



DIRECTOR'S REMARKS

NATIONAL SCIENCE BOARD MEETING

Sethuraman Panchanathan, U.S. National Science Foundation

December 4, 2024



UPDATES FROM THE HILL

FISCAL YEAR
2024 – 2025

FY 2024
\$9.06 BILLION

FY 2025 BUDGET REQUEST
\$10.183 BILLION





Sen. Jerry Moran
University of Kansas
November 7, 2024



Rep. Frank Lucas
Washington, D.C.
November 14, 2024

NSF'S STRATEGIC PRIORITIES

STRENGTHENING ESTABLISHED NSF

With **investments** that
**expand the frontiers of
knowledge and discovery**



INSPIRING MISSING MILLIONS

Using **capacity building
and interventions** that
enhance and
broaden participation



ACCELERATING TECHNOLOGY & INNOVATION

Through innovative,
cross-cutting partnerships
and programs



STRENGTHENING ESTABLISHED NSF





Nobel Prizes 2024

To the greatest benefit to humankind since 1901





2024 Nobel Prize Winners

Nobel Prize in Physics



John J. Hopfield
Princeton University
Princeton, NJ, USA



Geoffrey Hinton
University of Toronto
Toronto, Canada

Nobel Prize in Chemistry



David Baker
University of Washington
Seattle, WA, USA; Howard Hughes Medical
Institute, USA



Demis Hassabis
Google DeepMind
London, United Kingdom



John Jumper
Google DeepMind
London, United Kingdom

Nobel Prize in Physiology or Medicine



Victor Ambros
UMass Chan Medical School
Worcester, MA, USA



Gary Ruvkun
Massachusetts General Hospital, Boston, MA, USA
Harvard Medical School, Boston, MA, USA

Prize in Economic Sciences in Memory of Alfred Nobel



Daron Acemoglu
Massachusetts Institute of
Technology (MIT)
Cambridge, MA, USA



Simon Johnson
Massachusetts Institute of
Technology (MIT)
Cambridge, MA, USA



James Robinson
University of Chicago
Chicago, IL, USA



2024 Nobel Prize Winners supported by NSF

Nobel Prize in Physics



8 AWARDS

John J. Hopfield
Princeton University
Princeton, NJ, USA



1 AWARD

Geoffrey Hinton
University of Toronto
Toronto, Canada

Nobel Prize in Chemistry

CAREER, I-Corps,
8 AWARDS

David Baker
University of Washington
Seattle, WA, USA; Howard Hughes Medical
Institute, USA



Demis Hassabis
Google DeepMind
London, United Kingdom



John Jumper
Google DeepMind
London, United Kingdom

Nobel Prize in Physiology or Medicine



3 AWARDS

Victor Ambros
UMass Chan Medical School
Worcester, MA, USA



Gary Ruvkun
Massachusetts General Hospital, Boston, MA, USA
Harvard Medical School, Boston, MA, USA

Prize in Economic Sciences in Memory of Alfred Nobel



2 AWARDS

Daron Acemoglu
Massachusetts Institute of
Technology (MIT)
Cambridge, MA, USA



1 AWARD

Simon Johnson
Massachusetts Institute of
Technology (MIT)
Cambridge, MA, USA



1 AWARD

James Robinson
University of Chicago
Chicago, IL, USA

MacArthur Foundation

Fellows 2024

*Celebrating and inspiring the creative potential of individuals
through no-strings-attached fellowships*



MacArthur Foundation Fellowships 2024



Keivan G. Stassun

Astrophysicist and
Science Educator
Nashville, TN

NSF GRFP – NSF CAREER
NSB Board Member
+30 Awards



Benjamin Van Mooy

Oceanographer
Woods Hole, MA

17 NSF Awards



Joseph Parker

Evolutionary Biologist
Pasadena, CA

NSF CAREER



Martha Muñoz

Ecology and Evolutionary/
Environmental Biology
New Haven, CT

4 NSF Awards





NSF's Role in the Pinnacle Point, South Africa

- Designated a UNESCO World Heritage site (July 2024)
- Arizona State University research site totaling over **\$4M** in NSF investments and resulting in more than 100 peer-reviewed articles
- Groundbreaking insights into early human survival and adaptability





Curtis Marean

Arizona State University

- Research began in 1999 with a **\$20K** High Risk Exploratory award
- **25 years of research** revealed key milestones in human evolution, including early seafood consumption, tool-making, and use of pigments

INSPIRING MISSING MILLIONS

Building the **WORKFORCE** for the **FUTURE**





NSF CyberCorps® Scholarship for Service Program

- Tuskegee University: **\$2.86M**
- University of Tennessee at Chattanooga: **\$2.3M**
- Fostering the development of next-generation of AI, machine learning, and cybersecurity professionals
- Two alumni represented at the AI in Education Congressional Showcase:

Ariel Bowman, TU '21

Federal Protective Services, Department of Homeland Security

Robert Johnson, UTC '23

Air Force Civilian Service at Joint Base Andrews



Artificial Intelligence for Georgia (AI4GA)

- **\$1.5M** NSF investment to develop AI competencies in underserved areas and underrepresented groups
- Developed a 9-week AI student curriculum and a teacher professional development course
- Reached more than **1,500 students, 20 teachers, 15 schools** across **9 districts** in GA





“It feels like we’re building a legacy.” - Amber Jones

- Program participant to AI4GA program co-designer
- Launched her own business: *Amber Sparks Education LLC - Education Consultant*
- Expanding reach beyond GA to other states

ACCELERATING TECHNOLOGY & INNOVATIONS





NSF ENGINES:

North Dakota Advanced Agriculture Technology Engine

FARMS (Food systems Adapted for Resiliency and Maximized Security)

- Creating resilient and secure food systems in North Dakota
- Combining advanced genomics, climate modeling, nanoscale sensors, and computer networks to monitor and improve the growth of crops
- Building a collaboration framework across academic, private sector, and Tribal partners



NSF'S NEW CENTERS

*Image Credit: Adobe Stock,
NSF Engineering Research Center for Environmentally Applied
Refrigerant Technology Hub (EARTH), Photo by Bettymaya Foott/NSF
NRAO/AUI, composition by U.S. National Science Foundation*

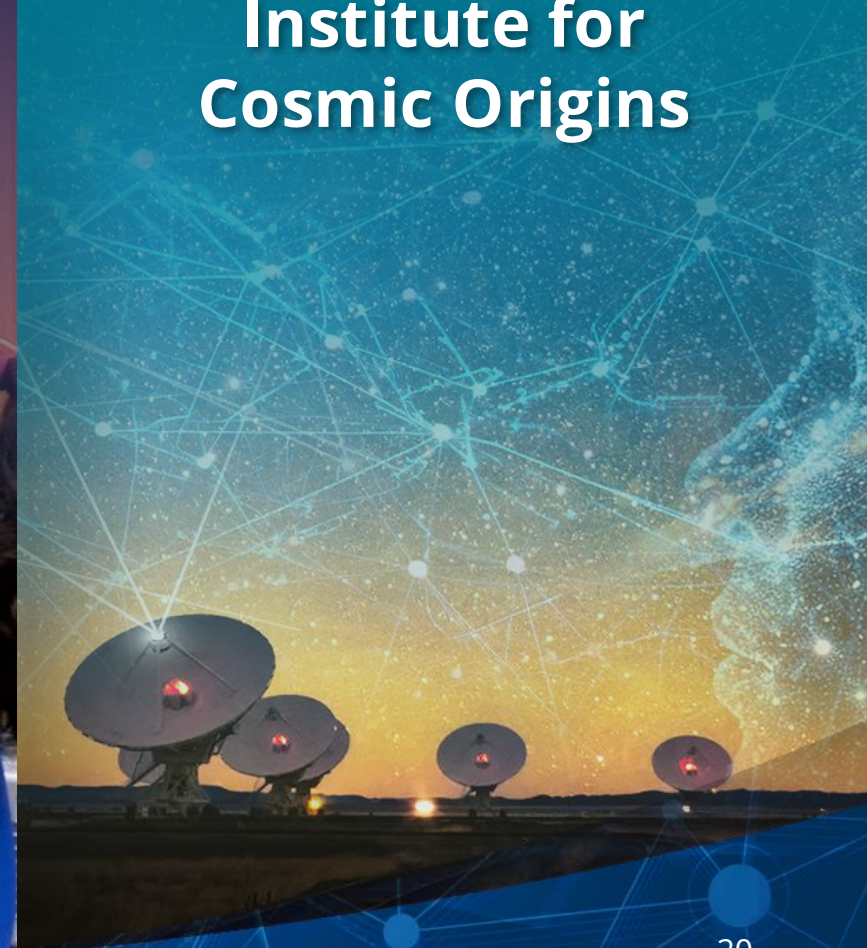
NSF Global Centers: Alliance for Socially-acceptable & Actionable Plants



NSF ERC for Environmentally Applied Refrigerant Technology Hub (EARTH)



NSF-Simons AI Institute for Cosmic Origins





ENGAGEMENTS

NSF ENGAGEMENTS



University of Oregon
August 26, 2024
Credit: University of Oregon



Carnegie Mellon University
October 11, 2024
Credit: Carnegie Mellon University



The Golden Goose Awards
September 24, 2024
Credit: Linnea Farnsworth, Golden Goose Award



AI Hill Event
September 19, 2024
Credit:



Oregon University
August 27, 2024
Credit: Maia Insinga, Oregon State University



28th EPSCoR National Conference
October 15, 2024
Credit: Amanda Greenwell/NSF



Global Centers Announcement
October 2, 2024. United Kingdom
Credit:



University of Kansas with Sen. Moran
November 7, 2024
Credit: Amanda Greenwell/NSF



National University of Singapore
November 19, 2024. Singapore
Credit: Brian Stone/NSF



The AI-Bioscience Collaborative Summit
October 31, 2024 Washington, D.C.
Credit: Brian Stone





Oregon State University
August 27, 2024



The Golden Goose Awards
September 24, 2024



Global Centers Announcement
October 2, 2024. United Kingdom



28th EPSCoR National Conference
October 15, 2024



*Empowering Discoveries and Innovation
to Transform the Future*

**NSF 75 YEARS OF
DISCOVERY & INNOVATION**

75th ANCHOR ACTIVITIES



**EVENTS AND
OUTREACH**



**NSF IMPACT
STORIES**



**NSF DIRECTORATE
PLANS**



Senior Executive Introductions

Dr. David Berkowitz
Assistant Director, MPS

Dr. Miriam Deutsch
Deputy Division Director, DMR/MPS

Dr. David Barker
Division Director, SES/SBE

Dr. Camille McKayle
Deputy Division Director, EES/EDU

Dr. Eric Miller
Division Director, EEC/ENG

Dr. Kerri Dugan
Section Head, ITE/TIP

Mr. Jesse Simons
Division Director, DFM/BFA

Ms. Barbara Timm-Brock
Section Head, (TI/TIP)

Dr. John Hannan
Deputy Division Director, AGS/GEO

Dr. Margaret Benoit
Executive Officer, OPP/GEO

OLPA Update



THANK YOU



Alexandra Isern

Assistant Director

DIRECTORATE
FOR GEOSCIENCES
(GEO)



Kendra Sharp

Office Head

OFFICE OF INTERNATIONAL
SCIENCE AND ENGINEERING
(OD/OISE)





