National Science Foundation

Pedro Marronetti

APS April Meeting

Sacramento, CA – April 2024

NSF News

Saul González is the New Physics Division Director

- Dr. González assumed the position in 2024 when Denise Caldwell became the Acting Assistant Director of the Mathematical and Physical Science Directorate (**MPS**)
- He was the Program Director for Elementary Particle Physics and Senior Advisor for Facilities at NSF
- Before that he worked as a program officer at DOE

Jean Cottam Allen on detail as Head of the Office of Polar Programs

- During this detail, Mike Cavagnero will be the acting Physics Division Deputy Director

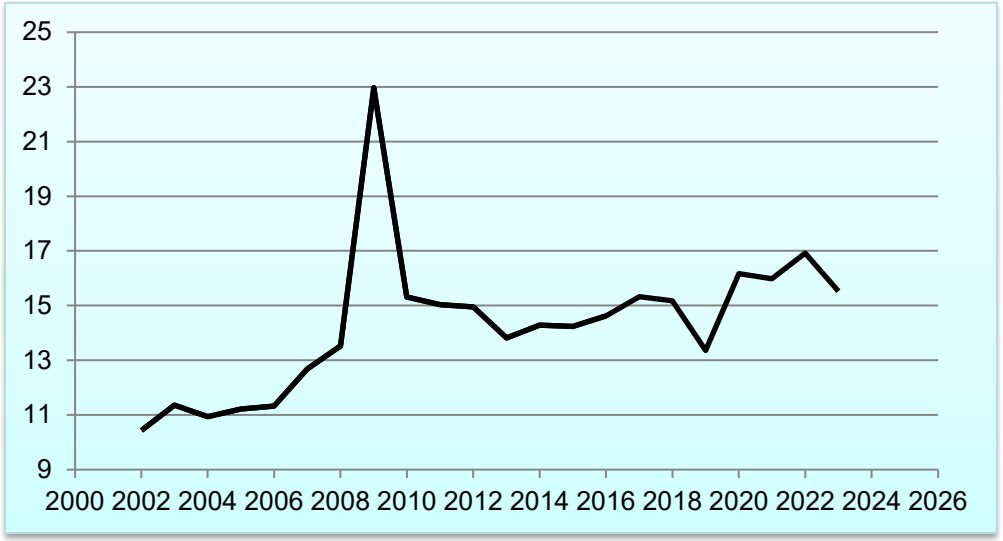
Budget news

Progression of NSF budget in the last three fiscal years (FY) and FY24 (in millions):

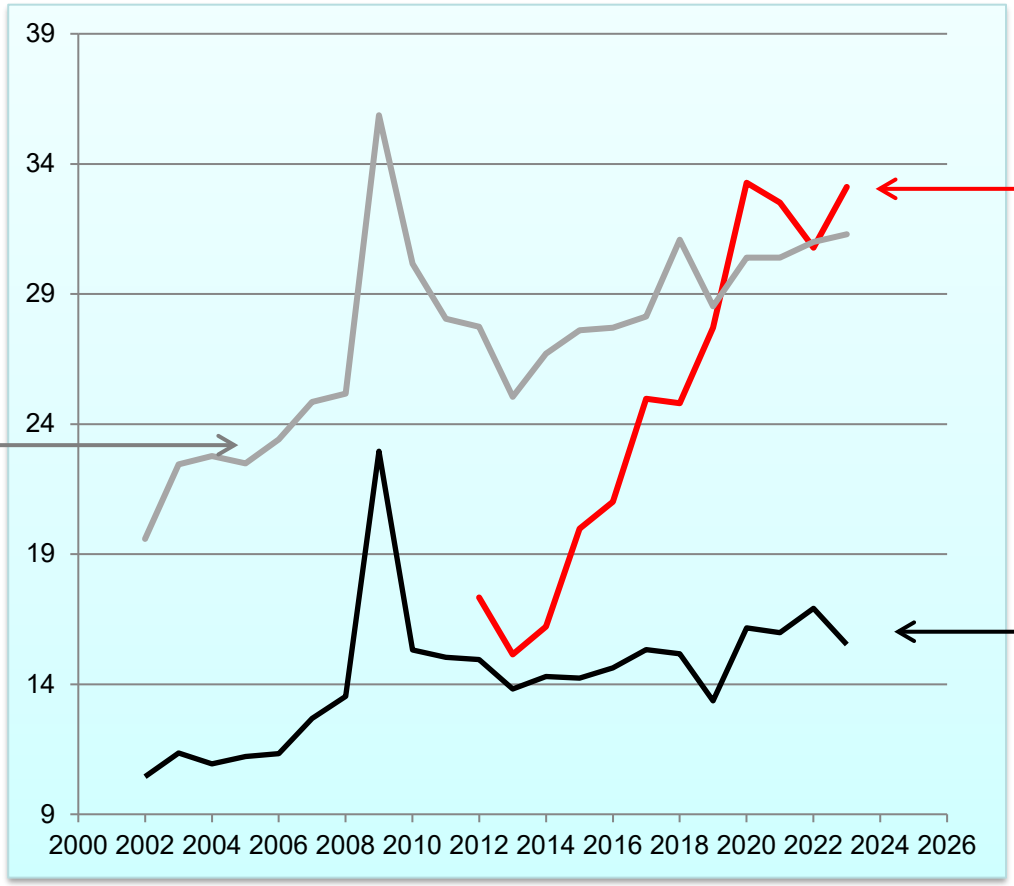
	FY22 Actual (Δ from last FY)	FY23 Estimate (Δ from last FY)	FY24 Approp (Δ from last FY)	FY25 Request (Δ from last known FY)
NSF	$8,980 (4.3%)	$10,109 (13%)	$9,000 (-8.0%)	$10,412 (16%)
MPS Directorate	$1,615 (1.4%)	$1,686 (4.4%)	-	$1,682 (-0.2%)
PHY Division	$310 (2.0%)	$313 (1.0%)	-	$313 (0.0%)
Gravity programs	$16.92 (5.9%)	$15.53 (-8.2%)	-	-

Gravitational Physics programs:

Grav. Theory
Grav. Experiments & Data Analysis
LIGO Research Support
(Instrumentation)



Budget: Appropriation + External sources (in millions)



Physics Division
(divided by 10)

Grav. Physics Total
Appropr. + External
Funding: $33.1M

Grav. Physics
Appropr.: $15.5M

In 2023 about 53% of the funding awarded to Grav. Physics PIs was obtained from outside the Grav. Physics programs (i.e., Windows on the Universe, SI2 (OAC), AAG (Astronomy), PFC, MRI, PIF/CP, RAISE, co-funding with other programs in and out of Physics Division, external agencies, etc.).

Other programs' deadlines

- Astronomy & Astrophysics Grants (AAG)
  - Deadline: November 13, 2024
- CSSI
  - CSSI is an umbrella program for four classes of proposals: Elements, Frameworks, Cyberinfrastructure Planning Grants, and Cyberinfrastructure Implementations.
  - Deadline: December 2, 2024
- RAISE
  - $1M max / Duration up to 5 years
  - Support of two or more Prog. Directors from different disciplines
  - No LOI needed / No Deadlines (similar to EAGERs)
- MRI
  - Proposal window: October 15 to November 15, 2024 (Not in January anymore!)
- CAREER
  - Deadline: July 24, 2024
- New funding opportunities in DEI
  - See auxiliary slides

FY24 Changes to Proposal & Award Policies & Procedures (PAPPG)

New PAPPG effective May 2024:

- Use Research.gov (Fastlane has been retired)
- Biosketch does not have a page limit and the “Synergistic Activities” section has been removed
- If you get an award, an updated version of the “Current & Pending” document will be requested (upload it through Research.gov)
- The “Postdoc Mentoring Plan” is now the “Mentoring Plan” and it now includes student mentoring

Windows on the Universe Update

While the Windows on the Universe (**WoU**) Big Idea officially ended in 2023, MPS has reserved some funds for WoU in FY24. A new targeted solicitation was issued in February: NSF 24-542: Multi-Messenger Coordination for Windows on the Universe

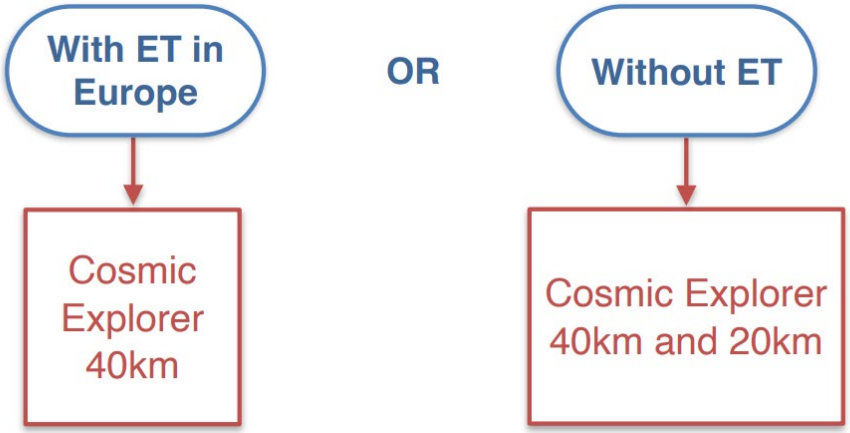
"The astrophysics community has available a diverse and powerful network of ground- and space-based instruments and facilities to enable observers to identify the electromagnetic signatures of Multi-Messenger Astrophysics (MMA) events, and then monitor and characterize their evolution. There also exists a rich set of software packages to track, schedule, and support these observations. The community has identified the need to better harmonize these resources and interconnect users. The Multi-Messenger Coordination for Windows on the Universe (MMC-WoU) program will support the development of pathways or networks to increase the coordination and optimization of follow-up observations for MMA campaigns".

Deadline: May 13, 2024

Next-generation GW Observatory in the U.S.

In 2023, NSF convened a review panel to study the landscape of next-generation GW observatories in the U.S. This panel (or MPS AC sub-committee) recommended potential candidates for such observatories as MREFC projects.

Recommendations:



Saturday **Session S10**: NSF MPSAC NextGenGW Report (Talk by Vicky Kalogera at 1:30 PM)
The full report can be found here

DFG-NSF Lead Agency Opportunity

DFG-NSF opportunity for collaborations between US and German groups in Gravitational Physics (experimental, computational & theoretical projects)

- Dear Colleague Letter published in December 2022 (NSF 23-036).
- All programs in the Physics Division will be able to participate. Mention this opportunity to your colleagues from other areas of research!
- A new NSF – Swiss NSF Lead Agency opportunity is currently open (NSF 23-049).

Writing proposals: Mentoring program

Mentoring Program: The goal is to make the expertise of senior researchers on proposal writing available to young investigators

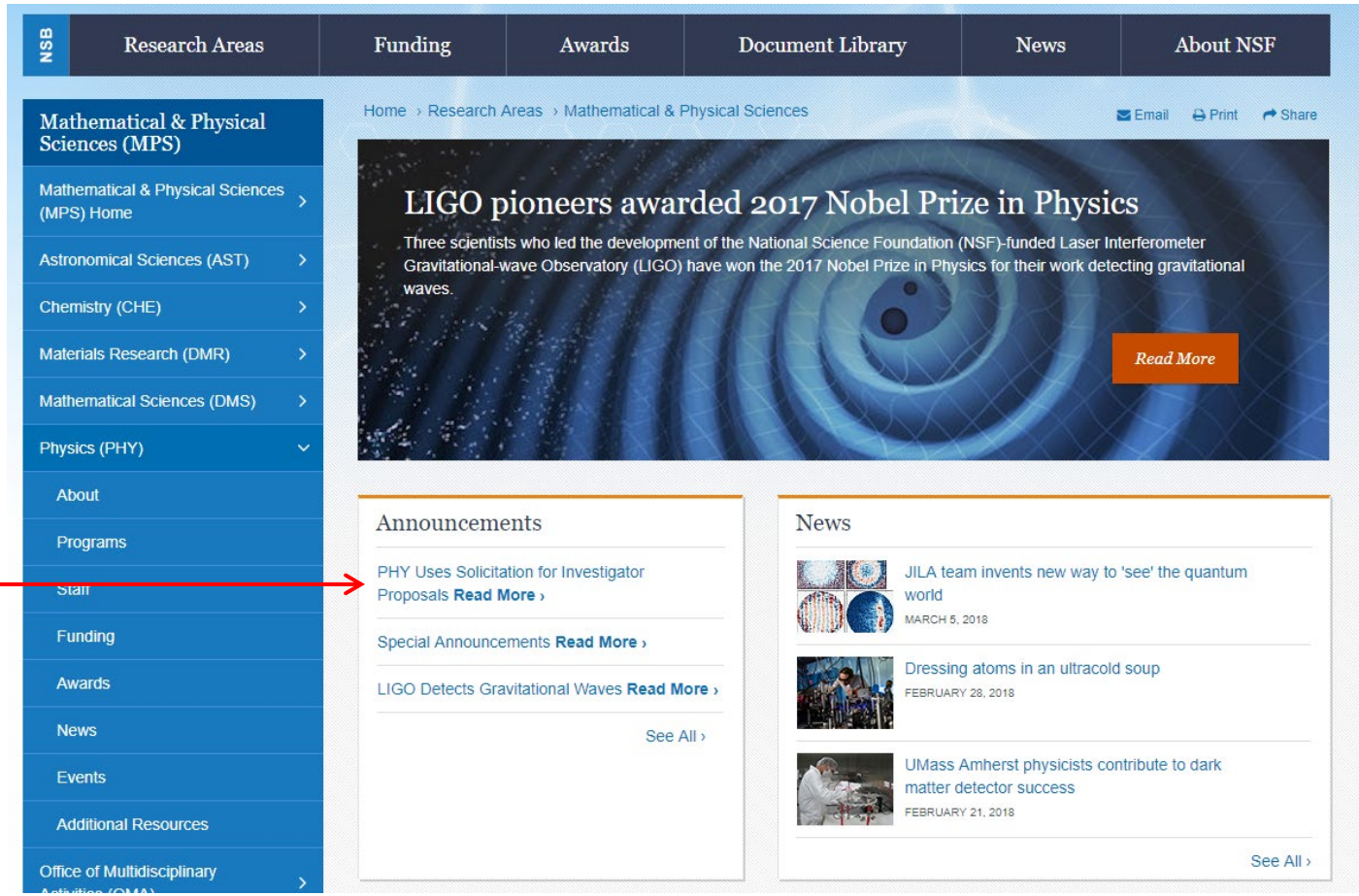
How does it work?

- The Mentee requests a Mentor (email me at pmarrone@nsf.gov).
- I will send you a list of Mentor Volunteers. You can contact anyone you like without identifying them to NSF.
- The Mentor will read you proposal and provide feedback once. Send the proposal timely! Mentors are busy people.
- NSF accepts no responsibility on the interaction/outcome of the program!

For the latest news:

http://www.nsf.gov/div/index.jsp?div=PHY

NSF 23-615



Email any questions to pmarrone@nsf.gov

Auxiliary slides

- Committee of Visitors 2023
- NSF Proposal submissions in 2024
- New funding opportunities on DEI
- Gravitational Wave Agencies Correspondents (GWAC)
- Nelson (OSTP) Memo on Public Access

Committee of Visitors (COV) 2023

- A COV panel has reviewed the activities of NSF's Physics Division in 2019-2022
- The report is available here
- I am very grateful to the COV members. In particular, the Gravitational Physics Subgroup Alessandra Corsi, Gary Horowitz (Chair), and Xavier Siemens.
- Starting in 2023, PI with current NSF funding could be able to apply for 4-year grants instead of the traditional 3-year awards

Proposal submission for 2024

Fastlane has been phased-out

- Proposals submitted in 2024 must use Research.gov

New issue of “Division of Physics: Investigator-Initiated Research Projects”

- The latest version is now NSF 23-615
- These additional requirements relate primarily to proposers who anticipate having multiple sources of support, proposals involving mid-scale research infrastructure and/or long-duration efforts, and proposals with letters of collaboration

Proposal submission for 2024

- New Physics Division solicitation:
  "Division of Physics: Investigator-Initiated Research Projects" NSF 23-615

- Deadline for Gravitational Physics programs: November 27, 2024

Research.gov open for proposal submissions

- Fastlane is no longer available for proposal submission. Use Research.gov.

- Advantages of Research.gov:
  - Integrated compliance checks for fonts, margins, and line spacing
  - Real-time compliance feedback and alerts, so proposers know a proposal section is compliant before moving on to another section
  - Specific checks on the budget screens and for Collaborators and Other Affiliations (COA) uploads
  - A few seconds to upload documents versus 30-90 seconds for each document upload in Fastlane
  - Embedded relevant sections of the Proposal & Award Policies & Procedures Guide (PAPPG) and video job aids, so proposers don't have to go to multiple sites to access guidance and tools

Common proposals mistakes

In times of tight budgets, the main reason proposals go unfunded is not fatal flaws in research but imperfections (of different caliber) that make some proposals less competitive than others.

- Context of research not properly described:
  - Claims that a group is the only one working on a subject or single-handedly carrying out a given type of research
  - What other groups are doing the same or similar work? How is your project different? Who are you collaborating with and what is your role?

- Large increase in request:
  - How well can you justify an increase (in some cases of a factor of 2 or 3) over your current level of funding?

- Lack of details:
  - Typical of long “laundry list” of projects proposals

New funding opportunities on Diversity, Equity and Inclusion

- AGEP
- MPS – Ascend
- MPS – LEAPS
- Physics GRS
- PREP

NSF-wide

MPS-wide

Physics Division-wide*

More details in auxiliary slides.

Read the corresponding solicitation before contacting me!

* Women are considered Under-Represented Minorities (URM)

Alliances for Graduate Education and the Professoriate (AGEP)

- Goal: “to increase the number of historically underrepresented minority faculty in STEM”.
- Support for URM Graduate Students for a year for up to $60K.
- NSF-wide solicitation: All NSF funded areas qualify.
- Current NSF PIs submit a Supplement Proposal for an existing award. Contact me in advance for Gravitational Physics supplements.
- AGEP also includes three proposal tracks through solicitation NSF 21-576:
  - AGEP Institutional Transformation Alliance (ITA)
  - AGEP Faculty Career Pathways Alliance Model (FC-PAM)
  - AGEP Catalyst Alliance (ACA)
- Institution must belong to an AGEP cluster of universities and colleges. If you are unsure if your institution qualifies, ask your Sponsored Research Office (SRO).

Mathematical and Physical Sciences Ascending Postdoctoral Research Fellowships (MPS-Ascend)

- Goal: “to support postdoctoral Fellows who will broaden the participation of groups that are underrepresented in MPS fields”.
- Support for postdocs for up to 3 years ($100K/year).
- MPS-wide solicitation.
- Postdocs apply directly to NSF through solicitation NSF 22-501.
- Deadline: January 2023
- Candidates do not need to belong to an URM, but they must be US citizens or permanent residents.
- The proposal must include a plan on “how the applicant and project will serve to broaden the participation of underrepresented minorities in MPS fields”.
- Contact NSF program officer prior to submission.

Launching Early-Career Academic Pathways in the Mathematical and Physical Sciences (MPS-LEAPS)

- Goal: “helping to launch the careers of pre-tenure faculty in Mathematical and Physical Sciences (MPS) fields at minority-serving institutions (MSIs), predominantly undergraduate institutions (PUIs), and Carnegie Research 2 (R2) universities” and “aims to broaden participation to include members from groups underrepresented in the Mathematical and Physical Sciences, including Blacks and African Americans, Hispanics, Native Americans, Alaska Natives, and Native Hawaiians, and other Pacific Islanders”.
- Support for pre-tenure faculty for up to 24 months (up to $250K of total cost).
- MPS-wide solicitation.
- PIs apply directly to NSF through solicitation NSF 22-503.
- Deadline: January 2023
- Candidates must be US citizens or permanent residents.
- The proposal must include a plan “that shows how the proposed activities will increase (1) the participation of scientists from underrepresented groups and (2) the numbers of such individuals that serve as role models for the scientific workforce of the future”.
- Contact NSF program officer prior to submission.

Dear Colleague Letter: PHY – GRS Supplements

- Goal: to support “the recruitment, mentorship, and retention of junior researchers from historically underrepresented groups”.
- Physics Division-wide solicitation.
- Support for a single newly recruited graduate student for up to 12 months for a current Physics Division award (typical amount $60K/year). It can be renewed for up to 3 times.
- If your institution is part of AGEP, you should use that solicitation instead!
- PIs submit a Supplement proposal through solicitation NSF 21-593.
- Graduate students must be US citizens or permanent residents.
- Contact NSF program officer prior to submission.

Partnerships for Research and Education in Physics (PREP)

- Goal: “to enable and grow partnerships between minority-serving institutions (MSI) and Division-supported Physics Frontiers Centers to increase the participation of members of underrepresented groups in physics ”.
- Physics Division-wide solicitation.
- Support for MSI PIs for up to 3 years (up to $300K/year). The proposal must identify the Director of an existing Physics Frontier Center (PFC) as a Co-PI.
- PIs submit a Supplement proposal to an existing PFC award through solicitation NSF 21-610. The MSI faculty will be supported through a sub-award.
- Deadline January 2023
- Contact NSF program officer prior to submission.

Gravitational Wave Agencies Correspondents (GWAC)

- The GW scientific community recommended *"… a closer link between the global funding agencies, to start to coordinate medium- and long-term planning, and looking for synergy between the agency capabilities to most effectively stimulate the field*." ("What Comes Next for LIGO?" Workshop, May 2015, Silver Spring MD.)

- NSF created an informal communication framework between funding agencies called "*Gravitational Wave Agencies Correspondents*" (GWAC).

- Homepage http://www.nsf.gov/mps/phy/gwac.jsp.

- The 8th GWAC meeting was held in May 2023.

- Current member agencies: ARC (Australia), BMBF (Germany), CFI (Canada), CNRS (France), CONACYT (Mexico), DFG (Germany), European Space Agency (ESA), DAE (India), DST (India), FWO (Belgium), INFN (Italy), NASA (US), NSF (US), NWO (Netherlands), STFC (UK).

OSTP Memo about Public Access Policies

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20502

August 25, 2022

Link to Full memo

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

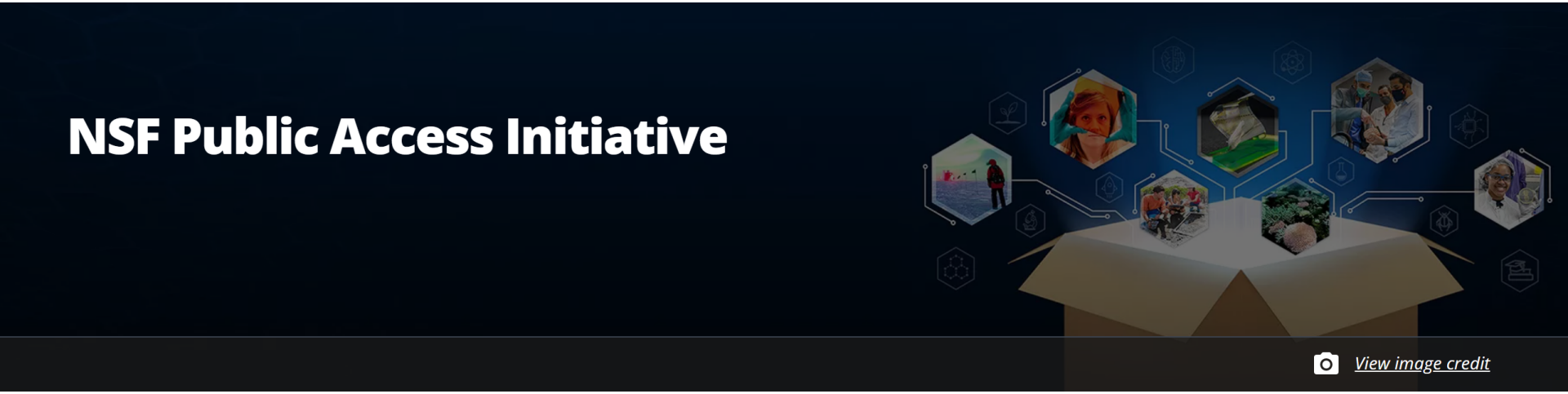
FROM: Dr. Alondra Nelson
Deputy Assistant to the President and Deputy Director for Science and Society
Performing the Duties of Director
Office of Science and Technology Policy (OSTP)

SUBJECT: Ensuring Free, Immediate, and Equitable Access to Federally Funded Research

This memorandum provides policy guidance to federal agencies with research and development expenditures on updating their public access policies. In accordance with this memorandum, OSTP recommends that federal agencies, to the extent consistent with applicable law:

1. Update their public access policies as soon as possible, and no later than December 31st, 2025, to make publications and their supporting data resulting from federally funded research publicly accessible without an embargo on their free and public release;
2. Establish transparent procedures that ensure scientific and research integrity is maintained in public access policies; and,
3. Coordinate with OSTP to ensure equitable delivery of federally funded research results and data.

NSF Public Access Initiative



The NSF Public Access Initiative (PAI) strives to make the outputs of scientific research funded by the National Science Foundation publicly available to the greatest extent and with the fewest constraints possible and consistent with law.

The program maintains the NSF Public Access Repository (NSF PAR), funds a variety of projects to advance the understanding public access broadly, and coordinates a wide variety of agency activities regarding public access.

- NSF Public Access Repository (NSF PAR)
- See a list of what the PAI has funded
- FAQ for Public Access
- Open.science.gov

Recorded webinar on NSF action regarding OSTP "Nelson" Memo

Content Overview

PA History

History of Federal Public Access (PA) policies

Principles

Principles and opportunities from new PA requirements

Approaches

New Plan Development **Approaches**

Input

Stakeholder **Input**

Contact NSF Public Access