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.

Division of Integrative Organismal Systems (IOS)
Welcome!

Program Directors in attendance today:

Anna Allen	akallen@nsf.gov
Melissa Coleman	melcolem@nsf.gov
Suzy Renn	srenn@nsf.gov

Administrative Support & Technical Assistance:
Janice Hermann – Program Specialist

IOS Virtual Office Hour
Today's Topics

- Updates and Reminders
- Recent Solicitations and Dear Colleague Letters (DCLs)
- NSF101: Navigating NSF for New and Established Investigators
- Q&A

NSF's Broadening Participation Portfolio

Relevant opportunities

Dear Colleague Letter: STEM access for Persons with Disabilities (STEM-APWD)

- NSF 23-160
- Seeks to increase the participation of persons with disabilities in STEM fields

Two new programs! Established Program to Stimulate Competitive Research (EPSCoR)

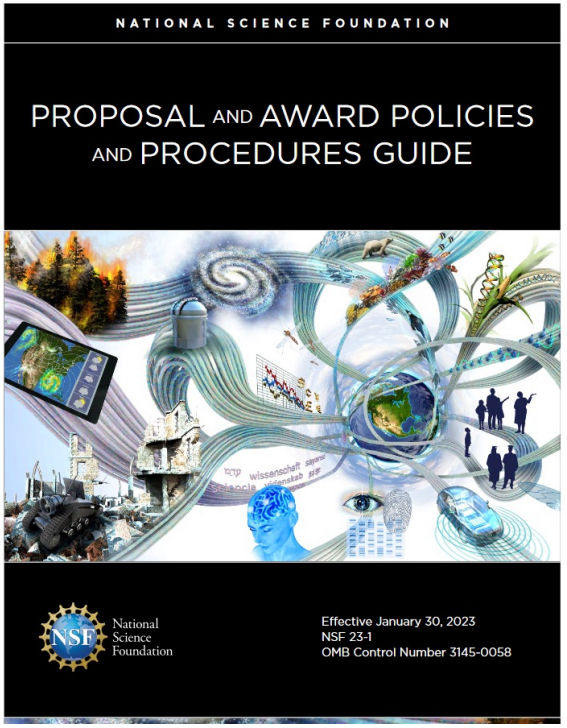
- EPSCoR Collaborations for Optimizing Research Ecosystems (E-CORE) Research Infrastructure Improvement (RII) Program (NSF 23-587)
- EPSCoR Research Incubators for STEM Excellence (E-RISE) RII Program (NSF 23-588)

Administrative Updates & Reminders

- New PAPPG anticipated in January 2024
- Collaborators and Other Affiliations (COA) is needed for **all** PI's and senior personnel.
- Use the PAPPG approved text for Letters of Collaboration.
- Include the proposal **you are submitting** as 'Pending' in the Current and Pending documentation.
- **Safe & Inclusive Working Environments for Off-campus or off-site research**

  If off-campus/off-site research is proposed, the box indicating that **must** be checked on Cover Page

  A 2-page SAI Plan is **required** to be uploaded as a Supplemental Document if you are applying to a BIO CORE solicitation or another program participating in the BIO/GEO SAI Plan Pilot. See the BIO Homepage for more information and participating programs.



NSF News!

U.S. National Science Foundation

Home / News

News

- **Notice to research community: Use of generative artificial intelligence technology in the NSF merit review process**
  - December 14, 2023
  - https://new.nsf.gov/news/notice-to-the-research-community-on-ai
  - Covers:
    - Use of generative AI by reviewers in merit review
    - Use of generative AI in proposal preparation
    - Implementation and guidance on appropriate use

Recent Solicitations and DCLs

- Core IOS solicitation (23-547), PBI (20-576), and PGRP (23-559) – No deadlines and no submission limits
- DCL: Bioinspired Design Collaborations to Accelerate the Discovery-Translation Process (BioDesign) (23-055)
- IOS Synthesis Center for Understanding Organismal Resilience (23-564) – preliminary proposal Jan. 12, 2024
- Mid-Career Advancement (MCA) (22-603) – Feb. 1-March 1, 2024
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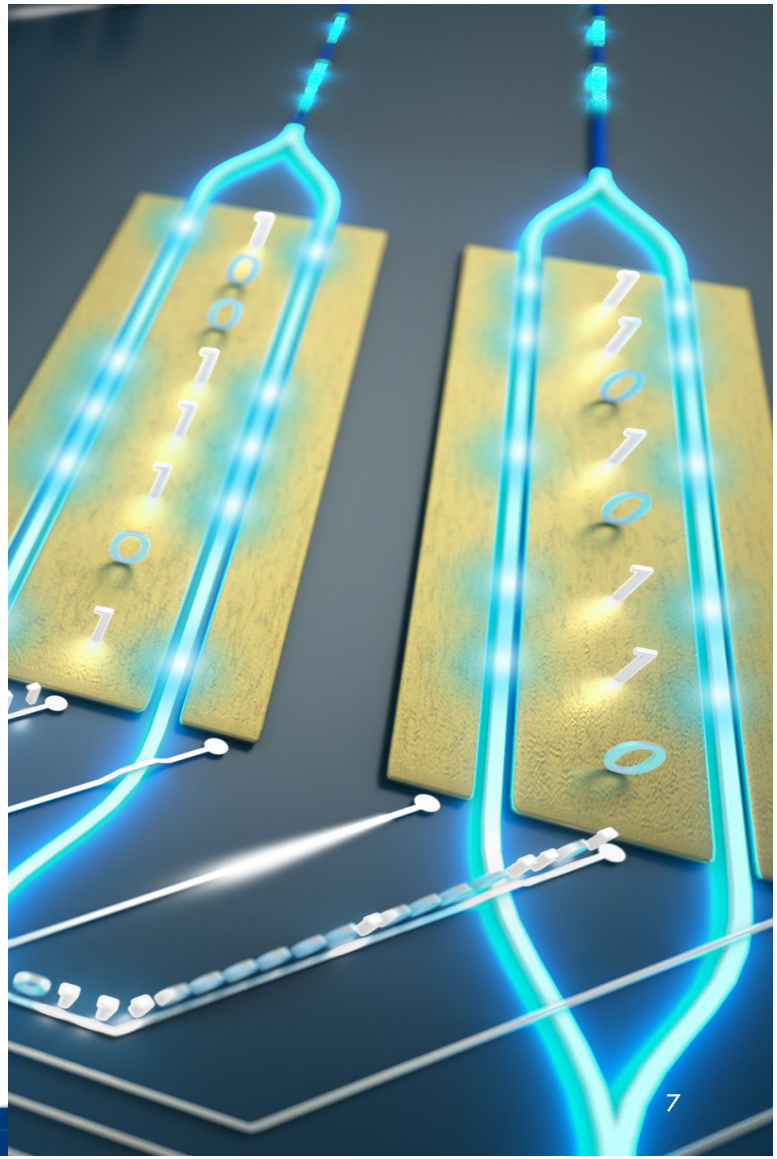


January 2024 Virtual Office Hour: Catalyzing Across Sectors to Advance the Bioeconomy (CASA-Bio)

- Working to create a unified strategy to advance the U.S. bioeconomy across government, private sector, and research communities
  - Funder stakeholders identify synergistic priorities
  - Research community provides their ideas on R&D areas for the bioeconomy
- Launched in response to the Executive Order on Advancing Biotechnology and Biomanufacturing Innovation for a Sustainable, Safe, and Secure American Bioeconomy
- How to get involved:
  - Now, visit **www.casa-bio.net** for information
  - In 2024, watch for Town Halls and Workshops for Research Community input

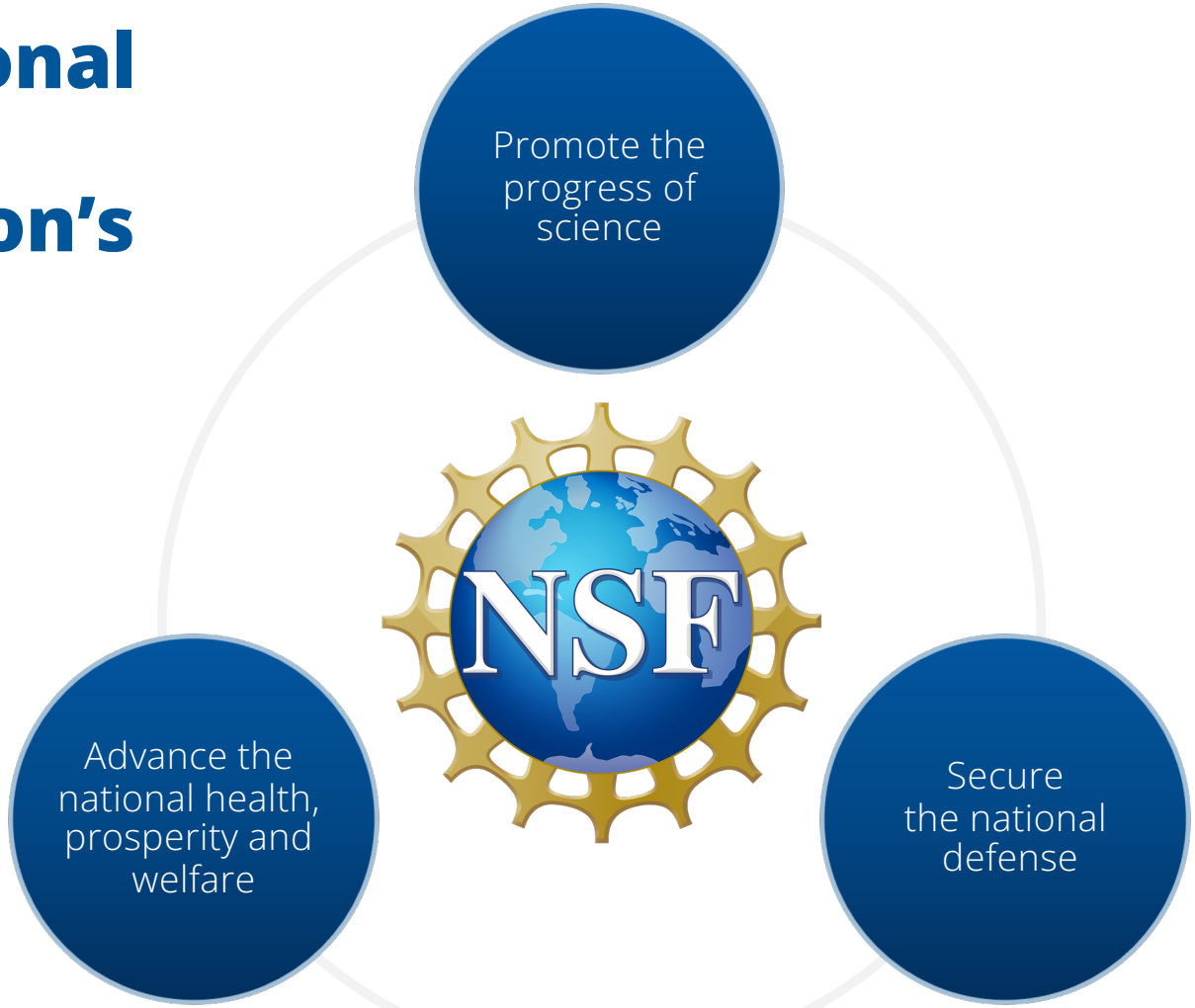
IOS Virtual Office Hour Reminders

- Submit questions in the Zoom Q&A box
- Project-specific questions are best addressed individually by contacting a Program Director
- Next IOS Virtual Office Hour: Jan 18, 2024

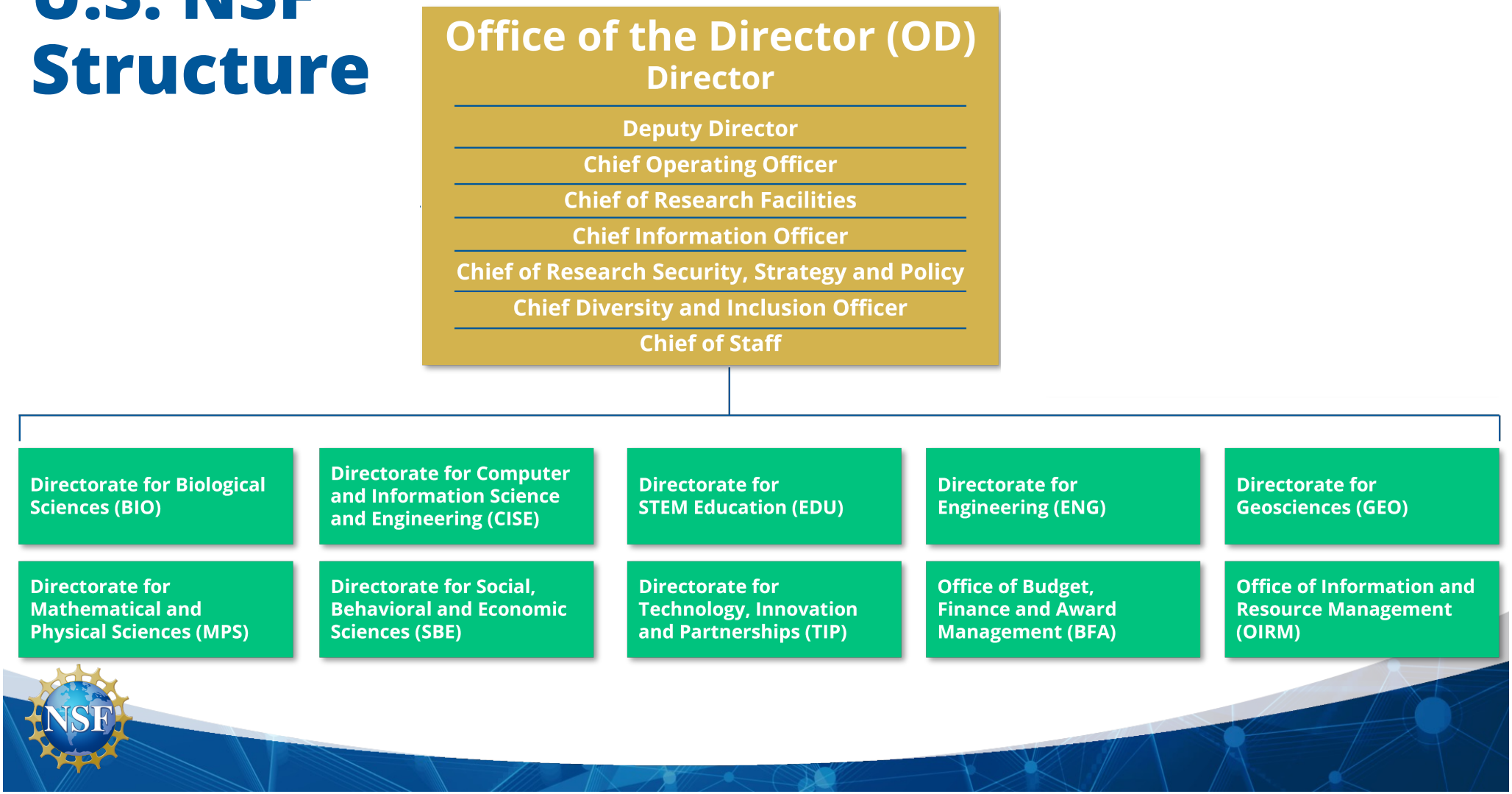
  Topic: Catalyzing Across Sectors to Advance the Bioeconomy (CASA-BIO)


NSF101:
Navigating NSF for New and
Established Investigators

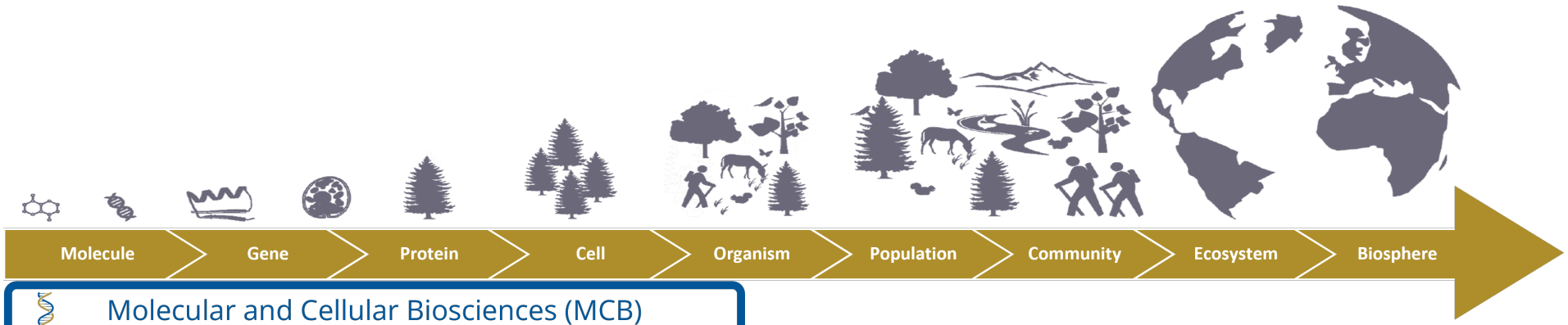
U.S. National Science Foundation's Mission



U.S. NSF Structure



How the BIO Divisions Support Research Across Scales



Molecular and Cellular Biosciences (MCB)

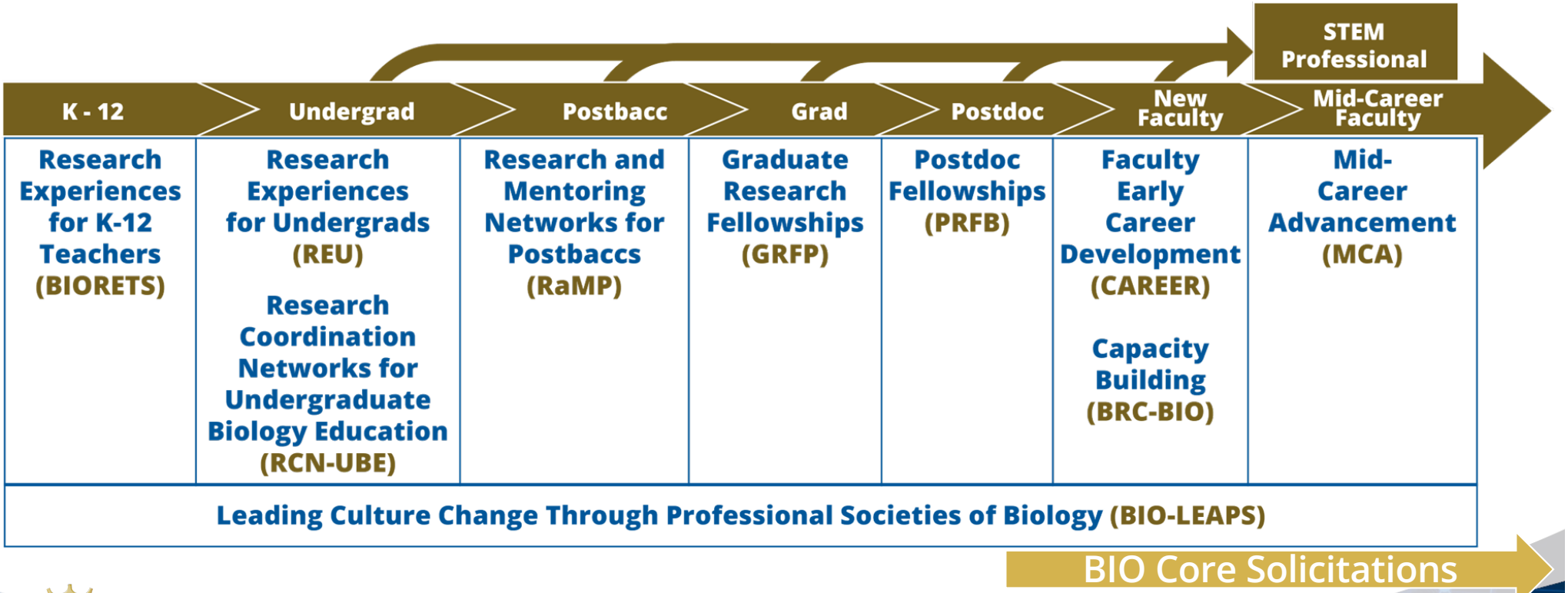
Integrative Organismal Systems (IOS)

Environmental Biology (DEB)

Biological Infrastructure (DBI)

Emerging Frontiers (EF)

Supporting Researchers Throughout Their Career

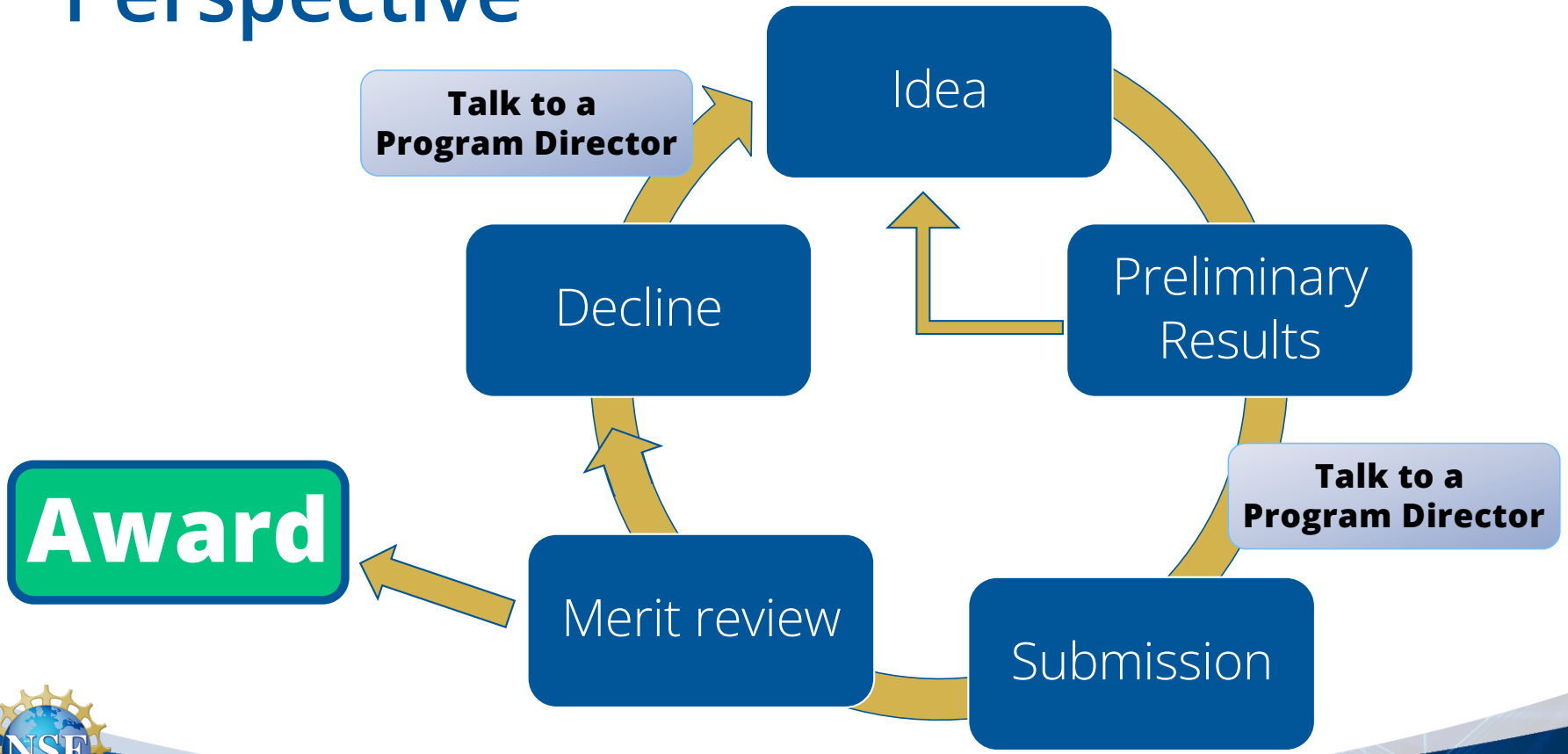


How do you find out about NSF funding opportunities?

What types of outreach by NSF have you engaged with or participated in the past 3 years?

- NSF-wide Virtual Grants Conference
- Other NSF hosted conference or workshop
- BIO Quarterly Newsletter
- Other NSF emails (including those from other Directorates/Offices)
- NSF social media (X, Facebook, LinkedIn, YouTube, Pinterest)
- BIO and/or IOS Blogs
- IOS Virtual Office Hours
- Town Halls at Scientific Conferences
- In person or virtual visits to my campus/department by Program Directors
- Individual Appointments at Conferences
- Individual Scheduled Meetings Online
- Email correspondence with Program Directors
- Email feedback on 1-pagers (concept outlines)
- None except today's Virtual Office Hour
- Other

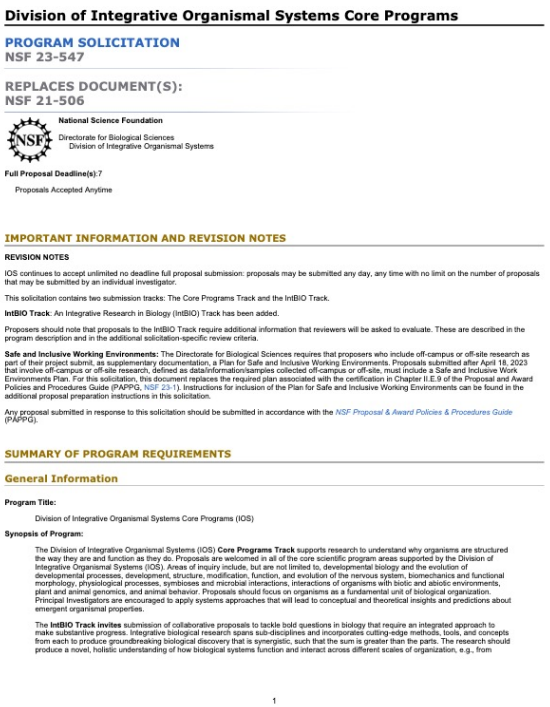
Proposal Submission Process: PI Perspective



Essential Documents

PAPPG + **Solicitation**

(next update Jan 2024)



Division of Integrative Organismal Systems Core Programs

PROGRAM SOLICITATION
NSF 23-547

REPLACES DOCUMENT(S):
NSF 21-506

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

Full Proposal Deadline(s):
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)

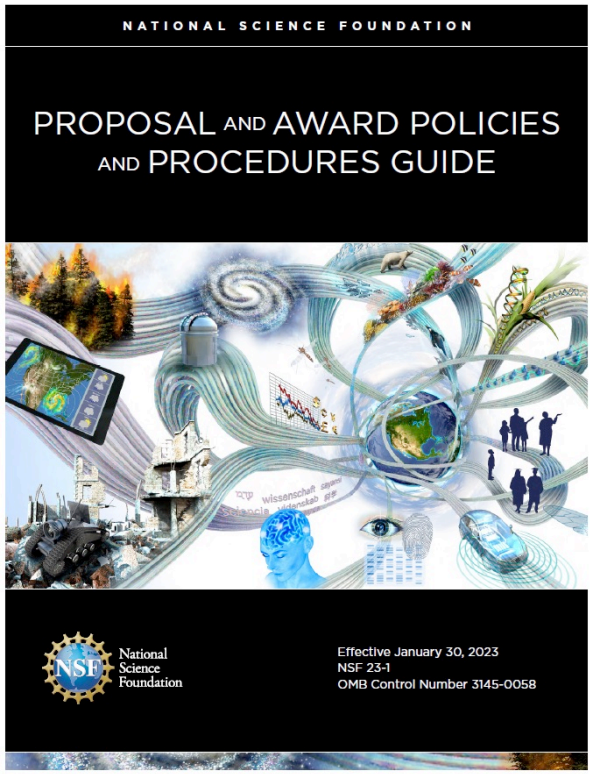
Synopsis of Program:

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 Integrative Organismal Systems (IOS). Areas of inquiry include, but are not limited to, developmental biology and the evolution of developmental processes, development, structure, modification, function, and evolution of the nervous system, biomechanics and functional morphology, physiological processes, symbioses and microbial interactions, interactions of organisms with biotic and abiotic environments, plant and animal genomics, and animal behavior. Proposals should focus on organisms as a fundamental unit of biological organization. Principal Investigators are encouraged to apply systems approaches that will lead to conceptual and theoretical insights and predictions about emergent organismal properties.

The **IntBIO Track invites** submission of collaborative proposals to tackle bold questions in biology that require an integrated approach to make substantive progress. Integrative biological research spans sub-disciplines and incorporates cutting-edge methods, tools, and concepts from each to produce groundbreaking biological discovery that is synergistic, such that the sum is greater than the parts. The research should produce a novel, holistic understanding of how biological systems function and interact across different scales of organization, e.g., from

1

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

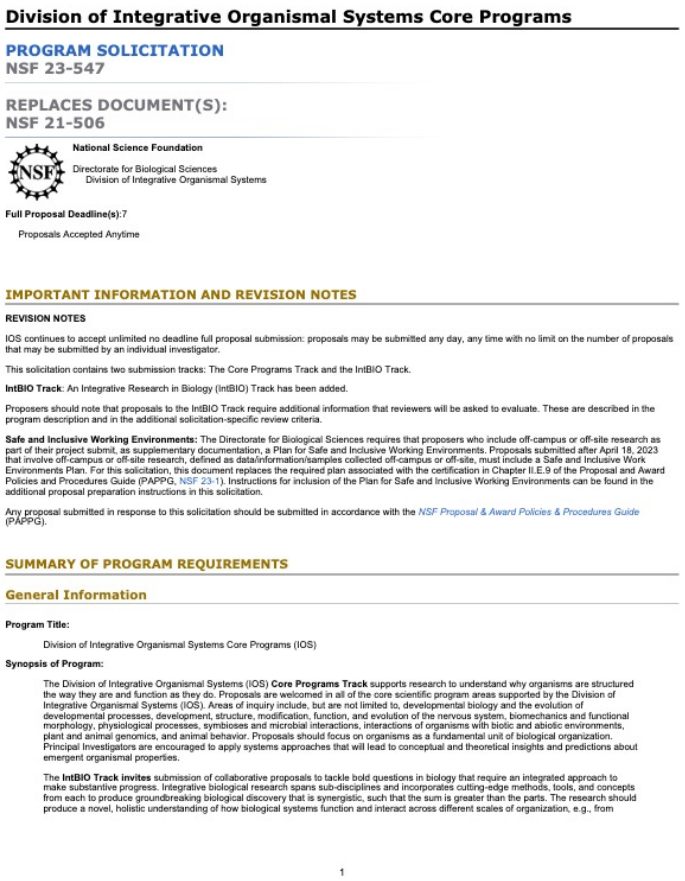


NSF 23-1
(new update expected Jan 2024)

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

Essential Documents - Solicitations



Division of Integrative Organismal Systems Core Programs

PROGRAM SOLICITATION
NSF 23-547

REPLACES DOCUMENT(S):
NSF 21-506

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

Full Proposal Deadline(s):7

Proposals Accepted Anytime

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1

- 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?
- Are there any solicitation specific criteria?
- How much money is available, how many awards are expected?

Division of Integrative Organismal Systems Core Programs (NSF 23-547)

NSF 23-547

Core Programs Track

- Behavioral Systems Cluster
- Developmental Systems Cluster
- Neural Systems Cluster
- Physiological and Structural Systems Cluster
- Plant Genome Research Program

Integrative Research in Biology (IntBIO) Track

To support ***collaborative*** scientists for innovative, ***integrative*** research on fundamental questions that cross different scales of biological organization, using perspectives and approaches from more than one biological ***subdiscipline***

BIO and Biomedical Research: What Isn't Funded

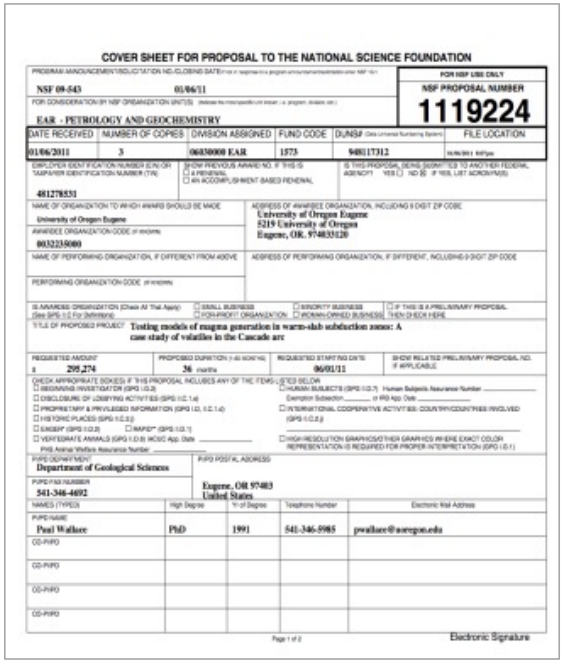
- **Biological research on mechanisms of disease** in humans, including on the etiology, diagnosis, or treatment of disease or disorder, is **normally not supported**.
- Biological research to **develop animal models of such conditions**, or the development or testing of procedures for their treatment, 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

Questions?

Merit Review Process

1. No Deadline/Deadline/Target Date
2. Ad hoc review and/or
3. Panel
4. Program Director makes recommendation



COVER SHEET FOR PROPOSAL TO THE NATIONAL SCIENCE FOUNDATION

NSF 09-543 01/06/11

FOR NSF USE ONLY

NSF PROPOSAL NUMBER

1119224

EAR - PETROLOGY AND GEOCHEMISTRY

DATE RECEIVED	NUMBER OF COPIES	DIVISION ASSIGNED	FUND CODE	DUNS#	FILE LOCATION
01/06/2011	3	0643000 EAR	1573	948017312	

481278531

University of Oregon Eugene

8032230000

ADDRESS OF AWARDEE ORGANIZATION, INCLUDING 9 DIGIT ZIP CODE
University of Oregon Eugene
5219 University of Oregon
Eugene, OR. 974033120

TITLE OF PROPOSED PROJECT: Testing models of magma generation in warm-slab subduction zones: A case study of volatiles in the Cascade arc

REQUESTED AMOUNT	PROPOSED DURATION	REQUESTED STARTING DATE
$ 299,274	36 months	06/01/11

PI/PD DEPARTMENT: Department of Geological Sciences

PI/PD POSTAL ADDRESS: Eugene, OR 97403 United States

PI/PD PHONE NUMBER: 541-346-4692

NAMES (TYPED)	High Degree	Yr of Degree	Telephone Number	Electronic Mail Address
PI/PD NAME: Paul Wallace	PhD	1991	541-346-5985	pwallace@uoregon.edu
CO-PI/PD				
CO-PI/PD				
CO-PI/PD				
CO-PI/PD				

Page 1 of 2

Electronic Signature

Note that this varies across NSF

Merit Review Criteria

- **Intellectual Merit (IM):**
  All NSF projects should be the highest quality and have the potential to advance, if not transform, the frontiers of knowledge.

- **Broader Impacts (BI):**
  the potential to benefit society and contribute to the achievement of **specific**, desired societal outcomes

Who is your audience?

- Ad Hoc reviewers
  - Experts in your specific area
  - Aim to recommend 4-5 reviewers

- Panelists
  - Generalists in the programmatic area you are submitting to
  - e.g. – developmental biologists (both plant and animal)

I3: Proposal Writing Tips: https://iosblog.nsfbio.com/2023/03/01/i3-proposal-writing-tips/

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

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

CONTACT A PROGRAM OFFICER WHEN YOU…

- *have a question about research fit*
- *want to serve as a reviewer*
- *get a new position and have new contact info*
- *have questions regarding your reviews*
- *or any other question!*

(We are not scary! Promise!)

Merit Review Criteria (aka- your rubric!)

- **Intellectual Merit (IM):**
  the potential to advance knowledge

- **Broader Impacts (BI):**
  the potential to benefit society and contribute to the achievement of specific, desired societal outcomes

5 Review Elements

IM BI

1. Will the work advance knowledge, and benefit society?
2. Is the work creative or potentially transformative?
3. Is the work plan sensible, and how will they know if they're successful?
4. Is the team qualified?
5. Do they have adequate staff support and facility resources?

Structure Your Proposal to Address These 5 Review Elements

1. Build a compelling introduction and project description

RE1: how will this advance science?

Address the Intellectual Merit. Catch the reader's attention immediately by stating up front what you want to do, and why it's exciting and important.

RE2: is the work creative/ transformative?

Present your specific **hypotheses** to be tested. Explain your compelling observations and the work it will take to develop and test your hypotheses.

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

RE3: is the work plan clear?

Explain why your methods were chosen for the study (e.g., field site, experiment and/or model).

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?	- Formulate 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

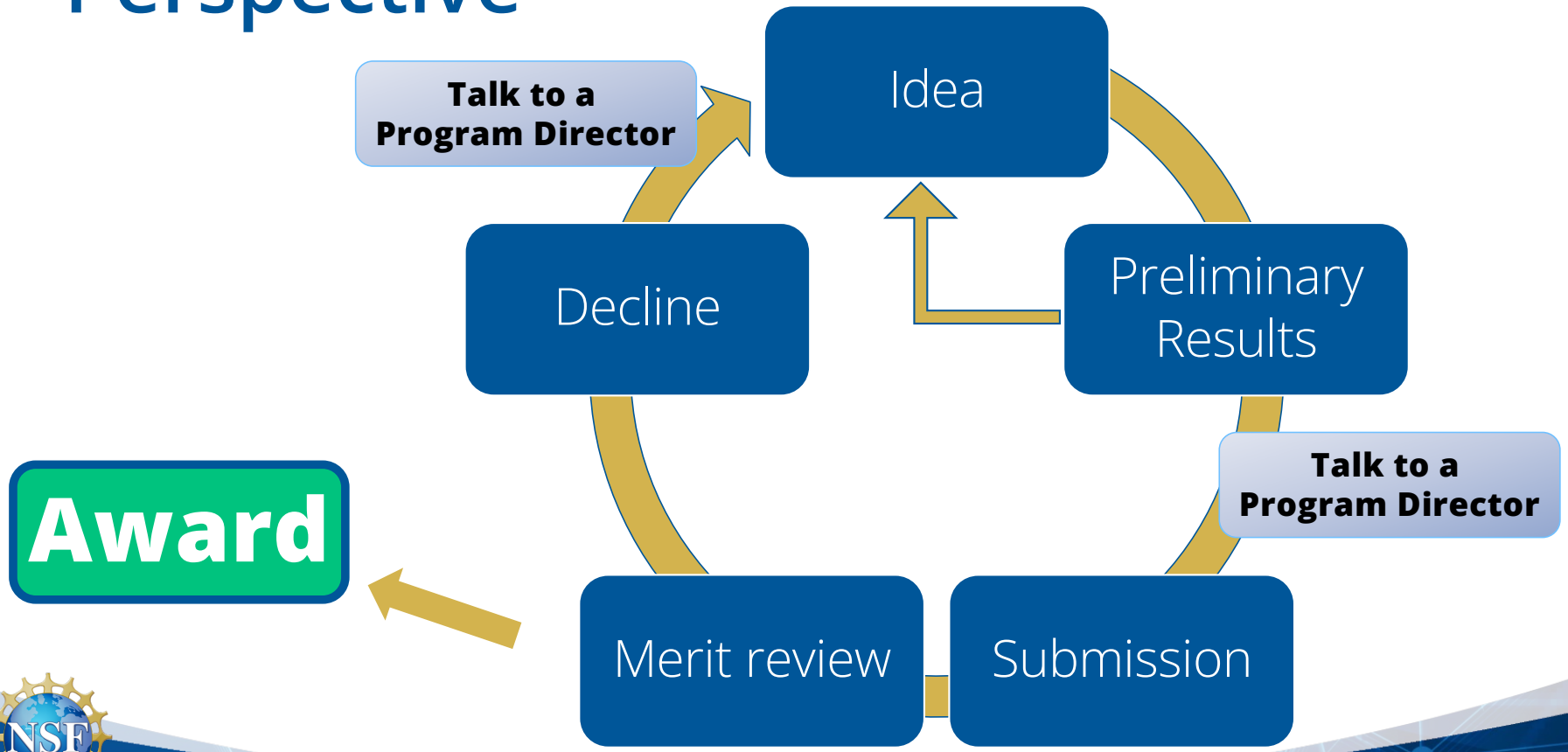
Strengths of Highly Competitive Proposals

- Novel idea/research question
- Well balanced 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 of collaboration
- Facilities are available (at the 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 has not demonstrated sufficient expertise

Proposal Submission Process: PI Perspective



Q&A Time

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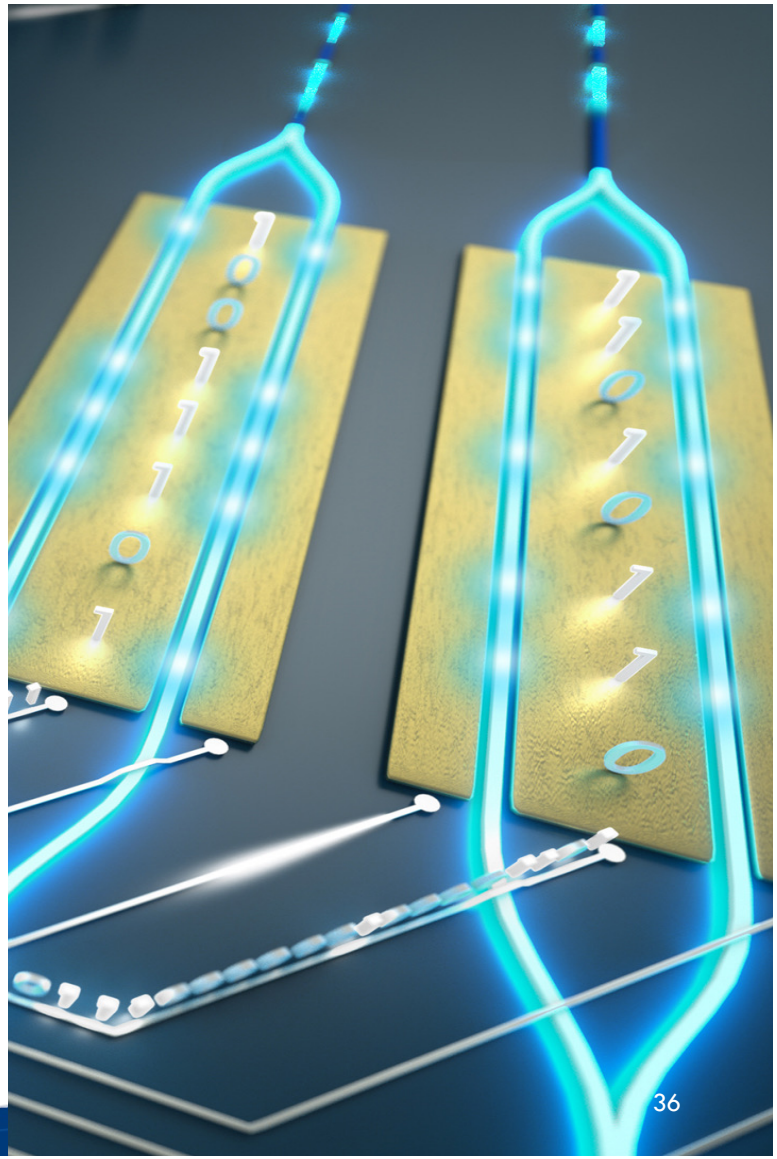

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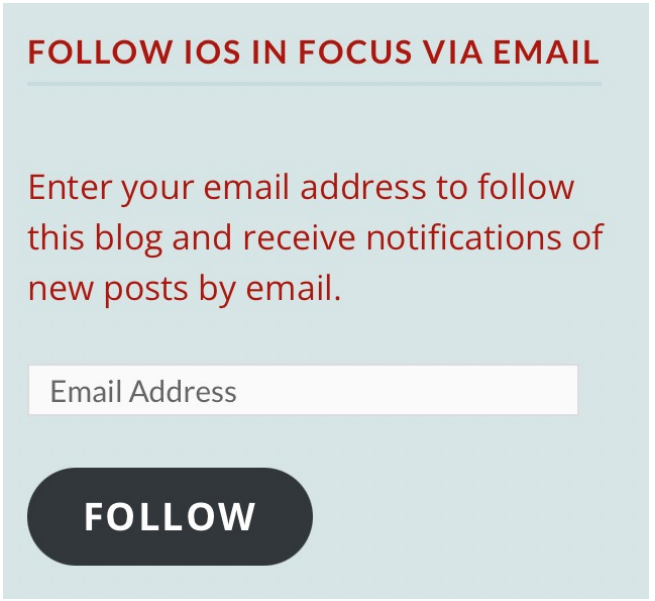
- How to get involved:
  - Now, visit **www.casa-bio.net** for information
  - In 2024, watch for Town Halls and Workshops for Research Community input

IOS Cluster and Program Contacts

Behavioral Systems	Suzy Renn	srenn@nsf.gov
Developmental Systems	Anna Allen	akallen@nsf.gov
Neural Systems	Floh Thiels	ethiels@nsf.gov
Plant Genome Research Program	Diane Jofuku Okamuro	dokamuro@nsf.gov
Physiological and Structural Systems	Ted Morgan	tmorgan@nsf.gov

Visit and subscribe to the IOS in Focus Blog www.iosblog.nsfbio.com

- Future virtual office hour topics
- Highlights of recently announced solicitations relevant to the IOS community
- Tips on navigating the proposal, review and award process
- IOS resources and links



Blogs and Virtual Office Hours Across BIO

IOS in Focus

https://iosblog.nsfbio.com/

DEBrief

https://debblog.nsfbio.com/

DBInfo

https://dbiblog.nsfbio.com/

MCB Blog

https://mcbblog.nsfbio.com

Next IOS VOH: January 18, 2024

Topic: Catalyzing Across Sectors to Advance the Bioeconomy (CASA-BIO)


NSF