time)

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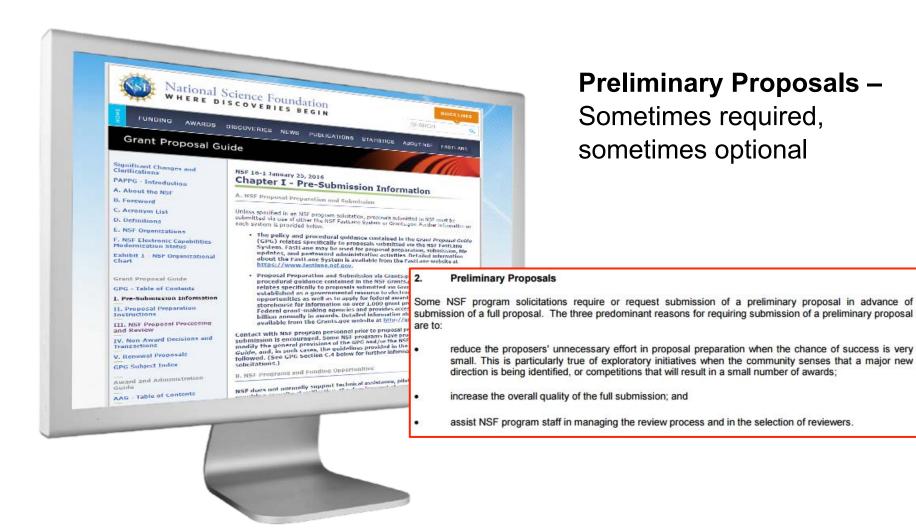
Submission Windows – Closing date converts to a deadline date

 Submission windows: designated periods of time during which proposals will be accepted for review by NSF. It is NSF's policy that the end date of a submission window converts to, and is subject to, the same policies as a deadline date.











Proposals Not Accepted

- Proposals that do not contain the following required sections may not be accepted by FastLane:
 - Project Summary
 - Project Description
 - References Cited
 - Biographical Sketch(es)
 - Budget
 - Budget Justification
 - Current and Pending Support
 - Facilities, Equipment and Other Resources
 - Data Management Plan
 - Postdoctoral Mentoring Plan (if applicable)



Single Copy Documents

Some proposal documents are for "NSF Use Only" and are not provided to reviewers

- Authorization to deviate from proposal preparation requirements
- List of suggested reviewers to include or not to include
- Proprietary or privileged information
- Proposal certifications



Cover Sheet (Required)

Many of the boxes on the cover sheet are electronically prefilled as part of the FastLane login process.

Example from FastLane

PROGRAM ANNOUNCEMENT/SOLICITATION NO/DUE DATE NSF 16-509		Special Exception to Deadline Date Policy			FC	FOR NSF USE ONLY NSF PROPOSAL NUMBER		
					NSF P			
FOR CONSIDERATION	BY NSF ORGANIZATION UN	IT(S) (Indicate the m	ost specific unit know	vn, i.e. program, division, el	tc.)			
DEB - Long-Te	rm Ecological Resear	ch						
ATE RECEIVED	NUMBER OF COPIE	OF COPIES DIVISION		FUND CODE	DUNS# (Data Univ	ersal Numbering System)	FILE LOCATION	
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NAME OF ORGANIZATION TO WHICH AWARD SHOULD BE MADE National Science Foundation		Nati	ADDRESS OF AWARDEE ORGANIZATION, INCLUDING 9 DIGIT ZIP CODE National Science Foundation 4201 Wilson Boulevard					
WARDEE ORGANIZA 4102852000	TION CODE (IF KNOWN)			ngtons, VA. 222				
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TITLE OF PROPOSED	PROJECT SE ProdValid	d Jenkins Tes	t					
REQUESTED AMOUNT	7	OSED DURATION (1-80 MONTH)		REQUESTED STARTING DATE 12/12/16		SHOW RELATED PRELIMINARY PROPOSAL NO IF APPLICABLE		
BEGINNING INVES DISCLOSURE OF L PROPRIETARY & P HISTORIC PLACES	The state of the s	I.C.1.e) SPG I.D, II.C.1.d)		Exemption Subse	ction or IRB	A STATE OF THE PARTY OF THE PAR	WOLVED (GPG II.C.2.))	
□ VERTEBRATE ANIMALS (GPG II.D.6) IACUC App. Date PHS Animal Welfare Assurance Number ▼ FUNDING MECHANISM Research - other than RAPID or EAGER			○ COLLABORATIVE STATUS Not a collaborative proposal					



Project Summary (Required)

Text boxes must contain an Overview and Statements on Intellectual Merit and Broader Impacts.

Proposals that do not separately address the Overview and both merit review criteria in text boxes will not be accepted by FastLane.

Project summaries with special characters must be uploaded as a PDF document.

Text from the GPG

- Beginning Investigator (See GPG I.G.2) (Note: this box is applicable only to proposals submitted to the Biological Sciences Directorate.)
- Disclosure of Lobbying Activities (See GPG II.C.1.e)
- Proprietary or Privileged Information (See GPG I.D.3 & II.C.1.d)
- Historic Places (See GPG II.C.2.j)
- Vertebrate Animals 15 (See GPG II.D.7)
- Human Subjects ¹⁶ (See GPG II.D.8)
- International Activities Country Name(s) For each proposal that describes an international activity, proposers should list the primary countries involved. A maximum of five countries may be listed. An international activity is defined as research, training, and/or education carried out in cooperation with foreign counterparts either overseas or in the US using virtual technologies. Proposers also should enter the country/countries with which project participants will engage and/or travel to attend international conferences. If the specific location of the international conference is not known at the time of the proposal submission, proposers should enter "Worldwide". (See GPG II.C.2.)

b. Project Summary

Each proposal must contain a summary of the proposed project not more than one page in length. The Project Summary consists of an overview, a statement on the intellectual merit of the proposed activity, and a statement on the broader impacts of the proposed activity.

The overview includes a description of the activity that would result if the proposal were funded and a statement of objectives and methods to be employed. The statement on intellectual merit should describe the potential of the proposed activity to advance knowledge. The statement on broader impacts should describe the potential of the proposed activity to benefit society and contribute to the achievement of specific, desired societal outcomes.

The Project Summary should be written in the third person, informative to other persons working in the same or related fields, and, insofar as possible, understandable to a scientifically or technically literate lay reader. It should not be an abstract of the proposal.

The Project Summary may **ONLY** be uploaded as a Supplementary Document if use of special characters is necessary. Such Project Summaries must be formatted with separate headings for Overview, Intellectual Merit and Broader Impacts. Failure to include these headings will result in the proposal being returned without review.

c. Table of Contents

A Table of Contents is automatically generated for the proposal. The proposer cannot edit this form.

d. Project Description (including Results from Prior NSF Support)

(i) Content

The Project Description should provide a clear statement of the work to be undertaken and must include the objectives for the period of the proposed work and expected significance; the relationship of this work to the present state of knowledge in the field, as well as to work in progress by the PI under other support.

The Project Description should outline the general plan of work, including the broad design of activities to be undertaken, and, where appropriate, provide a clear description of experimental methods and procedures. Proposers should address what they want to do, why they want to do it, how they plan to do it, how they will know if they succeed, and what benefits could accrue if the project is successful. The project activities may be based on previously established and/or innovative methods and approaches, but in either case must be well justified. These issues apply to both the technical aspects of the proposal and the way in which the project may make broader contributions.

Grant Proposal Guide II-9 NSF 16-1



¹⁵ If the proposal includes use of vertebrate animals, supplemental information is required. See GPG Chapter II.D.7 for additional information.

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If the proposal includes use of human subjects, supplemental information is required. See GPG Chapter II.D.8 for additional information.

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A separate section within the narrative must include a discussion of the broader impacts of the proposed activities

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- Historic Places (See GPG II.C.2.j)
- Vertebrate Animals 15 (See GPG II.D.7)
- Human Subjects 16 (See GPG II.D.8)
- International Activities Country Name(s) For each proposal that describes an international activity, proposers should list the primary countries involved. A maximum of five countries may be listed. An international activity is defined as research, training, and/or education carried out in cooperation with foreign counterparts either overseas or in the US using virtual technologies. Proposers also should enter the country/countries with which project participants will engage and/or travel to attend international conferences. If the specific location of the international conference is not known at the time of the proposal submission, proposers should enter "Worldwide". (See GPG II.C.2.i)

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Grant Proposal Guide II-9 NSF 16-



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Results from Prior NSF Support

If any PI or co-PI identified on the project has received NSF funding with a start date in the past five years (including any current funding and no cost extensions), information on the award is required for each PI and co-PI, regardless of whether the support was directly related to the proposal or not. Funding includes not just salary support, but any funding awarded by NSF. Each PI and co-PI who has received more than one award (excluding amendments) must report on the one award most closely related to the proposal.

The Project Description must contain, as a separate section within the narrative, a section labeled "Broader Impacts". This section should provide a discussion of the broader impacts of the proposed activities. Broader impacts may be accomplished through the research itself, through the activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to the project. NSF values the advancement of scientific knowledge and activities that contribute to the achievement of societally relevant outcomes. Such outcomes include, but are not limited to: full participation of women, persons with disabilities, and underrepresented minorities in science, technology, engineering, and mathematics (STEM); improved STEM deducation and educator development at any level; increased public scientific literacy and public engagement with science and technology; improved well-being of individuals in society; development of a diverse, globally competitive STEM workforce; increased partnerships between academia, industry, and others; improved national security; increased economic competitiveness of the US; and enhanced infrastructure for research and education.

Plans for data management and sharing of the products of research, including preservation, documentation, and sharing of data, samples, physical collections, curriculum materials and other related research and education products should be described in the Special Information and Supplementary Documentation section of the proposal (see GPG Chapter II.C.2.) for additional instructions for preparation of this section).

(ii) Page Limitations and Inclusion of Uniform Resource Locators (URLs) within the Project Description

Brevity will assist reviewers and Foundation staff in dealing effectively with proposals. Therefore, the Project Description (including Results from Prior NSF Support, which is limited to five pages) may not exceed 15 pages. Visual materials, including charts, graphs, maps, photographs and other pictorial presentations are included in the 15-page limitation. Pls are cautioned that the Project Description must be self-contained and that URLs must not be used because: 1) the information could circumvent page limitations; 2) the reviewers are under no obligation to view the sites; and 3) the sites could be altered or deleted between the time of submission and the time of review.

Conformance to the 15-page limit will be strictly enforced and may not be exceeded unless a deviation has been specifically authorized. (GPG Chapter II.A contains information on deviations.)

(iii) Results from Prior NSF Support

If any PI or co-PI identified on the proposal has received NSF funding with a start date¹⁷ in the past five years (including any current funding and no cost extensions), information on the award is required for each PI and co-PI, regardless of whether the support was directly related to the proposal or not. In cases where the PI or co-PI has received more than one award (excluding amendments to existing awards), 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. NSF awards such as standard or continuing grants, Graduate Research Fellowship, Major Research Instrumentation, travel, conference, and center awards, etc., are subject to this requirement.

The following information must be provided:

- (a) the NSF award number, amount and period of support;
- (b) the title of the project;
- (c) a summary of the results of the completed work, including accomplishments, supported by the award. The results must be separately described under two distinct headings: Intellectual Merit and Broader Impacts:
- (d) a listing of the publications resulting from the NSF award (a complete bibliographic citation for each publication must be provided either in this section or in the References Cited section of the proposal); if none, state "No publications were produced under this award."

Grant Proposal Guide II-10 NSF 16-1



¹⁷ Previously referred to as the effective date.

References Cited

Reference information is required, and proposers must follow accepted scholarly practices in providing citations for source materials.

Text from the GPG

- 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.

Reviewers will be asked to comment on the quality of the prior work described in this section of the proposal. Note that the proposal may contain up to five pages to describe the results. Results may be summarized in fewer than five pages, which would give the balance of the 15 pages for the Project Description.

(iv) Unfunded Collaborations

Any substantial collaboration with individuals not included in the budget should be described in the Facilities, Equipment and Other Resources section of the proposal (see GPG Chapter II.C.2.i) and documented in a letter of collaboration from each collaborator. Such letters should be provided in the supplementary documentation section of the FastLane Proposal Preparation Module and follow the format instructions specified in GPG Chapter II.C.2.j. Collaborative activities that are identified in the budget should follow the instructions in GPG Chapter II.D.

(v) Group Proposals

NSF encourages submission of proposals by groups of investigators; often these are submitted to carry out interdisciplinary projects. Unless stipulated in a specific program solicitation, however, such proposals will be subject to the 15-page Project Description limitation established in Section (ii) above. Pls who wish to exceed the established page limitations for the Project Description must request and receive a deviation in advance of proposal submission. (GPG Chapter II.A contains information on deviations.)

(vi) Proposals for Renewed Support

See GPG Chapter V for guidance on preparation of renewal proposals.

e. References Cited

Reference information is required. Each reference must include the names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. (See also GPG Chapter II.C.2.d.(iii)(d)) If the proposer has a website address readily available, that information should be included in the citation. It is not NSF's intent, however, to place an undue burden on proposers to search for the URL of every referenced publication. Therefore, inclusion of a website address is optional. A proposal that includes reference citation(s) that do not specify a URL is not considered to be in violation of NSF proposal preparation quidelines and the proposal will still be reviewed.

Proposers must be especially careful to follow accepted scholarly practices in providing citations for source materials relied upon when preparing any section of the proposal. While there is no established page limitation for the references, this section must include bibliographic citations only and must not be used to provide parenthetical information outside of the 15-page Project Description.

f. Biographical Sketch(es)

(i) Senior Personnel

A biographical sketch (limited to two pages) is required for each individual identified as senior personnel. (See GPG Exhibit II-7 for the definitions of Senior Personnel.) Proposers may elect to use third-party solutions, such as NIH's SciENcv to develop and maintain their biographical sketch. However, proposers are advised that they are still responsible for ensuring that biographical sketches created using third-party solutions are compliant with NSF proposal preparation requirements.

The following information must be provided in the order and format specified below. Inclusion of additional information beyond that specified below may result in the proposal being returned without review.

Grant Proposal Guide II-11 NSF 16-1



Biographical Sketches

Biographical sketches are required for all senior project personnel and must not exceed two pages in length, per individual.

Text from the GPG

- 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
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e. References Cited

Reference information is required. Each reference must include the names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. (See also GPG Chapter II.C.2.d.(iii)(d)) If the proposer has a website address readily available, that information should be included in the citation. It is not NSF's intent, however, to place an undue burden on proposers to search for the URL of every referenced publication. Therefore, inclusion of a website address is optional. A proposal that includes reference citation(s) that do not specify a URL is not considered to be in violation of NSF proposal preparation guidelines and the proposal will still be reviewed.

Proposers must be especially careful to follow accepted scholarly practices in providing citations for source materials relied upon when preparing any section of the proposal. While there is no established page limitation for the references, this section must include bibliographic citations only and must not be used to provide parenthetical information outside of the 15-page Project Description.

f. Biographical Sketch(es)

(i) Senior Personnel

A biographical sketch (limited to two pages) is required for each individual identified as senior personnel. (See GPG Exhibit II-7 for the definitions of Senior Personnel.) Proposers may elect to use third-party solutions, such as NIH's SciENcv to develop and maintain their biographical sketch. However, proposers are advised that they are still responsible for ensuring that biographical sketches created using third-party solutions are compliant with NSF proposal preparation requirements.

The following information must be provided in the order and format specified below. Inclusion of additional information beyond that specified below may result in the proposal being returned without review.

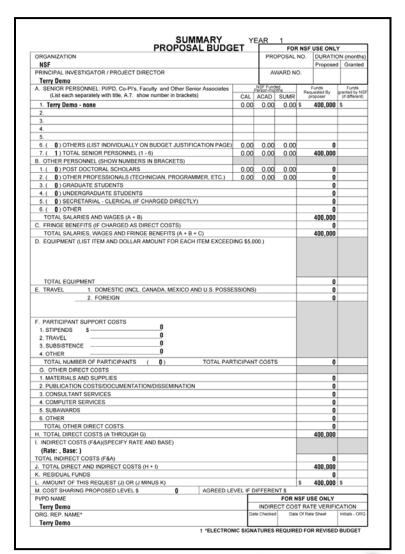
Grant Proposal Guide II-11 NSF 16-1



Budget

Each proposal must contain a budget for each year of support requested. The budget justification should be no more than three pages for all years of the project combined.

Example from FastLane





Budgetary Guidelines

Information regarding budgetary guidelines can be found in both the GPG and in the Award & Administration Guide (AAG), as well as NSF program solicitations.

Amounts should be:

- Realistic and reasonable
- Well-justified and should establish need
- Consistent with program guidelines

Eligible costs consist of:

- Personnel
- Equipment
- Travel
- Participant support
- Other direct costs

 (e.g., subawards, consultant services, computer services, and publications costs)



NSF Cost Sharing Policy

- Inclusion of voluntary committed cost sharing is prohibited in solicited & unsolicited proposals.
 - To be considered voluntary committed cost sharing, the cost sharing must meet all of the standards of <u>2 CFR § 200.306</u>, to include identification of cost sharing on the NSF budget.
 - Line M will be "grayed out" in FastLane.
- Organizations may, at their own discretion, continue to contribute any amount of voluntary uncommitted cost sharing to NSF-sponsored projects.



Facilities, Equipment, and Other Resources

This section of the proposal is used to assess the adequacy of the organizational resources available to perform the effort proposed.

Facilities, Equipment, and Other Resources

Instructions: Upload an aggregated description of the internal and external resources (both physical and personnel) that the organization and its collaborators will provide to the project, should it be funded. Describe only those resources that are directly applicable. The description should be narrative in nature and must not include any quantifiable financial information. If there are no Facilities, Equipment, or Other Resources identified, a statement to that effect should be indicated in this section and uploaded into FastLane. See GPG II.C.2.i for more information.

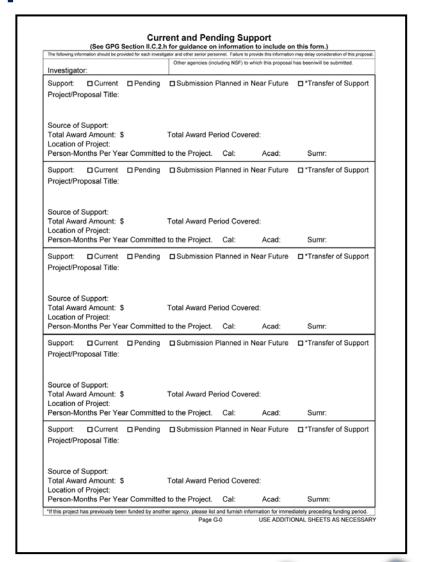
Upload File



Current & Pending Support

This section of the proposal calls for information on all current and pending support for ongoing projects and proposals.

Example from FastLane





Special Information and Supplementary Documentation

This segment should alert NSF officials to unusual circumstances that require special handling; more information can be found in the GPG Chapter II.C. 2.j.

Text from the GPG

projects) must be listed. The proposed project and all other projects or activities requiring a portion of time of the PI and other senior personnel must be included, even if they receive no salary support from the project(s). The total award amount for the entire award period covered (including indirect costs) must be shown as well as the number of person-months per year to be devoted to the project, regardless of source of support. Similar information must be provided for all proposals already submitted or submitted concurrently to other possible sponsors, including NSF. Concurrent submission of a proposal to other organizations will not prejudice its review by NSF. The Biological Sciences Directorate exception to this policy is delineated in GPG Chapter I.G.2.

If the project now being submitted has been funded previously by a source other than NSF, the information requested in the paragraph above must be furnished for the last period of funding.

In FastLane, current and pending support for all senior personnel may no longer be grouped together and uploaded in a single PDF file associated with the PI. Each individual's current and pending support must be uploaded as a single PDF file or inserted as text associated with that individual.

i. Facilities, Equipment and Other Resources

This section of the proposal is used to assess the adequacy of the resources available to perform the effort proposed to satisfy both the Intellectual Merit and Broader Impacts review criteria. Proposers should describe only those resources that are directly applicable. Proposers should include an aggregated description of the internal and external resources (both physical and personnel) that the organization and its collaborators will provide to the project, should it be funded. Such information must be provided in this section, in lieu of other parts of the proposal (e.g., budget justification, project description). The description should be narrative in nature and must not include any quantifiable financial information. Reviewers will evaluate the information during the merit review process and the cognizant NSF Program Officer will review it for programmatic and technical sufficiency.

Although these resources are not considered cost sharing as defined in 2 CFR § 200.306, the Foundation does expect that the resources identified in the Facilities, Equipment, and Other Resources section will be provided, or made available, should the proposal be funded. AAG Chapter II.B.1 specifies procedures for use by the awardee when there are no staward changes to objectives, scope or methods/procedures.

j. Special Information and Supplementary Documentation

Except as specified below, special information and supplementary documentation must be included as part of the Project Description (or part of the budget justification), if it is relevant to determining the quality of the proposed work. Information submitted in the following areas is not considered part of the 15-page Project Description limitation. This Special Information and Supplementary Documentation section also is not considered an appendix. Specific guidance on the need for additional documentation may be obtained from the organization's Sponsored Projects Office or in the references cited below.

Postdoctoral Researcher Mentoring Plan. Each proposal²⁶ that requests funding to support postdoctoral researchers²⁷ 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, regardless of whether they reside at the submitting organization, any subrecipient organization, or at any organization participating in a simultaneously submitted collaborative project. Proposers are advised that the mentoring plan must not be used to circumvent the 15-page Project Description limitation. See GPG Chapter II.D.5 for additional information on collaborative proposals. Mentoring activities provided to postdoctoral researchers supported on the project will be evaluated under the Broader Impacts review criterion.

Grant Proposal Guide II-20 NSF 16-1



²⁶ For purposes of meeting the mentoring requirement, simultaneously submitted collaborative proposals, and collaborative proposals that include subawards, constitute a single unified project. Therefore, only one mentoring plan may be submitted for the entire project.

²⁷ In situations where a postdoctoral researcher is listed in Section A of the NSF Budget, and is functioning in a Senior Personnel capacity (i.e., responsible for the scientific or technical direction of the project), a mentoring plan is not required.

Special Information and Supplementary Documentation

Postdoctoral Mentoring Plans

Data Management Plans

Letters of Support versus Letters of Collaboration

International Implications



Other Types of NSF Proposals

- RAPID
- EAGER
- Ideas Lab
- Equipment
- Conference
- International Travel
- Fellowship
- Facility/Center



Grants for Rapid Response Research (RAPID)

The RAPID funding mechanism is for projects having a severe urgency with regard to availability of, or access to data, facilities or specialized equipment, including quick-response research on natural or anthropogenic disasters and similar unanticipated events.



EArly-concept Grants for Exploratory Research (EAGER)

- The EAGER funding mechanism may be used to support exploratory work in its early stages on untested, but potentially transformative, research ideas or approaches.
- This work is considered especially "high risk-high payoff" because it involves radically different approaches, applies new expertise, or engages novel disciplinary or interdisciplinary perspectives.



Ideas Lab

- Supports the development and implementation of creative and innovative project ideas that have the potential to transform research paradigms and/or solve intractable problems.
- Project ideas typically will be high-risk/high-impact, as they represent new and unproven ideas, approaches and/or technologies.
- Modeled on the "sandpit" workshops that are a key component of the United Kingdom Research Council's "IDEAs Factory" program.



Conferences

- NSF supports conferences in special areas of science and engineering that bring experts together to discuss recent research or education findings or to expose other researchers or students to new research and education techniques.
- Conferences will be supported only if equivalent results cannot be obtained at regular meetings of professional societies.
- Proposals should generally be made at least a year in advance of the scheduled date.



Equipment

- Proposals for specialized equipment may be submitted by an organization for:
 - Individual investigators;
 - Groups of investigators within the same department;
 - Several departments;
 - Organization(s) participating in a collaborative or joint arrangement;
 - Components of an organization; or
 - A region.
- One individual must be designated as PI.
- Investigators may be working in closely related areas or their research may be multidisciplinary.
- Major Research Instrumentation (MRI) Program for largescale instrumentation acquisition.



International Travel

- Proposals for travel support for U.S. participation in international scientific and engineering meetings held abroad are handled by the NSF organizational unit with program responsibility for the area of interest.
- Group travel awards are encouraged as the primary means of support for international travel.
- Group travel proposals may request support only for the international travel costs of the proposed activity.



Facility / Center

- Centers exploit opportunities in science, engineering and technology in which the complexity of the research problem(s) or the resources needed to solve the(se) problem(s) require the advantages of scope, scale, change, duration, equipment, facilities, and students that can only be provided by an academic research center.
- Most Center awards are limited to a maximum duration of ten years and are often subject to midcourse external merit review.

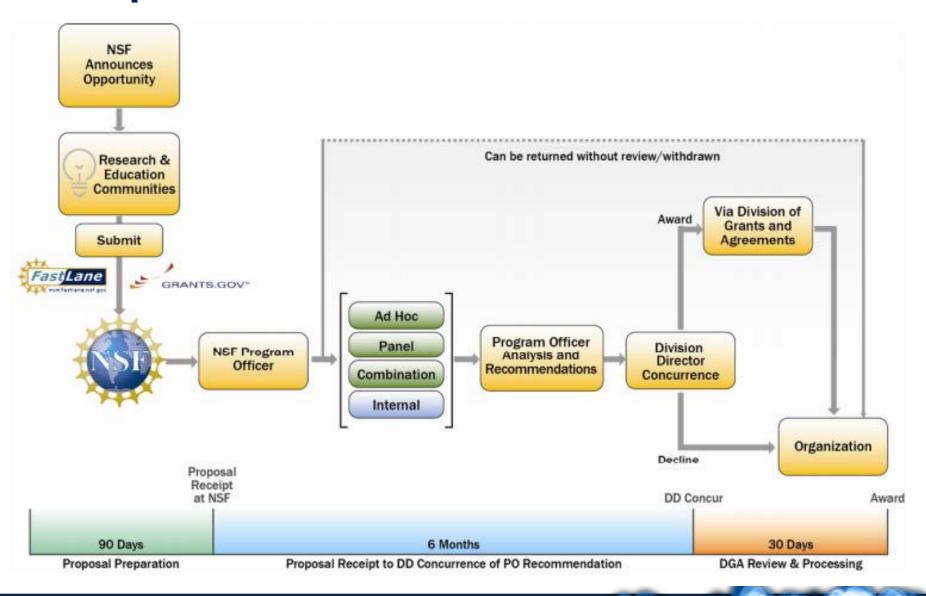


Fellowship

- Two types of fellowships include Graduate Research Fellowships and Postdoctoral Fellowships
- Fellowships provide support for fellows with a focus on educational developments such as curricula development, training or retention.
- Consult the relevant program solicitation for further details.
- Fellowship programs available at: nsf.gov/funding/education.jsp?fund_type=3



Proposal & Award Process Timeline





Program Officer Review

- Upon receipt at NSF, proposals are routed to the correct program office.
- NSF staff conducts a preliminary review to ensure they are:
 - Complete;
 - Timely; and
 - Conform to proposal preparation requirements.
- NSF may not accept a proposal or may return it without review if it does not meet the requirements above.
 - The return without review process will be discussed in greater detail later in the session.



Merit Review Criteria

When evaluating NSF proposals, reviewers should consider what the proposers want to do, why they want to do it, how they plan to do it, how they will know if they succeed, and what benefits would accrue if the project is successful. These issues apply both to the technical aspects of the proposal and the way in which the project may make broader contributions. To that end, reviewers are asked to evaluate all proposals against two criteria:

- Intellectual Merit: The Intellectual Merit criterion encompasses the potential to advance knowledge; and
- **Broader Impacts:** The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.



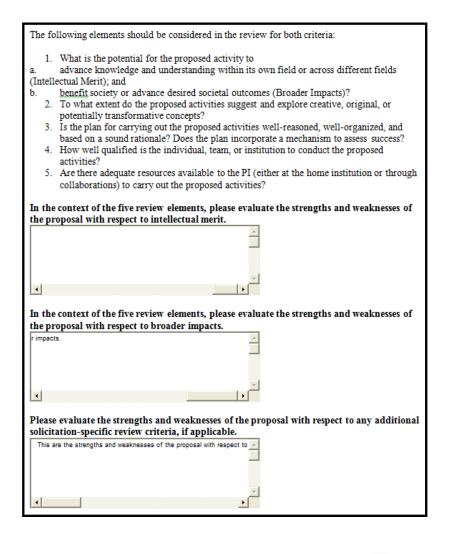
The following elements should be considered in the review for both criteria:

- 1. What is the potential for the proposed activity to:
 - a. Advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
 - b. 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?



Review Format in FastLane

- Reviewers provide feedback to NSF based on the Review Criteria and the Review Elements
- Review Criteria and Elements are available as reviewers provide feedback





Types of Reviews

- Ad hoc: Proposals sent out for review
 - Ad hoc reviewers usually have specific expertise in a field related to the proposal.
 - Some proposals may undergo ad hoc review only.
- Panel: Face-to-face sessions conducted by reviewers mainly at NSF but also in other settings
 - Panel reviewers usually have a broader scientific knowledge.
 - Some proposals may undergo only a panel review.
 - Some proposals may undergo reviews by multiple panels (especially for those proposals with crosscutting themes).



Types of Reviews

 Combination: Some proposals may undergo supplemental ad hoc reviews before or after a panel review.

- Internal: Review by NSF Program Officers only
 - Examples of internally reviewed proposals:
 - Proposals submitted to Rapid Response Research Grants (RAPID)
 - Proposals submitted to EArly-concept Grants for Exploratory Research (EAGER)
 - Proposals for conferences or workshops



What is the Role of the Review Panel?

Discuss the merits of the proposal with the other panelists

Write a summary based on that discussion

 Provide some indication of the relative merits of different proposals considered



Funding Decisions

- The merit review panel summary provides:
 - Review of the proposal and a recommendation on funding.
 - Feedback (strengths and weaknesses) to the proposers.
- NSF Program Officers make funding recommendations guided by program goals and portfolio considerations.
- NSF Division Directors either concur or reject the Program Officers' funding recommendations.



Faculty Early Career Development Program (CAREER)

"... 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."



Goals of the CAREER Program

- Provide stable support for five years
 (≥ \$400K in most Directorates; ≥ \$500K in ENG, BIO, GEO/PLR)
 to facilitate the career development of outstanding
 new teacher-scholars
- 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 historically underrepresented in science and engineering



CAREER Investigator Eligibility

- Hold a doctoral degree in a field supported by NSF by proposal due date
- Be untenured up until Oct 1 following due date
- Be employed in a tenure-track (or equivalent) position at an eligible institution as an Assistant Professor (until Oct 1st following due date)
- Have not previously received a CAREER award
- Have not had more than two CAREER proposals reviewed previously
- Associate Professors are not eligible, even if untenured



CAREER Institutional Eligibility

- 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 different institutional types, including Minority Serving and Undergraduate Institutions

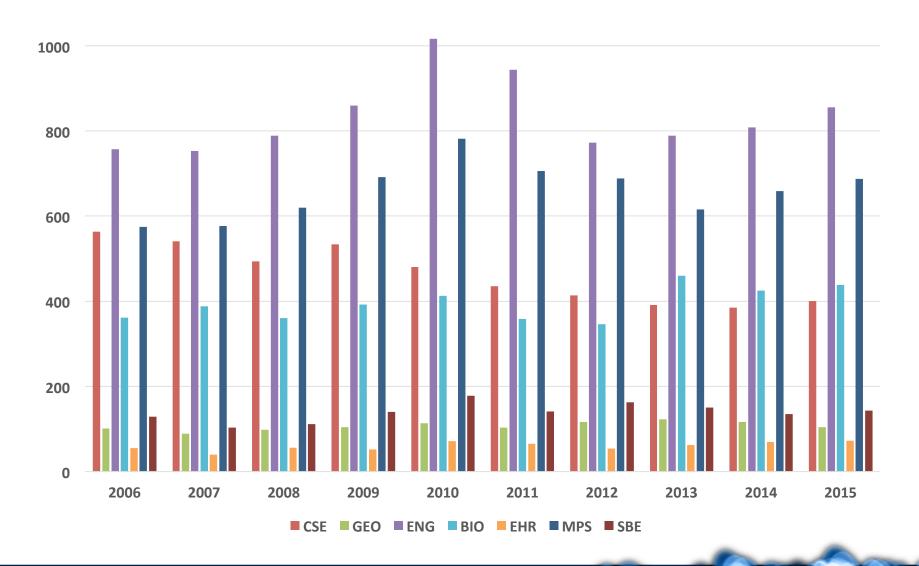


CAREER Variability Across NSF

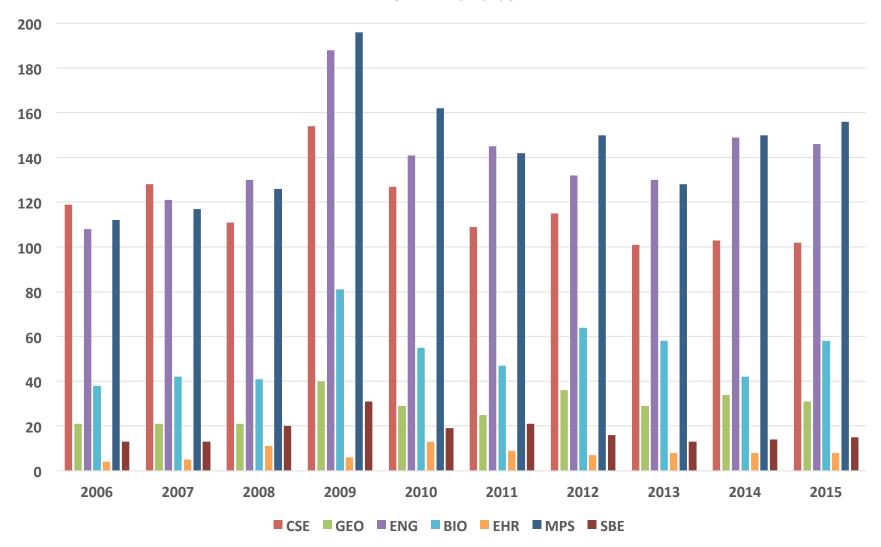
- Number of submitted CAREER proposals varies widely across NSF
- Review and funding procedures vary according to Directorate and Division practices
- Many CAREER proposals compete with other research proposals in a relevant research program
- Oversight provided by CAREER Coordinating Committee made up of members from the different Directorates/Offices – Serves as the liaison between the programs and the senior management at NSF



CAREER Proposals Submitted



CAREER awards



CAREER Proposal Ingredients

- A compelling research plan
- An innovative but feasible education plan
- A plan for effective integration of research and educational activities
- Departmental Letter
- Statements of collaboration if relevant
- Appropriate proposal budget



CAREER Urban Myths

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



Useful CAREER Information

www.nsf/career

- Latest Program Solicitation -- NSF 15-555
- Frequently Asked Questions -- NSF 15-057
- CAREER Directorate/Division Contacts
- Links to recent awards
- Links to PECASE awards
- Deadlines for the current solicitation
 - July 20, 2016 BIO, CISE, EHR
 - July 21, 2016 ENG
 - July 22, 2016 GEO, MPS, SBE



For More Information.... Ask Early, Ask Often!

policy@nsf.gov

