

Science Philanthropy: A Growing Component of the Research Enterprise

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Joint Meeting of the Space Studies Board & the Board on Physics and Astronomy

NASEM Beckman Center

November 19, 2025



OUR MISSION

To advance scientific
discovery through
visionary philanthropy

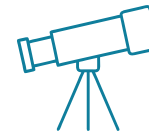


OUR FOCUS ON DISCOVERY SCIENCE

The Alliance specializes in advising on discovery science, also known as basic science or foundational, early-stage scientific research, the eventual applications of which cannot always be anticipated at the outset. It is fundamental research that can be:



**DRIVEN BY
CURIOSITY**



FOCUSED ON DISCOVERY



**INSPIRED BY
POTENTIAL USE**



**INITIATED TECHNOLOGY
DEVELOPMENT**

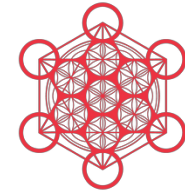
OUR FOUNDERS



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FOUNDATION



Howard Hughes
Medical Institute



THE
KAVLI
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GORDON AND BETTY
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RESEARCH CORPORATION
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SCIENCE
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WE PROVIDE CUSTOMIZED SERVICES TO MATCH PHILANTHROPISTS AT EACH STAGE OF THEIR JOURNEY

Introduction and Exploration

- Defining mission and vision
- Developing strategies
- Funding mechanisms and models
- Benchmarking

Connection and Data Gathering

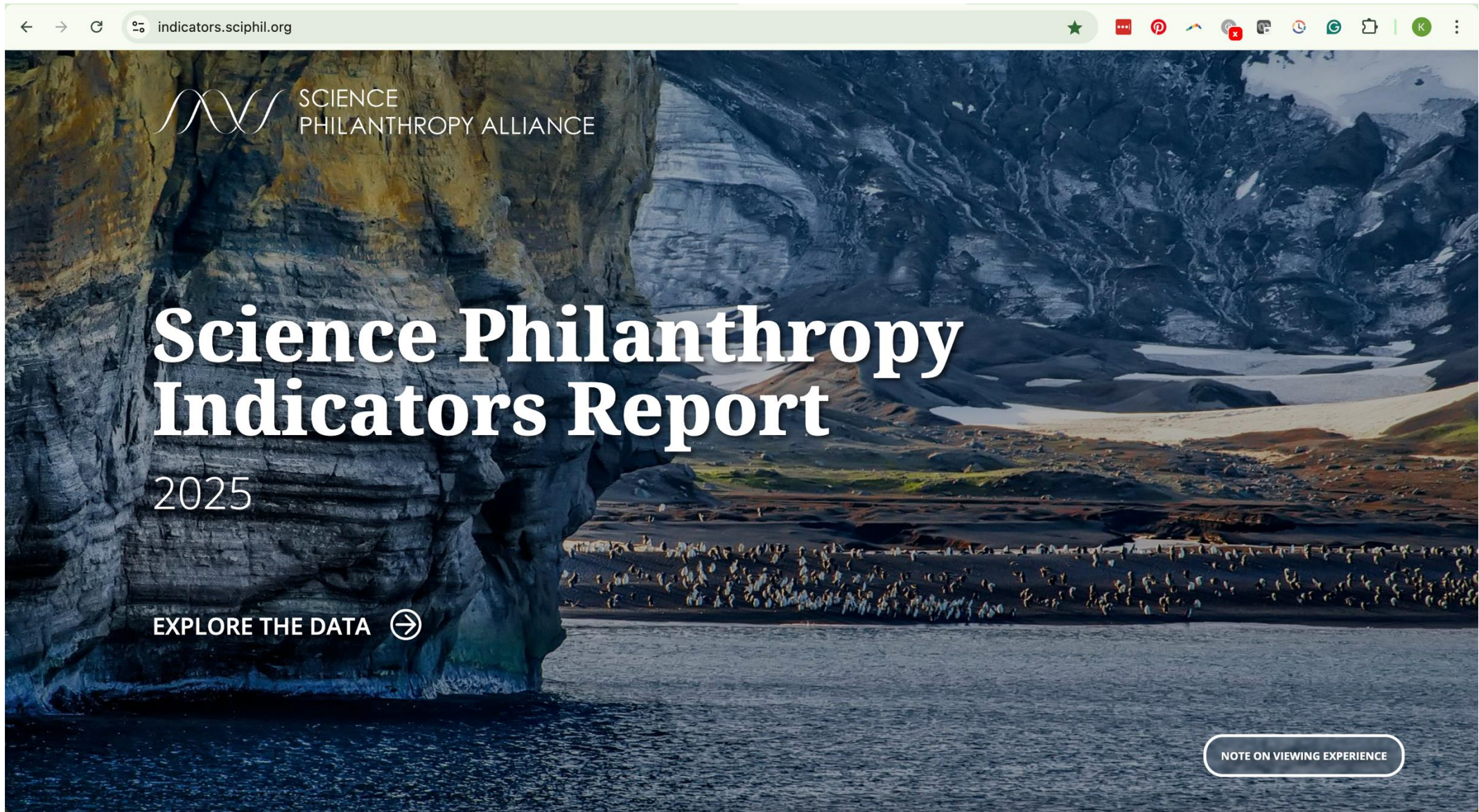
- Connecting funders, scientists, and experts
- Convening funder discussions and events
- Landscape analyses

Investment

- Crafting partnerships
- Supporting RFA/RFP efforts
- Sourcing funding opportunities
- Vetting proposals

PROMOTING SCIENCE PHILANTHROPY





Access the interactive report at: indicators.sciphil.org

A Collaboration between the Science Philanthropy Alliance and the UC San Diego Frontiers in Science & Innovation Program



Chris L. Martin

Founder and Lead Consultant
Vela Science



Kate E. Lowry

Strategy Director
Science Philanthropy Alliance



Robert W. Conn

Former President & CEO
The Kavli Foundation



France A. Córdova

President
Science Philanthropy Alliance

Key Findings

\$16.8B

The amount of current philanthropic funding
for basic and applied R&D in 2023

The federal government is the largest research funder at universities and nonprofits, totaling \$58.6B (51%) in 2023.

\$7.4B

The amount of legacy philanthropic funding
for basic and applied R&D in 2023

The philanthropic contribution is estimated at \$24.2B (21%), including \$16.8B in current and \$7.4B in legacy philanthropy.

\$19.2B

The amount of research expenditures self-
funded by universities in 2023

Universities self-funded an additional \$19.2B (17%) through other non-philanthropic revenue sources.

If the President's Budget were enacted, we estimate federal funding for academic research would drop by 37%.

Key Findings

47%

The percentage of graduate students in the U.S. who are international

Most science R&D expenditures (74%) at universities are for the life sciences, totaling \$62.2B in 2023.

An additional \$17.5B is for engineering R&D at universities.

58%

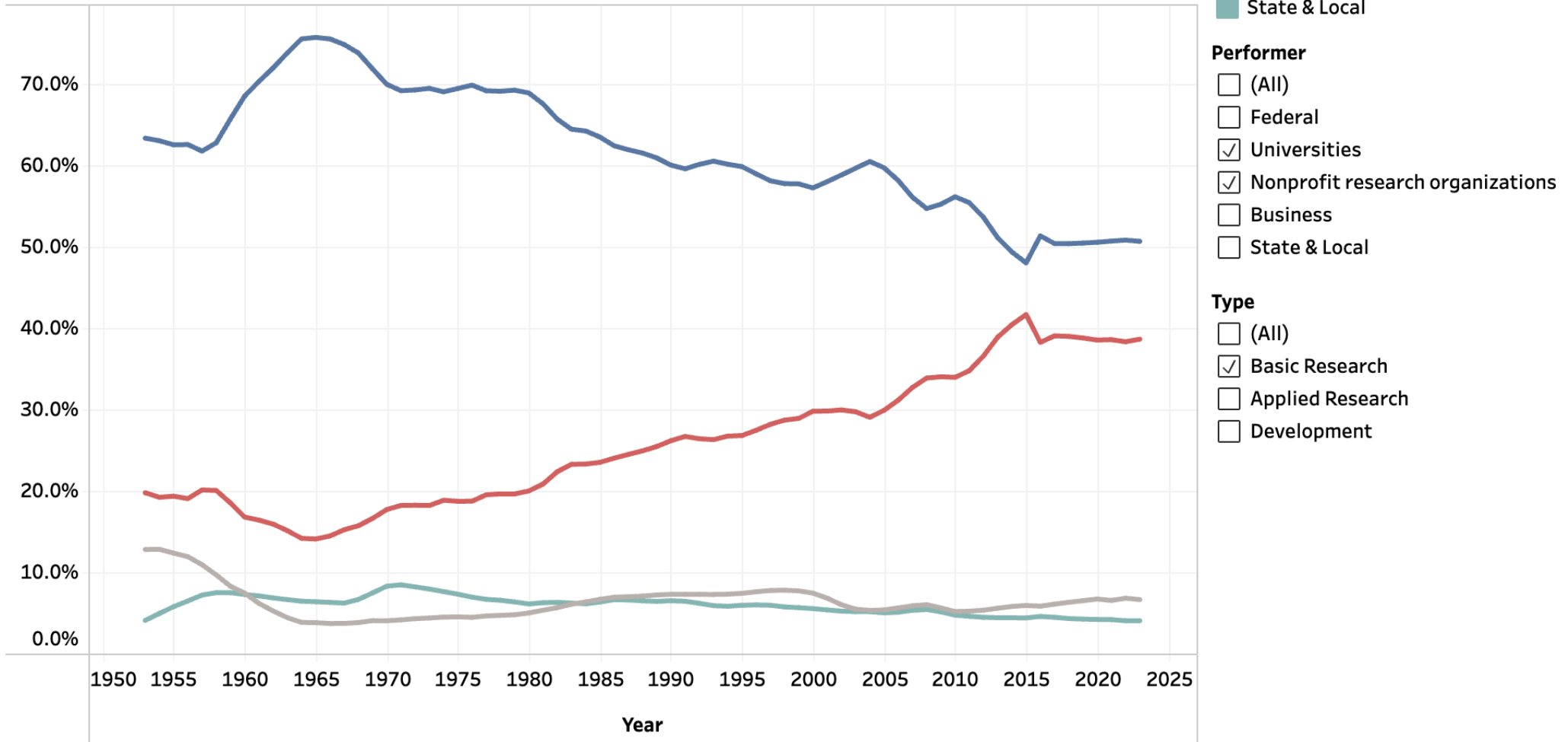
The percentage of postdocs in the U.S. who are international

The federal government supports 25% of doctoral students and nearly 50% of postdocs in science and engineering.

Across all science and engineering fields, 47% of graduate students and 58% of postdocs in the U.S. are international.

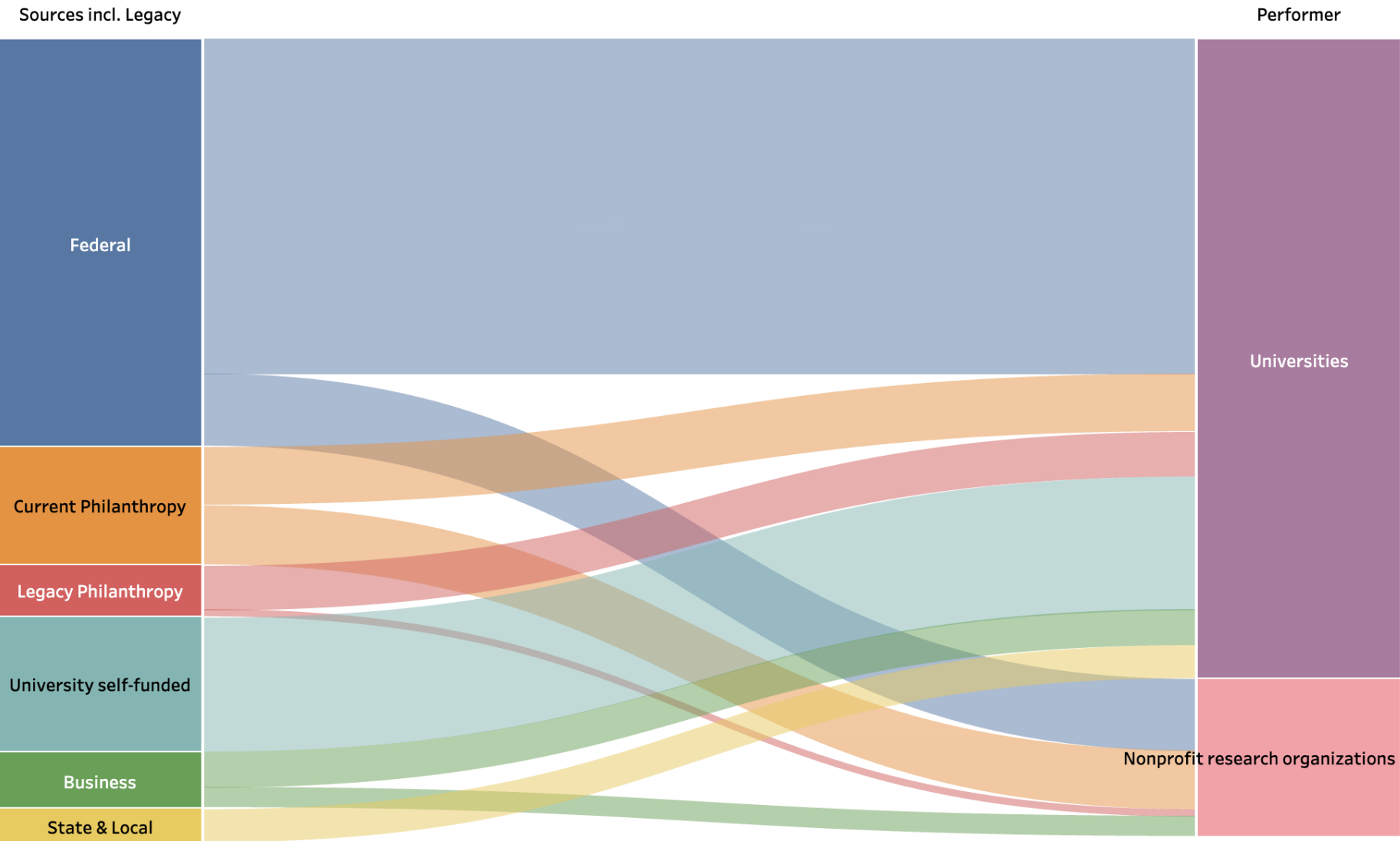
Relative Sources of Funding at Universities & Nonprofit research organizations

Funders of U.S. R&D: Basic Research



Source: National Center for Science and Engineering Statistics (NCSES). 2025. National Patterns of R&D Resources: 2022–23 Data Update. NSF 25-326. Alexandria, VA: U.S. National Science Foundation. Available at <https://ncses.nsf.gov/data-collections/national-patterns/2022-2023>.

Flows of Funding to Universities & Nonprofit research organizations
Funders of U.S. R&D: Basic Research & Applied Research



Source: National Center for Science and Engineering Statistics (NCSES). 2025. National Patterns of R&D Resources: 2022–23 Data Update. NSF 25-326. Alexandria, VA: U.S. National Science Foundation. Available at <https://ncses.nsf.gov/data-collections/national-patterns/2022-2023>. Note: This figure is adapted to estimate “legacy philanthropy” at both universities and non-profit research organizations as Conn et al. (2023) did for universities.

KEY FINDINGS: PHYSICAL SCIENCES

\$6.9 B

R&D expenditures on physical sciences
at U.S. universities in 2023

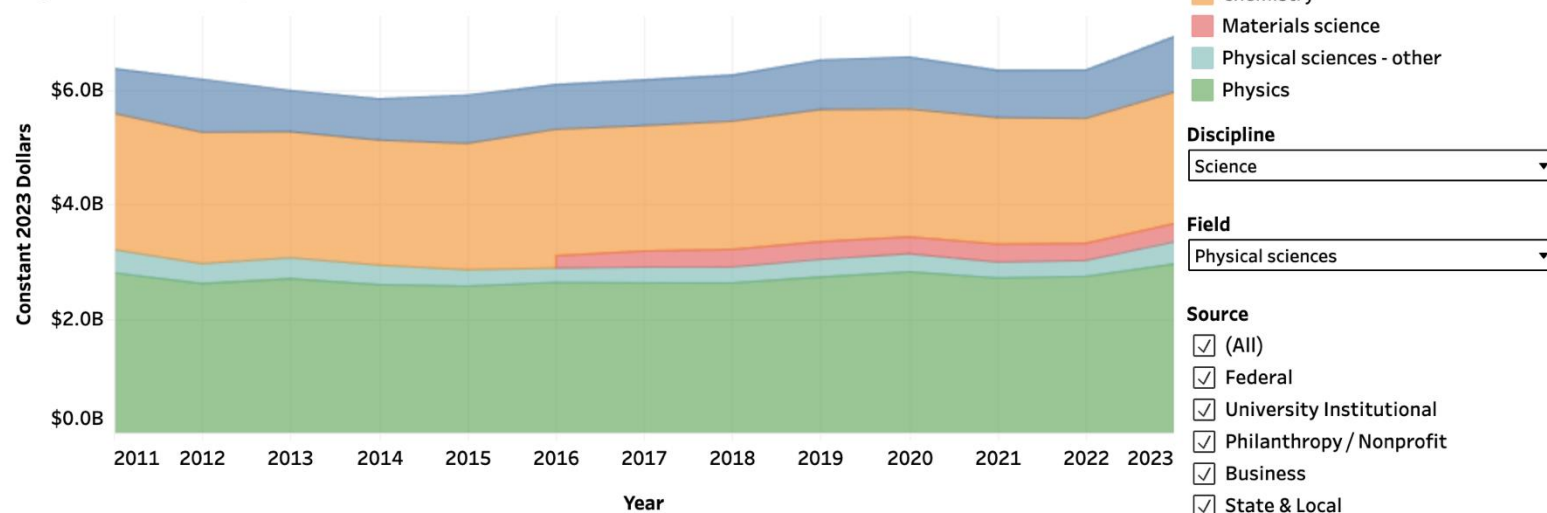
16%

Change in university R&D expenditures on
physical sciences from 2013 to 2023 when
adjusted for inflation

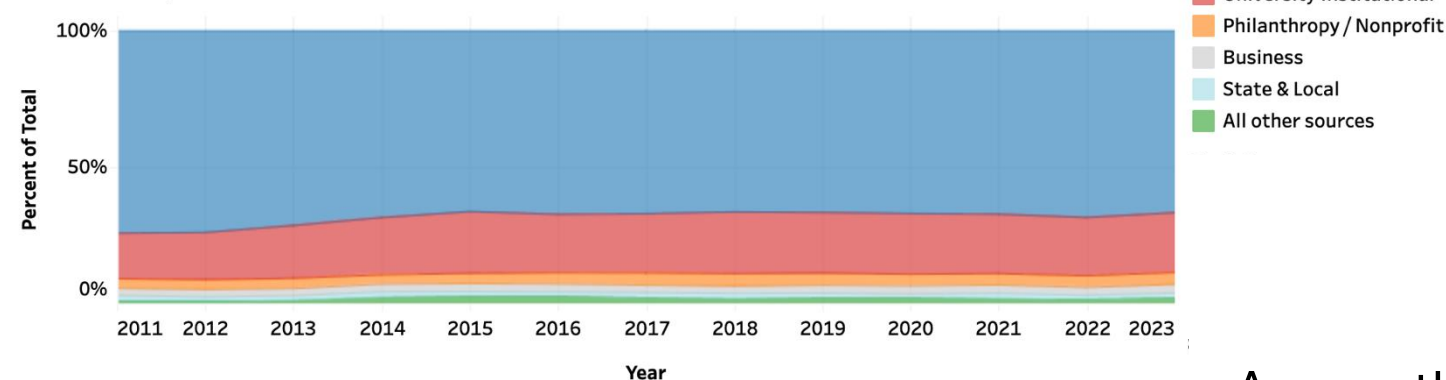
67%

Percentage of university R&D expenditures
on physical sciences supported by the
federal government

University R&D Spending within Science
Physical sciences, Sources: All



Funding Sources for University R&D Spending
Science: Physical sciences: All



Source: National Center for Science and Engineering Statistics (NCSES). 2024. Higher Education Research and Development: Fiscal Year 2023. NSF 25-314. Alexandria, VA: U.S. National Science Foundation. Available at <https://nces.nsf.gov/surveys/higher-education-research-development/2023>.

KEY FINDINGS: PHYSICAL SCIENCES

~40,000

Graduate students in physical sciences at U.S. universities in 2023

~7,000

Postdocs in physical sciences at U.S. universities in 2023

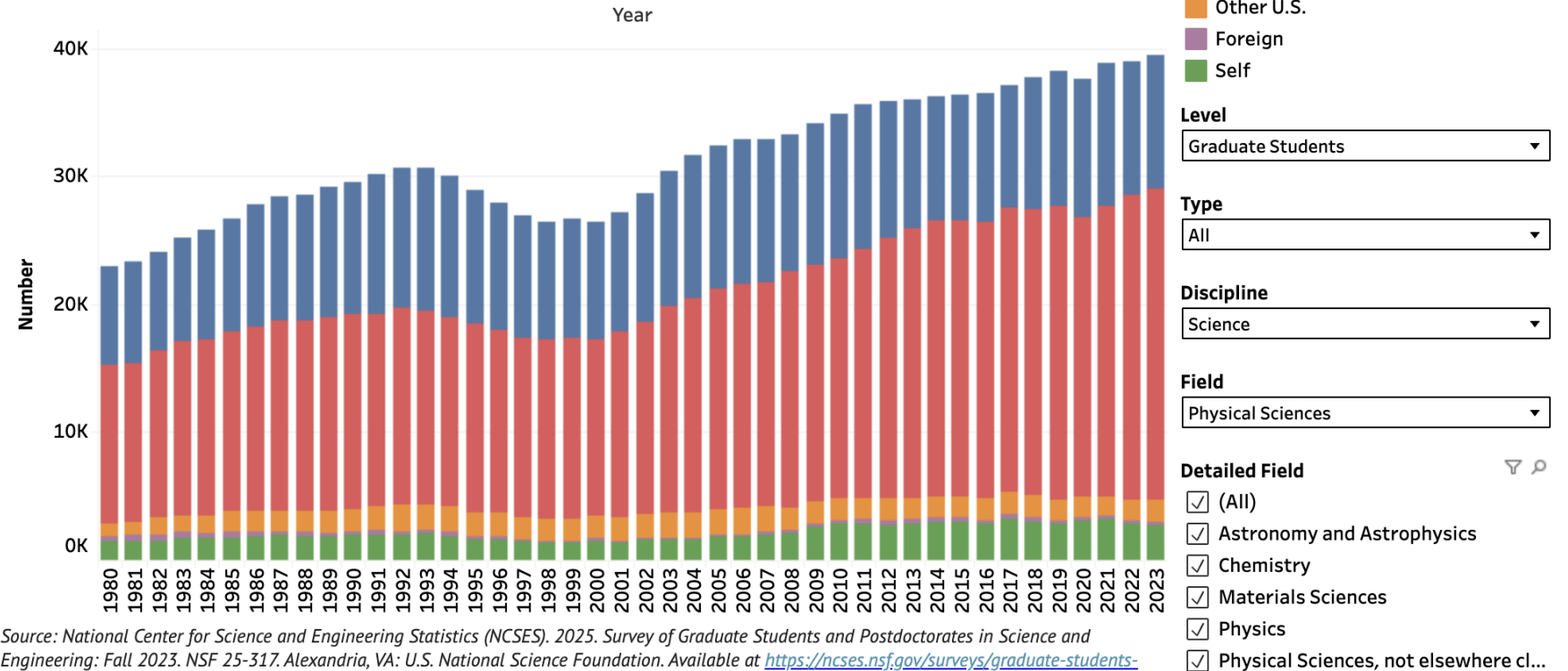
26%

Percentage of graduate students in physical sciences supported by the federal government

43%

The percentage of postdocs in physical sciences in the U.S. who held temporary visas in 2023

Sources of Support for Graduate Students
Science: Physical Sciences: All



Source: National Center for Science and Engineering Statistics (NCSES). 2025. Survey of Graduate Students and Postdoctorates in Science and Engineering: Fall 2023. NSF 25-317. Alexandria, VA: U.S. National Science Foundation. Available at <https://ncses.nsf.gov/surveys/graduate-students-postdoctorates-s-e/2023>. Note: NSF made some changes to the field and subfield categorization in 2017. For more information, please see: <https://ncsesdata.nsf.gov/gradpostdoc/2017/gss17-tech-notes.pdf>.

PHILANTHROPIC COLLABORATIONS IN THE PHYSICAL SCIENCES

Early Science with the Vera Rubin Observatory's LSST

2024-2026

Scientists have been preparing for more than a decade to analyze data from the Legacy Survey of Space and Time (LSST), which is expected to be carried out by the Vera C. Rubin Observatory starting in late 2024. This open-access dataset will be higher in volume, velocity, and complexity than any previous astrophysics experiment and could spark an extraordinary era of discovery into fundamental questions about the Universe, but capability gaps could severely limit the science that can be done. This Scialog series aims to mitigate two impediments to realizing the full scientific potential of LSST: the lack of seed funding to ignite early LSST discoveries with these data, and the critical need to create the cross-disciplinary connections required to tackle the biggest questions LSST is poised to address. This Scialog will facilitate connections between approximately 50 early career observational astronomers, cosmologists, theoretical physicists and astrophysicists, computational modelers, data scientists, and software engineers, with the goal of catalyzing collaborative projects that will advance the early science needed to make the most of a dataset enabled by one of the most powerful observational machines ever built.

NEXT MEETING

November 13 – 16, 2025

LOCATION

**Loews Ventana Canyon Resort
Tucson, Arizona**

LEAD PROGRAM DIRECTOR

Richard Wiener

ADMINISTRATIVE CONTACT

Meg Martin

CONFERENCE BOOKLETS

2024 Scialog LSST Conference Booklet

SPONSORS



ADDITIONAL SUPPORT

Leinweber Foundation

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PHILANTHROPIC COLLABORATIONS IN THE PHYSICAL SCIENCES

Quantum Matter and Information

2025-2027

Theorists and experimentalists across a broad spectrum of disciplines are focusing their attention on entanglement and other fascinating quantum phenomena as they push the frontiers of knowledge in new and exciting ways. Contemporary quantum science offers the promise of transformational technologies, but to advance breakthroughs in novel quantum materials, precision measurement, sensing, and quantum information, many basic challenges remain to be addressed. A deeper understanding of quantum coherence, entanglement, and the transition from quantum to classical behaviors is essential for progress in quantum theory, simulations, and experimental design. This Scialog seeks to promote broader interactions among different sectors of the quantum science community and will facilitate connections among early career researchers from a wide cross section of academic disciplines. Scientists from physics, chemistry, materials science, surface science, applied mathematics, computer science, engineering, and related fields will be brought together to develop new methodologies and help enhance our understanding of the quantum world with an interdisciplinary perspective.

NEXT MEETING

October 15 – 18, 2026

LOCATION

**Westin La Paloma Resort
Tucson, Arizona**

LEAD PROGRAM DIRECTOR

Eileen Spain

ADMINISTRATIVE CONTACT

Suzette Gonzalez

CONFERENCE BOOKLETS

2025 Scialog QMI Conference Booklet

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RECENT PHILANTHROPIC GIFTS TO THE PHYSICAL SCIENCES

Leinweber Foundation Announces
Largest Gift Ever for Theoretical
Physics Research



**Brinson Exploration Hub
Launches New Frontier for
Science and Engineering**

Caltech



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