

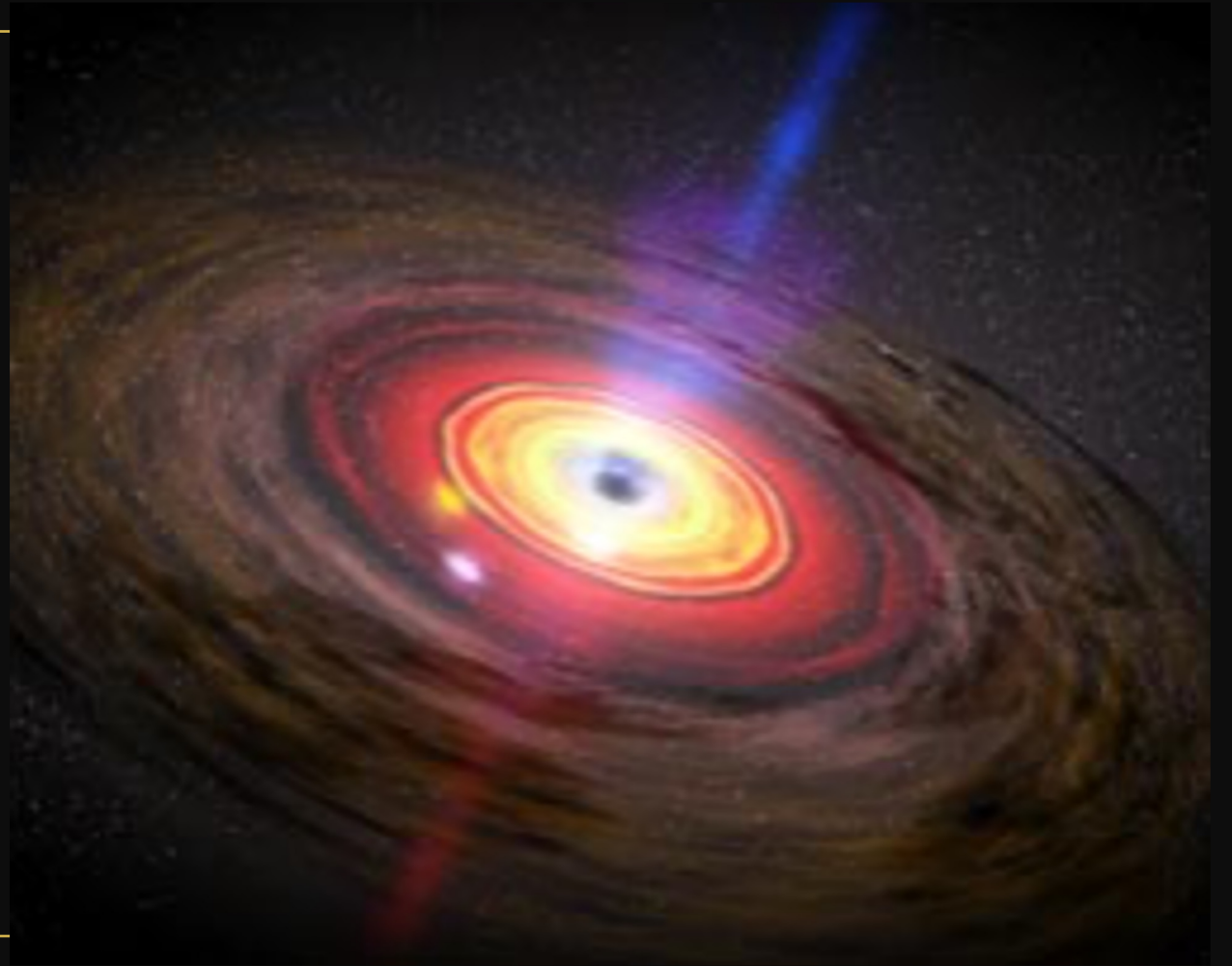


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# Getting Funding from the NSF: Tips for Developing Proposals

***Diane Jofuku Okamuro, Program Director***

**How do PIs  
relate to  
the NSF and  
funding  
agencies?**





# Where Does My Research Fit?

The screenshot shows the NSF website home page. At the top left is the NSF logo with the tagline "WHERE DISCOVERIES BEGIN". To the right is a search bar and "Contact | Help" links. Below the logo is a navigation bar with tabs for "Research Areas", "Funding", "Awards", "Document Library", "News", and "About NSF". The "Awards" tab is selected, and a dropdown menu is open. The menu items are: "About Awards", "Award Statistics (Budget Internet Info System)", "Award Conditions", "Managing Awards", "Policies and Procedures", "Presidential and Honorary Awards", and "Search Awards". The "Search Awards" item is highlighted with a red rectangle. To the right of the menu is a "RELATED LINKS" section with links to "Research.gov", "FastLane", and "NSF Public Access Repository (NSF-PAR)". Below the navigation bar are three main sections: "Advancing the Sciences", "Funding & Supporting", and "Inspiring & Educating", with a "- HIDE" button on the right. A large yellow arrow points from the "Search Awards" link in the dropdown menu to the search interface in the next screenshot.

The screenshot shows the "Awards Simple Search" page. At the top left is the NSF logo and tagline. To the right is a search bar. Below the logo is a navigation bar with tabs for "RESEARCH AREAS", "FUNDING", "AWARDS", "DOCUMENT LIBRARY", "NEWS", and "ABOUT NSF". The "AWARDS" tab is selected, and a dropdown menu is open. The menu items are: "Simple Search", "Advanced Search", "Popular Searches", "Download Awards", "Send Comments", and "Award Search Help". The "Advanced Search" item is highlighted with a red rectangle. Below the navigation bar is the "Awards Simple Search" section. It features a link for "Overview of Award Search Features". Below this is a search form with the label "Search award for:" and a search button. Below the search form is a note: "Use double quotes for exact search. For example 'water vapor'." and two checkboxes: "Active Awards" (checked) and "Expired Awards" (unchecked). The search form and the note are enclosed in a red rectangle. At the bottom left is a "Feedback" link. At the bottom right are social media links for Facebook, Twitter, LinkedIn, and YouTube, with the text "See all NSF social media". At the bottom is a navigation bar with tabs for "RESEARCH AREAS", "FUNDING", "AWARDS", "DOCUMENT LIBRARY", "NEWS", and "ABOUT NSF".



# BIO and Biomedical Research: What Isn't Funded

- Biological research on mechanisms of disease in humans, including on the etiology, diagnosis, or treatment of disease or disorder, is normally not supported.
- Biological research to develop animal models of such conditions, or the development or testing of procedures for their treatment, also are not normally eligible for support.
- However, research with etiology, diagnosis - or treatment-related goals that advances knowledge in engineering, mathematical, physical, computer, or information sciences is eligible for support. Bioengineering and assistive information technology research to aid persons with disabilities also is eligible



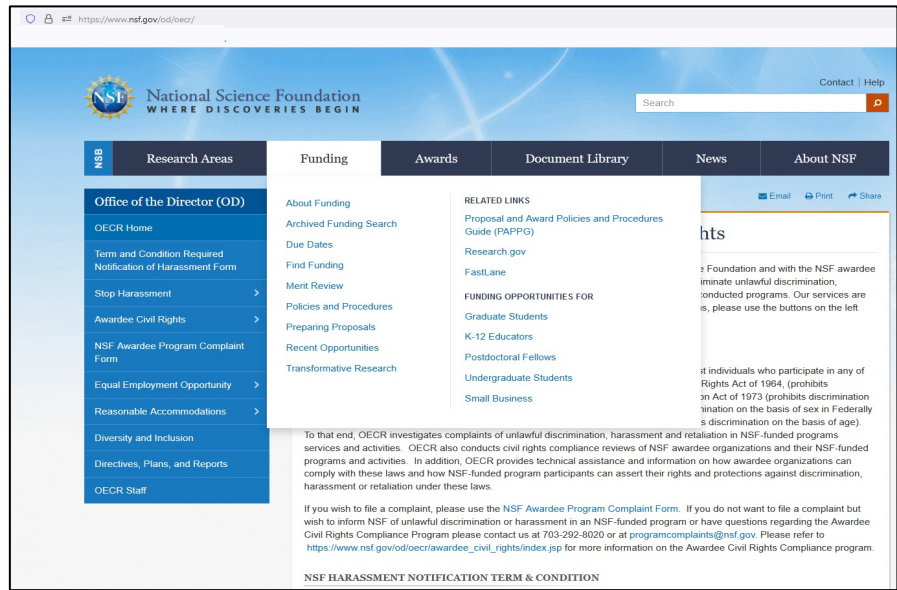
**Source: NSF PAPPG 23-1**

# Types of Funding Opportunities for Basic Research at NSF/IOS

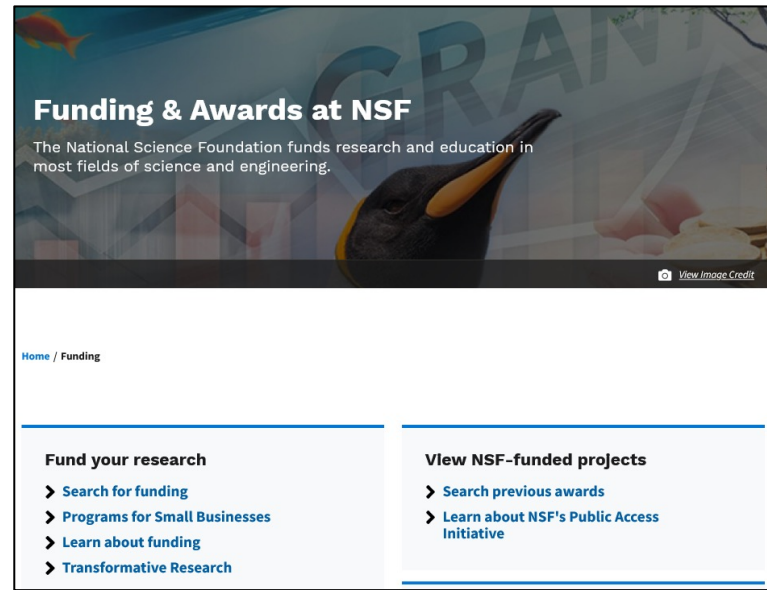
- **Core research** programs
- **Special emphasis** programs [*e.g., CAREER, Organismal Response to Climate Change (ORCC), Enabling Discovery through Genomics (EDGE)*]
- **Training** programs (*e.g., Postdoctoral Research Fellowships in Biology*)



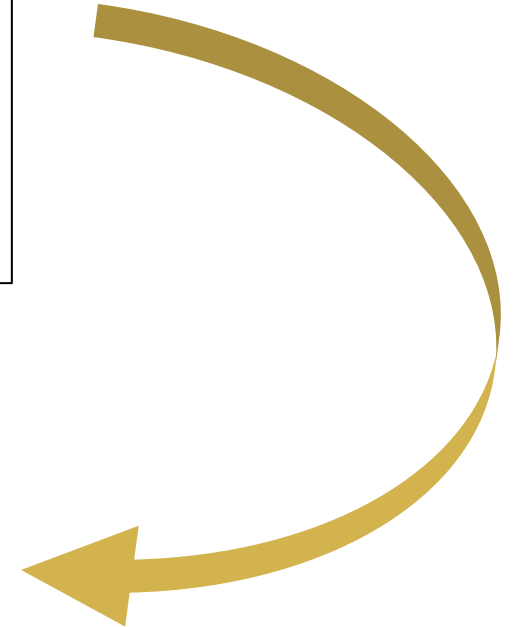
# How to Find Funding Opportunities



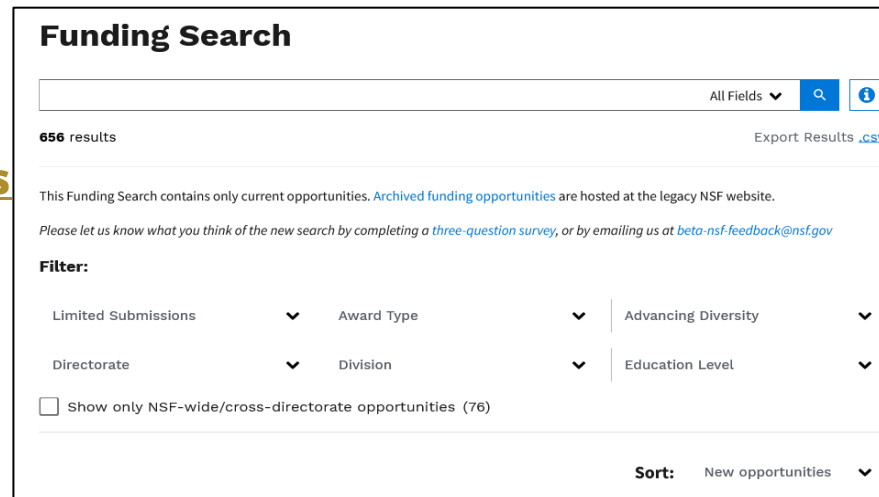
The screenshot shows the NSF website home page. The top navigation bar includes 'Research Areas', 'Funding', 'Awards', 'Document Library', 'News', and 'About NSF'. The 'Funding' menu is expanded, showing options like 'About Funding', 'Archived Funding Search', 'Due Dates', 'Find Funding', 'Merit Review', 'Policies and Procedures', 'Preparing Proposals', 'Recent Opportunities', and 'Transformative Research'. A sidebar on the left lists various NSF programs and forms. The main content area contains information about the Office of the Director (OD) and the Office of Education and Civil Rights (OECR).



The screenshot shows the 'Funding & Awards at NSF' page. The header features a large image of a bird and the text 'Funding & Awards at NSF'. Below the header, there is a navigation bar with 'Home / Funding'. The main content area is divided into two columns. The left column is titled 'Fund your research' and includes links for 'Search for funding', 'Programs for Small Businesses', 'Learn about funding', and 'Transformative Research'. The right column is titled 'View NSF-funded projects' and includes links for 'Search previous awards' and 'Learn about NSF's Public Access Initiative'.



<https://new.nsf.gov/funding/opportunities>



The screenshot shows the 'Funding Search' results page. At the top, there is a search bar with 'All Fields' and a search icon. Below the search bar, it indicates '656 results' and an 'Export Results .CSV' link. The main content area contains a message: 'This Funding Search contains only current opportunities. Archived funding opportunities are hosted at the legacy NSF website. Please let us know what you think of the new search by completing a three-question survey, or by emailing us at beta-nsf-feedback@nsf.gov'. Below this message is a 'Filter:' section with several dropdown menus: 'Limited Submissions', 'Award Type', 'Advancing Diversity', 'Directorate', 'Division', and 'Education Level'. At the bottom, there is a checkbox for 'Show only NSF-wide/cross-directorate opportunities (76)' and a 'Sort:' dropdown menu set to 'New opportunities'.





# Types of Proposals and Solicitations

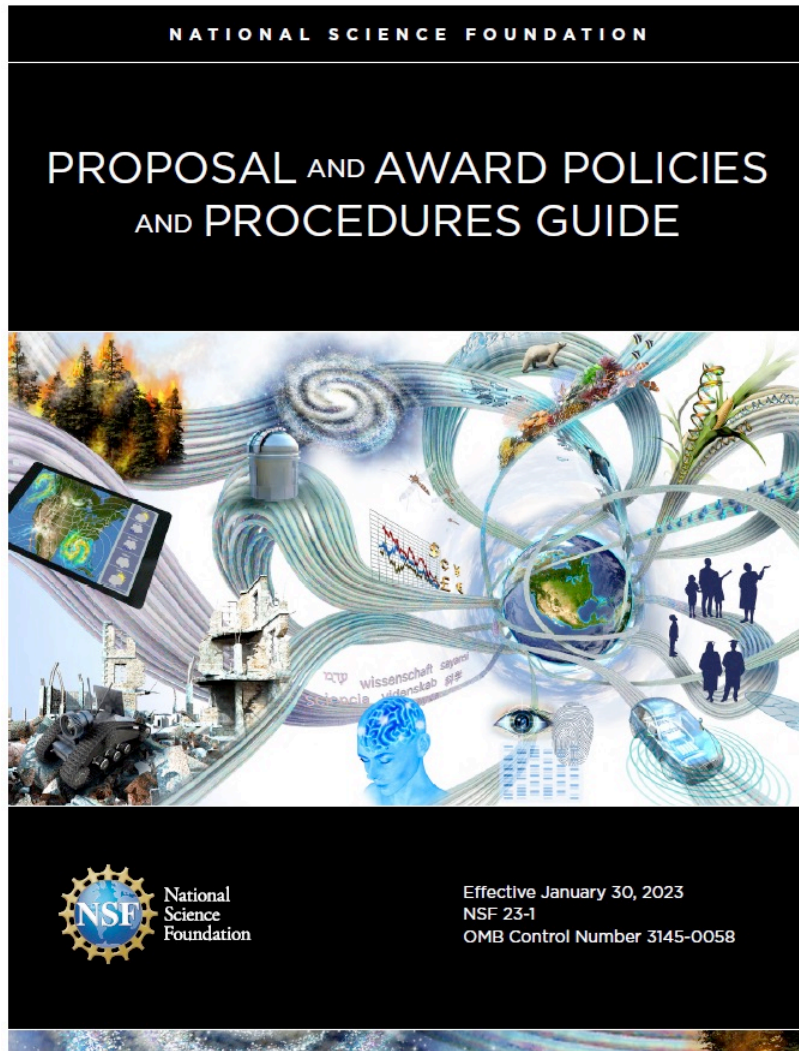
- Solicited vs. unsolicited proposals
  - **Solicitation** describes a specific funding program, including some that are general in topic (i.e., BIO core programs)
  - Other proposals are submitted in response to the general NSF Proposal & Award Policies & Procedures Guide (PAPPG)
- Dear Colleague Letters (DCLs)
  - Usually announces a specific program emphasis for an existing funding opportunity
- Deadlines vs. Target Dates
  - Firm vs. flexible
  - No deadlines for some programs and some proposal types (small grants, workshops, supplements)

**Remember: BIO Core Programs don't have deadlines!**



# Essential Document - Proposal & Award Policies & Procedures Guide (PAPPG)

## The "Basics"



- Provides guidance for proposal preparation and submission to NSF
  - Who can submit proposals?
  - What is allowed in the budget?
  - Format + required documents
- Describes the merit review process by which proposals will be reviewed
- Share this with your Grants Office

**NSF 23-1**



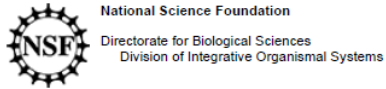


# Essential Documents - Solicitations

## Division of Integrative Organismal Systems Core Programs

**PROGRAM SOLICITATION**  
NSF 23-547

**REPLACES DOCUMENT(S):**  
NSF 21-506



Full Proposal Deadline(s):7  
Proposals Accepted Anytime

## IMPORTANT INFORMATION AND REVISION NOTES

### REVISION NOTES

IOS continues to accept unlimited no deadline full proposal submission: proposals may be submitted any day, any time with no limit on the number of proposals that may be submitted by an individual investigator.

This solicitation contains two submission tracks: The Core Programs Track and the IntBIO Track.

**IntBIO Track:** An Integrative Research in Biology (IntBIO) Track has been added.

Proposers should note that proposals to the IntBIO Track require additional information that reviewers will be asked to evaluate. These are described in the program description and in the additional solicitation-specific review criteria.

**Safe and Inclusive Working Environments:** The Directorate for Biological Sciences requires that proposers who include off-campus or off-site research as part of their project submit, as supplementary documentation, a Plan for Safe and Inclusive Working Environments. Proposals submitted after April 18, 2023 that involve off-campus or off-site research, defined as data/information/samples collected off-campus or off-site, must include a Safe and Inclusive Work Environments Plan. For this solicitation, this document replaces the required plan associated with the certification in Chapter II.E.9 of the Proposal and Award Policies and Procedures Guide (PAPPG, NSF 23-1). Instructions for inclusion of the Plan for Safe and Inclusive Working Environments can be found in the additional proposal preparation instructions in this solicitation.

Any proposal submitted in response to this solicitation should be submitted in accordance with the [NSF Proposal & Award Policies & Procedures Guide \(PAPPG\)](#).

## SUMMARY OF PROGRAM REQUIREMENTS

### General Information

#### Program Title:

Division of Integrative Organismal Systems Core Programs (IOS)

#### Synopsis of Program:

The Division of Integrative Organismal Systems (IOS) Core Programs Track supports research to understand why organisms are structured the way they are and function as they do. Proposals are welcomed in all of the core scientific program areas supported by the Division of

- Deadline / Target Date
- Synopsis
- Program Directors (who to ask questions)
- Eligibility (Do you and your institution qualify for this program?)
- Budget limitations
- Do you need a Pre-Proposal or Letter of Intent?
- How much money is available, how many awards are expected?



# Sample Cover Page of a Solicitation

## Faculty Early Career Development Program (CAREER)

Includes the description of NSF Presidential Early Career Awards for Scientists and Engineers (PECASE)

**PROGRAM SOLICITATION**  
NSF 22-586

**REPLACES DOCUMENT(S):**  
NSF 20-525



National Science Foundation

Directorate for Biological Sciences

Directorate for Computer and Information Science and Engineering

Directorate for STEM Education

Directorate for Engineering

Directorate for Geosciences

Directorate for Mathematical and Physical Sciences

Directorate for Social, Behavioral and Economic Sciences

Office of Integrative Activities

Office of International Science and Engineering

Directorate for Technology, Innovation and Partnerships

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

July 27, 2022

Fourth Wednesday in July, Annually Thereafter

Program Solicitation Number

NSF Directorate(s), Offices, Divisions  
providing funding for  
this opportunity

- 1. Deadline Dates:** dates after which proposals will not be accepted or will be returned without review by NSF. The deadline date will be waived only in extenuating circumstances. Such a deviation may be authorized only in accordance with Chapter II.A.
- 2. Target Dates:** dates after which proposals will still be accepted, although they may miss a particular panel or committee meeting.
- 3. 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.

**Remember: BIO Core Programs don't have deadlines!**



# Sample Cover Page of a Solicitation: Award Info

**Number of awards funded by the program per year**

**Funds available to the program per year**

## **Award Information**

**Anticipated Type of Award:** Standard Grant or Continuing Grant

**Estimated Number of Awards:** 500  
per year

**Anticipated Funding Amount:** \$250,000,000

This annual amount is approximate, includes new and continuing increments, and is subject to availability of funds.





# Sample Cover Page of a Solicitation: Eligibility

Eligibility information for institutions/PIs submitting proposals

## Eligibility Information

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### Who May Submit Proposals:

Proposals may only be submitted by the following:

- Institutions of Higher Education (IHEs) - Two- and four-year IHEs (including community colleges) accredited in, and having a campus located in the US, acting on behalf of their faculty members. Special Instructions for International Branch Campuses of US IHEs: If the proposal includes funding to be provided to an international branch campus of a US institution of higher education (including through use of subawards and consultant arrangements), the proposer must explain the benefit(s) to the project of performance at the international branch campus, and justify why the project activities cannot be performed at the US campus.
- 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:

A Principal Investigator (PI) may submit only one CAREER proposal per annual competition. In addition, a Principal Investigator may not participate in more than three CAREER competitions. Proposals that are not reviewed (i.e., are withdrawn before review or are returned without review) do not count toward the three-competition limit.

### Limit on Number of Proposals per Organization:

There are no restrictions or limits.

### Limit on Number of Proposals per PI or co-PI: 1

An eligible Principal Investigator may submit only one CAREER proposal per annual competition. No co-PIs are permitted.



# Important Info: Solicitation-specific Review Criteria!

## Safe and Inclusive Work Environments

### Additional Solicitation Specific Review Criteria

For IntBIO Track proposals, reviewers will be asked to evaluate the extent to which:

- The proposal describes a fundamental overarching question or significant technical challenge that is addressed through bold, integrative, hypothesis- or question-driven research and that aims to produce outcomes that are synergistic and have potential to reveal new principles underlying function or interaction of biological systems.
- The graphical illustration effectively convey how integration will be accomplished through interconnection among sub-disciplines, elements, or systems and how integrated strategies will lead to a synergistic outcome.
- The proposal provides a clear description of the investigative team and evidence that they are well-positioned to achieve the goals of the proposed work.
- The proposal describes an inclusive training and education plan, as part of broader impacts, that is likely to produce a new generation of diverse scientists who are trained in integrative approaches to biological research.

Reviewers will be instructed to evaluate the Plan for Safe and Inclusive Work Environments within the Broader Impacts review criterion, specifically:

- Is there a compelling plan (including the procedures, trainings, and communication processes) to establish, nurture, and maintain inclusive off-campus or off-site working environment(s)?
- Does the proposed plan identify and adequately address the unique challenges for the team and the specific off-campus or off-site setting(s)?
- Are the organizational mechanisms to be used for reporting, responding to, and resolving issues of harassment, should they occur, clearly outlined?



# The First Steps in Proposal Preparation

**Ask yourself the following questions -**

**What do I want to do?** *Think feasible research project that can be accomplished in 3-5 years*

**What do I need to do it?** *Personnel, materials & supplies...*





# Parts of a Proposal: PAPPG + Solicitation

- Cover sheet and certifications
- Project summary: includes Broader Impacts
- Table of contents
- Project description (usually 15 pages)
- References cited
- Biographical sketches (specified format)
- Current and pending support
- Budget/budget justification
- Facilities, equipment and other resources
- Special documentation, single copy documents (no reprints, preprints, letters of general support or endorsement)
- Solicitation-specific documents

**Technical Questions? Contact Research.gov Help Desk at 1-800-381-1532**



# Broader Impacts: Benefitting Society

**Teaching,  
training, and  
learning  
(undergrads +  
grad students)**

**Broaden  
participation of  
underrepresented  
groups**

**Build or enhance  
partnerships  
(internationally,  
or with other  
agencies)**

**Broad  
dissemination to  
enhance  
scientific  
+ technological  
understanding**

**Enhance  
infrastructure  
(labs, equipment,  
+ work  
in developing  
countries)**

**Local impacts  
(policies @ state +  
local level)**



# Advice on Broader Impacts

- It's not a formula
  - Do something that interests you, has measurable outcomes, and matches the time you are willing to devote
  - Go above and beyond what you are already paid to do
- **Ask for money if you need it**
- Use existing infrastructure, as appropriate
  - But...give, as well as take
  - Realize that institutions certify to support your efforts
- **Ask for help with assessment**
- Consult <https://www.researchinsociety.org/>





# Budgeting – Know Your Needs and Your Numbers

- Know what things will cost (at least roughly) – work with your Grants Office
- Ask for what you need!
  - People (Senior Personnel and Other Personnel)
  - Equipment (Tools and Technology)
  - Outreach Efforts (Broader Impacts)
  - Subawards
  - Other
- Stay within budget allowances (look at the requirements) – are there budget limits?

SUMMARY PROPOSAL BUDGET					FOR NSF USE ONLY	
ORGANIZATION XXXX			PROPOSAL NO.		DURATION (MONTHS)	
PRINCIPAL INVESTIGATOR/PROJECT DIRECTOR JOHN DOE			AWARD NO.		Proposed	
A. SENIOR PERSONNEL: P.I.P.D., Co-PIs, Faculty and Other Senior Associates List each separately with name and title. (A.7. Show number in brackets)			NSF-Funded Person-months		Funds Requested by Proposer	
			CAL		ACAD	
1. John Doe			1.0		\$12,020	
2.						
3.						
4.						
5.						
6. ( ) OTHERS (LIST INDIVIDUALLY ON BUDGET EXPLANATION PAGE)						
7. (1) TOTAL SENIOR PERSONNEL (1-6)					12,020	
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)						
1. (1) POSTDOCTORAL ASSOCIATES			2.0		19,334	
2. ( ) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)						
3. ( ) GRADUATE STUDENTS						
4. ( ) UNDERGRADUATE STUDENTS						
5. ( ) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)						
6. ( ) OTHER						
TOTAL SALARIES AND WAGES (A + B)						
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)						
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)						
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.)						
TOTAL EQUIPMENT						
E. TRAVEL			1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS)			
			2. FOREIGN			
F. PARTICIPANT SUPPORT						
1. STIPENDS \$ 15,000						
2. TRAVEL 5,000						
3. SUBSISTENCE 3,000						
4. OTHER 2,000						
TOTAL NUMBER OF PARTICIPANTS (12)					TOTAL PARTICIPANT COSTS	
G. OTHER DIRECT COSTS						
1. MATERIALS AND SUPPLIES						
2. PUBLICATION/DOCUMENTATION/DISSEMINATION						
3. CONSULTANT SERVICES						
4. COMPUTER SERVICES						
5. SUBAWARDS					37,092	
6. OTHER					4,062	
TOTAL OTHER DIRECT COSTS						
H. TOTAL DIRECT COSTS (A THROUGH G)						
I. INDIRECT COSTS (FAA) (SPECIFY RATE AND BASE)						
TOTAL INDIRECT COSTS (FAA)						
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)						
K. RESIDUAL FUNDS (IF FOR FURTHER SUPPORT OF CURRENT PROJECT SEE GPG II.D.7.)						
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)					\$ \$	
M. COST SHARING: PROPOSED LEVEL \$			AGREED LEVEL IF DIFFERENT: \$			
PI/PD TYPED NAME AND SIGNATURE*			DATE		FOR NSF USE ONLY	
					INDIRECT COST RATE VERIFICATION	
ORG. REP. TYPED NAME & SIGNATURE*			DATE		Date Checked Date of Rate Sheet Initials-ORG	

NSF Form 1030 (10/93) Supersedes All Previous Editions \*SIGNATURES REQUIRED ONLY FOR REVISED BUDGET (GPG II.C)



# Remember: A Proposal is Different Than a Paper

## **A Paper is:**

- a scholarly pursuit: individual passion, past-oriented, work that has been done
- theme-centered: theory and thesis
- expository rhetoric: explaining to the reader, impersonal tone, objective, dispassionate
- individualistic: primarily a solo activity
- few length constraints: verbosity rewarded
- specialized terminology: “insider jargon”

## **A Proposal is:**

- aimed at sponsor goals: service attitude, future-oriented, work that should be done
- project-centered: objectives and activities
- persuasive rhetoric: ‘selling’ the reader, personal tone, conveys excitement
- team-focused: feedback needed
- strict length constraints: brevity rewarded
- accessible language: easily understood

**Reference: Porter (2007)  
The Journal of Research  
Administration;  
Volume XXXVIII, No.2: p. 37-43**



# Take-Home Messages

- **Contact relevant Program Officer to discuss your ideas**
  - Send a 1-page summary of your **research and broader impacts** plans
- BIO core programs have **no deadlines** –submit your proposal when ready
- Multiple funding mechanisms support:
  - interdisciplinary research
  - researchers across different career stages
  - infrastructure
  - education, outreach and broadening participation in STEM
- **Read** the solicitation carefully



# ***Some final words . . .***

**Think science first, then budget**

**Think strategically!**

**Offer to Review Proposals  
or Serve on Panels**

**and remember...**





# NSF Program Directors...

Are here to help you! All  
you need to do is ask!!





Who should I call about....?

When should I....?

What about....?

What about....?

Who supports....?

How much can....?

Where do I find....?

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





# Safe and Inclusive Work Environments Plan

## Required 2-page supplement including\*:

1. a brief description of the field setting and unique challenges for the team;
2. the steps the proposing organization will take to nurture an inclusive off-campus or off-site working environment, including processes to establish shared team definitions of roles, responsibilities, and culture;
3. communication processes within the off-site team and to the organization(s) that minimize singular points within the communication pathway; and
4. the organizational mechanisms that will be used for reporting, responding to, and resolving issues of harassment if they arise.

\*plan is in lieu of AOR certification when submitting to programs included in the pilot





# Safe and Inclusive Work Environments Plan

Required for (as of now):

- BIO core programs\*
  - DEB
  - IOS
  - MCB
- Biodiversity on a Changing Planet
- Pathways into the Geosciences
- Cultural Transformation in the Geosciences Community

**\* As these are no-deadline solicitations, there is a 90-day grace period from when they posted during which the NSF-wide requirement for AOR certification is required**

