Division of Integrative Organismal Systems (IOS) Virtual Office Hour

Welcome! We will begin the Virtual Office Hour soon.

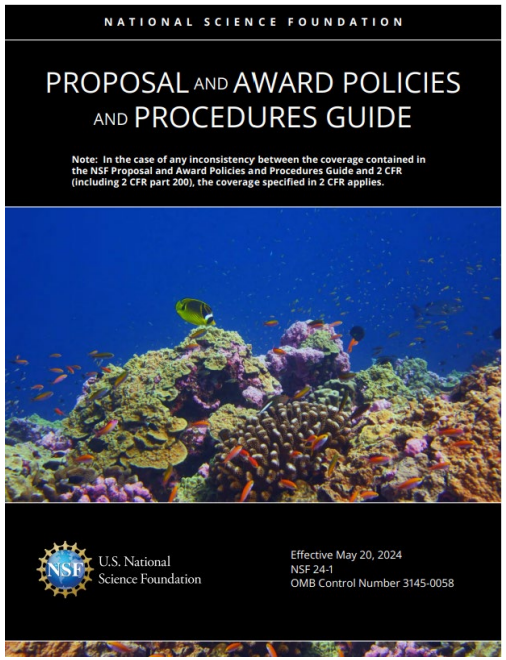
Please submit questions in the Zoom Q&A box.

IOS Virtual Office Hour
Today's Topics

- Updates and Reminders
- Today's topic - Tips on Proposal Writing
- Q&A with Program Directors
- **Next VOH: September 18, 2025 – The Review Process**

Reminders: General

Proposal & Award Policies & Procedures Guide (PAPPG)



- Current version is NSF 24-1
- Latest version can always be found at: https://nsf-gov-resources.nsf.gov/files/nsf24_1.pdf

Implementation of Executive Orders

- Updates on NSF Priorities can be found at https://www.nsf.gov/updates-on-priorities
- Updates on NSF's Implementation of Executive Orders can be found at https://www.nsf.gov/executive-orders

Reminders: Solicitations

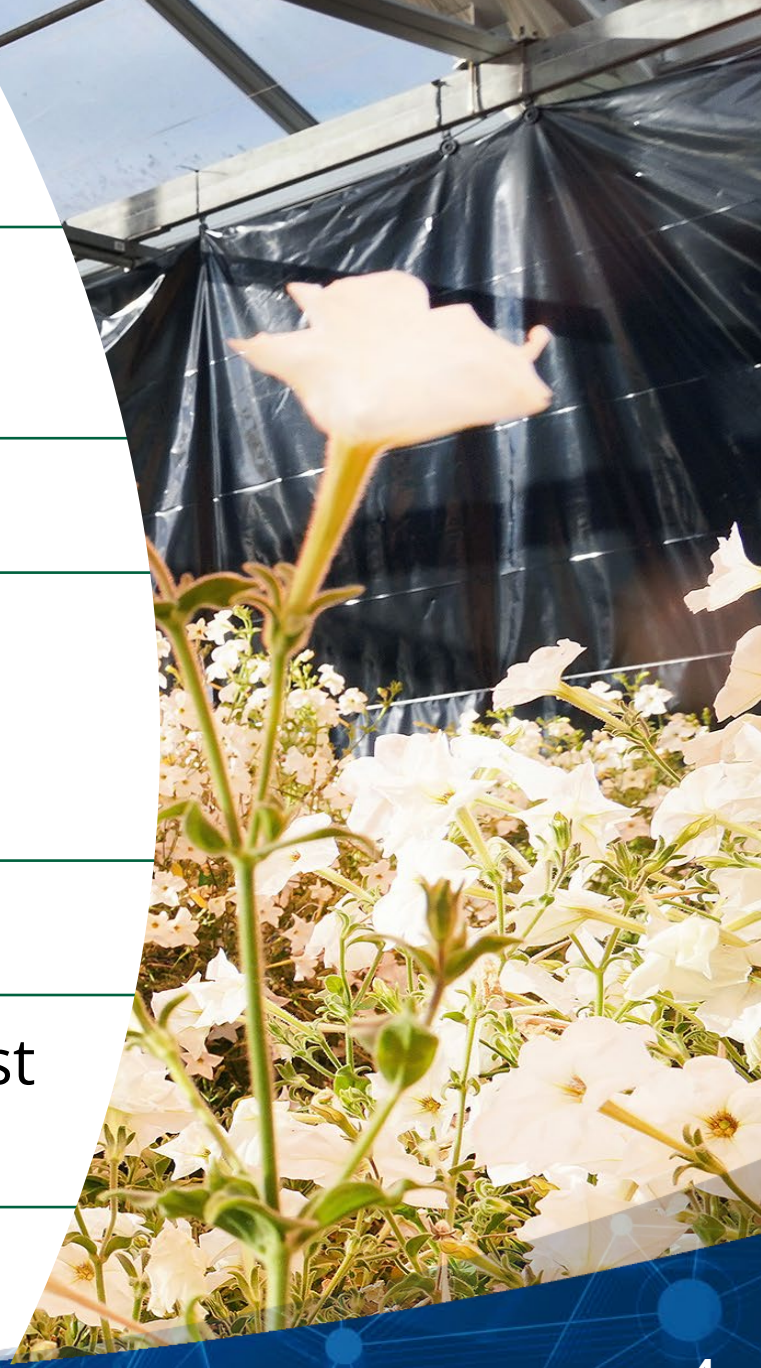
DBI: Infrastructure Innovation (NSF 23-578)
DBI: Infrastructure Capacity (NSF 23-580)

DEB: Core solicitation (NSF 24-543)

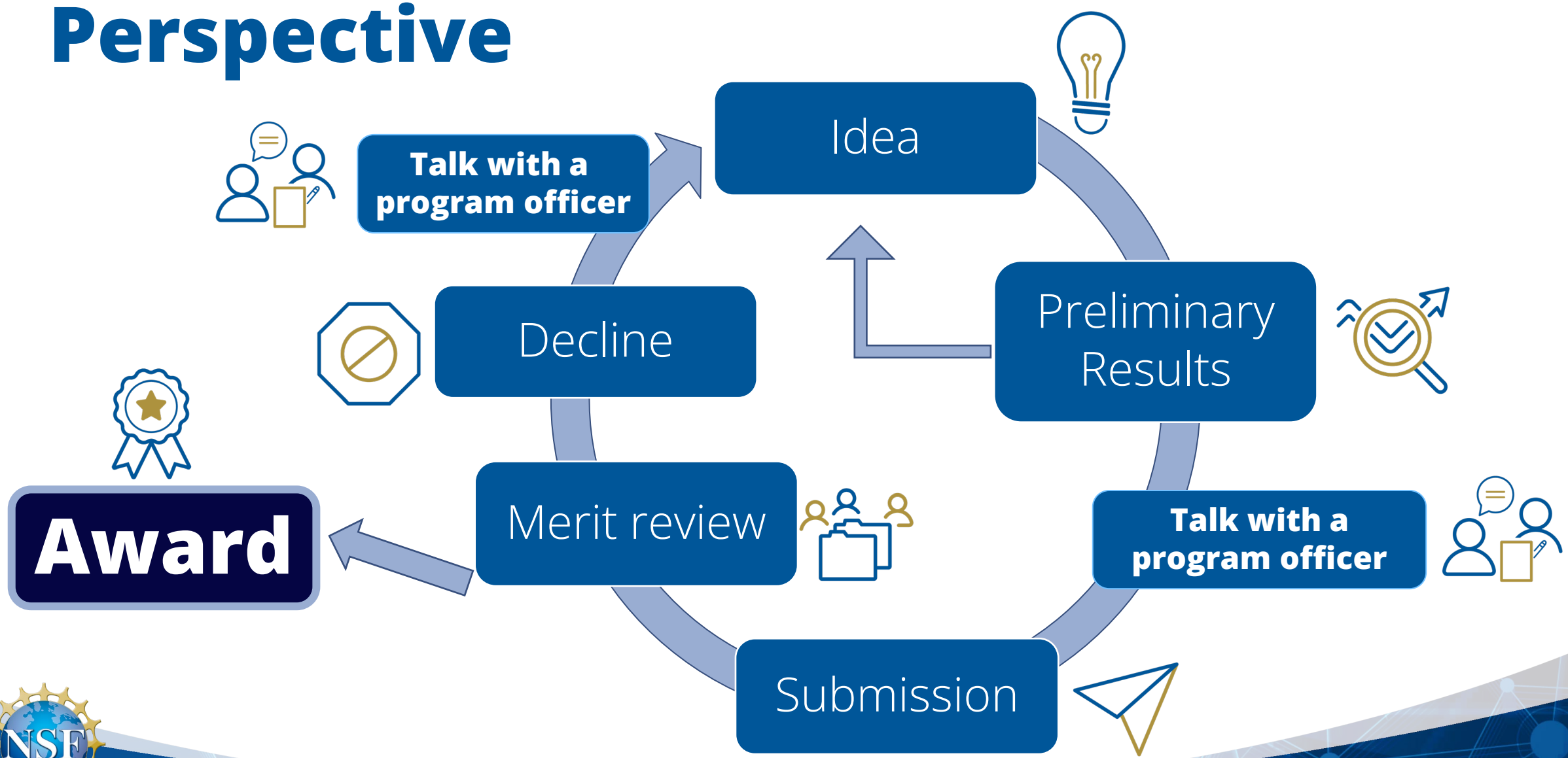
IOS: Core solicitation (NSF 24-546)
IOS: Plant Biotic Interactions (NSF 20-576)
IOS: Plant Genome Research Program (NSF 24-547)

MCB: Core solicitation (NSF 24-539)

Be sure you refer to the most up to date PAPPG and most recent solicitation.



Proposal Submission Process: PI Perspective



The First Steps in Proposal Preparation

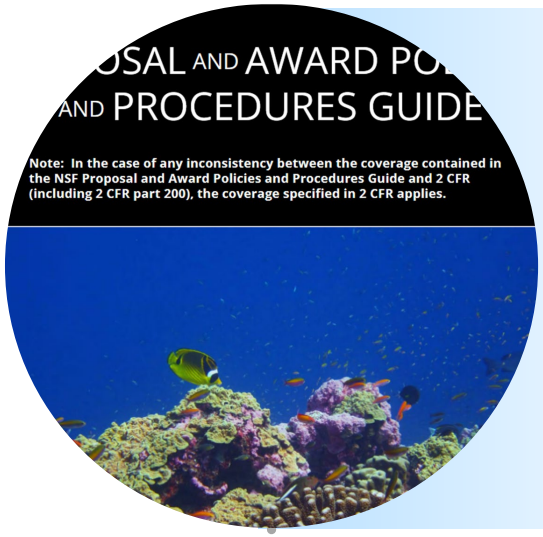
Ask yourself the following questions -

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

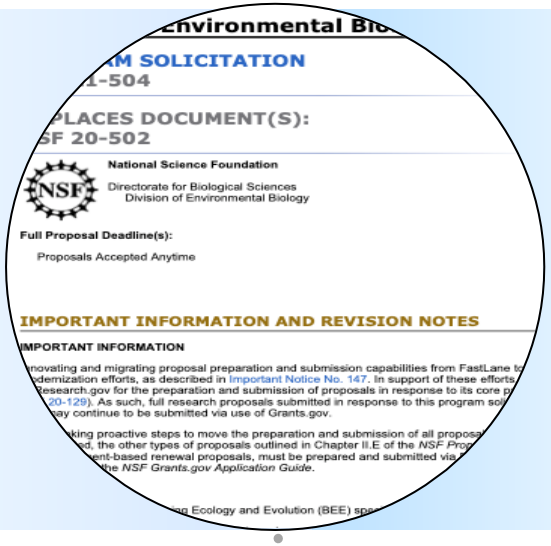
What do I need to do it? ***Personnel, materials & supplies…***

Get in contact with your Sponsored Research Office or Sponsored Programs Administration

Essential Documents



NSF PROPOSAL & AWARD POLICIES & PROCEDURES GUIDE (NSF PAPPG)



SOLICITATION

DEAR COLLEAGUE LETTER

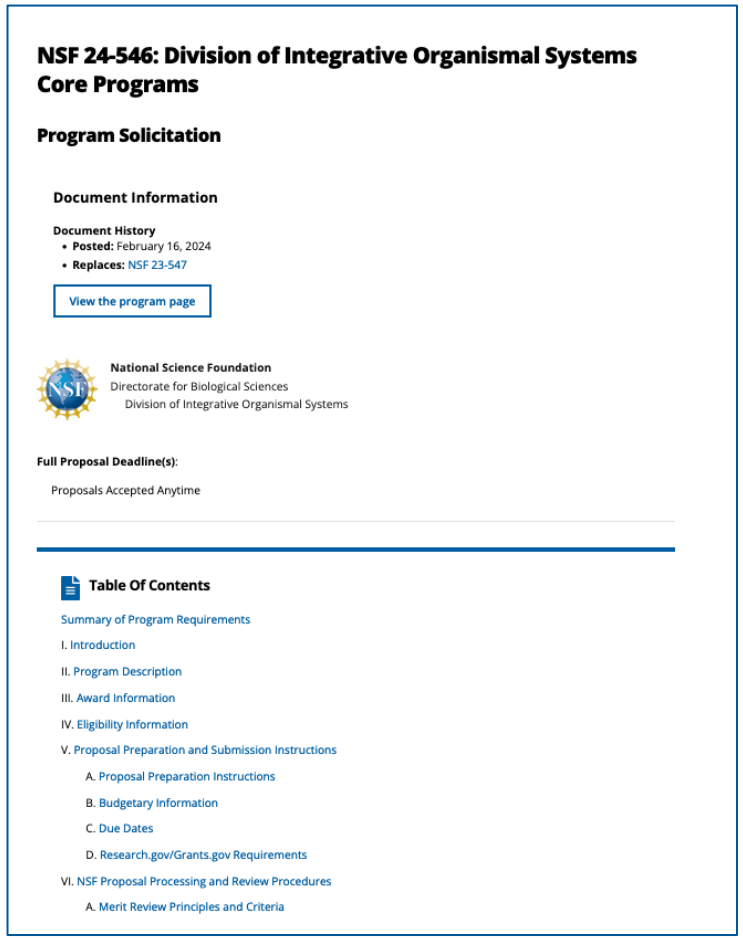
Proposal & Award Policies & Procedures Guide (PAPPG)

NSF 24-1

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

Solicitations



NSF 24-546: Division of Integrative Organismal Systems Core Programs

Program Solicitation

Document Information

Document History
- **Posted:** February 16, 2024
- **Replaces:** NSF 23-547

View the program page

National Science Foundation
Directorate for Biological Sciences
Division of Integrative Organismal Systems

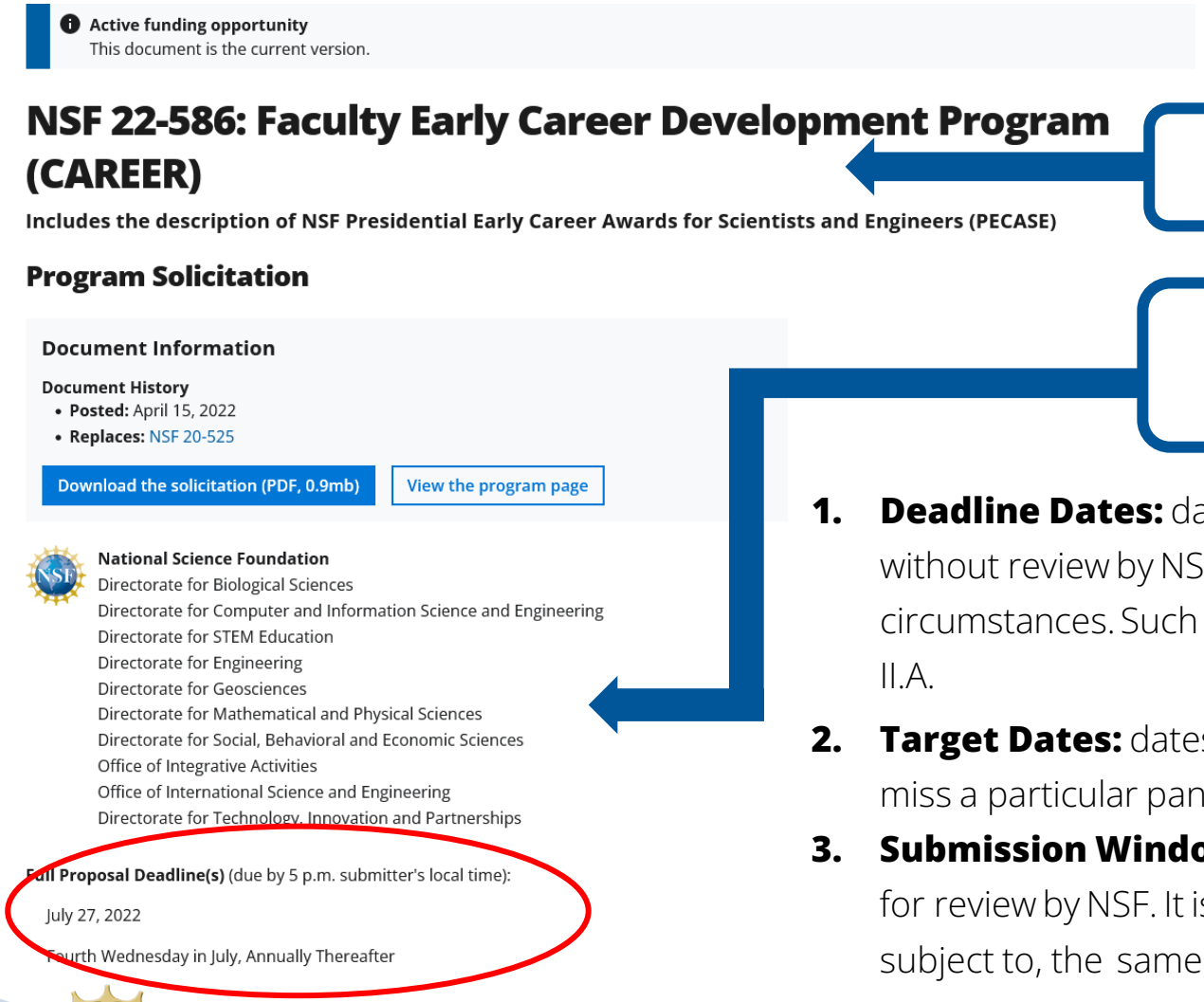
Full Proposal Deadline(s):

Proposals Accepted Anytime

Table Of Contents

- Deadline / Target Date (if any)
- 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?
- Other specific requirements/instructions

Sample Cover Page of a Solicitation



Active funding opportunity
This document is the current version.

NSF 22-586: Faculty Early Career Development Program (CAREER)

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

Program Solicitation

Document Information

Document History
- **Posted:** April 15, 2022
- **Replaces:** NSF 20-525

Download the solicitation (PDF, 0.9mb) | View the program page

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 and Title

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: Some programs don't have deadlines!

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 / criteria

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

Merit Review Criteria

Intellectual Merit

The potential for the proposed project to advance knowledge and understanding within its own field or across different fields.

Broader Impacts

The potential for the proposed project to benefit society and contribute to the achievement of specific, desired societal outcomes.

In addition to assessing a proposal's intellectual merit and broader impacts, the following elements are considered for both review criteria:

- To what extent do the proposed activities suggest and explore creative, original or potentially transformative concepts?
- 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?
- How well qualified is the individual, team or organization to conduct the proposed activities?
- Are there adequate resources available to carry out the proposed activities?

Structure Your Proposal to Address These 5 Review Elements

1. Build a compelling introduction and project description

RE1: how will this advance science?

- this is basically a statement of the Intellectual Merit. Catch the reader's attention immediately. State up front what you want to do, and why it's exciting and important

RE2: is the work creative/ transformative?

- lay out your specific **hypothesis** to be tested. Explain your compelling observations and the work it will take to develop a hypothesis (a 'pilot' type study)

- explain why previous studies have been insufficient to address this research question and how your research methods are different.

RE3: is the work plan clear?

- explain why your field site (or experiment or model) was chosen for the study.

Structure Your Proposal to Address These 5 Review Elements

2. Lay out a clear work plan, timeline, and role for each participant

RE3: is the work plan clear?

- draw out a timeline, with tasks
- explain how each analysis or model connects to your hypotheses

RE4: is the team qualified to do this?

- clarify the specific role of each investigator + student + postdoc
- show that the work is feasible within your timeline

RE5: do they have the right lab and collabs?

- include letters of collaboration and money in the budget if needed
- use the Facilities, Equipment, & Other Resources section wisely

Broader Impacts: Benefitting Society

https://www.nsf.gov/funding/learn/broader-impacts

STEM Education

Public Engagement

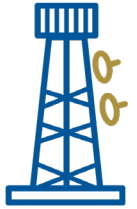
Societal Well-being

STEM Workforce

Partnerships

National Security

Economic Competitiveness



Infrastructure

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/

ARIS
Advancing Research Impact in Society

Who is your audience?

- Ad Hoc reviewers
  - Experts in your specific area
  - You should have recommended 4-5 reviewers
- Panelists
  - Generalists in the programmatic area you are submitting to
  - E.g. – development biologists (both plant and animal)

Writing Your Proposal vs. Writing a Paper

A proposal outlines **work to be done** and **addresses the criteria laid out in the funding call.**

It is written in **accessible, persuasive language.**

A paper covers **work already done** and has **no criteria to address.**

It is written in **explanatory, rhetorical language.**

Work to be done vs. work already done.

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

Strengths of Highly Competitive Proposals

- Novel idea/research question
- Well balanced blend of feasibility and boldness
- Research plan addresses the question(s)
- Well justified
- Well written (clear and logical; limit jargon)
- The PI is qualified (Biosketch, Facilities & Other Resources, Project Description)
- Meaningful collaborations are in place (if needed) – Letters
- Facilities are available (at institution or through collaboration)

Most common mistakes - scientific

- Failure to comply to PAPPG
- Work is too close to what has been done before - i.e., Incremental
- Project has either too large a scope or is too narrowly focused to be exciting
    - e.g. Proposed research is more than the listed personnel could accomplish in the given time-frame.
- Proposed methods/resolution/research plan are not likely to yield results that will address the stated goals of the project
- The experiment/theoretical/analytical design is flawed
- Resources not available or PI lacks demonstrated expertise in it

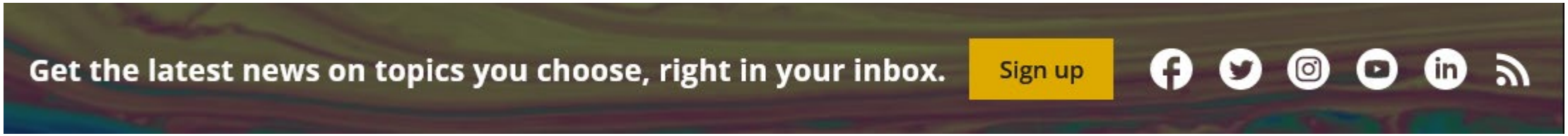
IOS Virtual Office Hour Reminders

- Submit questions in the Zoom Q&A box
- Project-specific questions are best addressed individually by contacting a Program Director
- Next VOH: September 18th 2025 – The Review Process

BIO News and Updates

Sign-up for emails on new solicitations; events; due date reminders; and BIO's quarterly newsletter, including information on new priorities and solicitations, highlights from the community, and more!

Visit www.nsf.gov and scroll down until you see the Sign up and social media banner, click on the yellow box, and follow the prompts.

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