

RESEARCH & INNOVATION WEEK

IMPACT THROUGH RESEARCH + SCHOLARSHIP + CREATIVE WORK

October 6–10, 2025.

State of the Research & Innovation Enterprise

October 6, 2025



Research & Innovation Office
UNIVERSITY OF COLORADO BOULDER

Research & Innovation Week: Featured Events

Tuesday, Oct. 7  **Core Facilities Open House and Industry Fair**
11 a.m.–2 p.m. @ SEEC C120

Research and Broader Impacts
2:30–4 p.m. @ UMC 247

Wednesday, Oct. 8  **Unlocking New Funding Opportunities for Research**
3:30–5 p.m. @ Idea Forge (MBE 288)

Engineering Startup Showcase
3:30–4:45 p.m. @ ECCS 201

Thursday, Oct. 9  **Brunch & Learn: The Dos, Don'ts & Discoveries of Industry Research Partnerships**
9–10 a.m. @ UMC 247

Friday, Oct. 10  **UROP Sidewalk Symposium**
9 a.m.–3 p.m. @ VAC Plaza

ATLAS Institute Research Open Labs
3–5 p.m. @ Roser ATLAS Center

**RESEARCH &
INNOVATION
WEEK**

October 6–10, 2025

View **full schedule** and **register @**
colorado.edu/rio/week



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Funding and Leadership Opportunities

- **RIO Faculty Fellows 2026 Cohort Applications:**
Open now, accepted through Oct. 31.
- **Research & Innovation Seed Grants:**
Opened in July, deadline Oct. 13, notifications in December 2025. Up to \$60k per project.
- **Core Facility Voucher Program:**
Applications for vouchers up to \$2k accepted until April 2026, or until available funds are fully allocated.



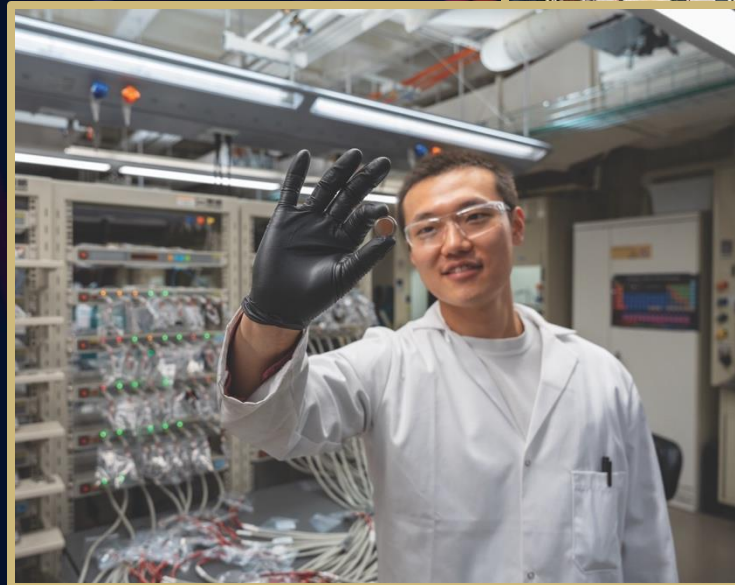
Before we get started ...

- ✓ This talk is being recorded
- ✓ The recording will be shared with registrants by email and posted to the RIO website
- ✓ The recording will be posted to the RIO website in the next few weeks (colorado.edu/rio)

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CU Boulder Land Acknowledgement

CU Boulder acknowledges that it is located on the traditional territories and ancestral homelands of the Cheyenne, Arapaho, Ute and many other Native American nations. Their forced removal from these territories has caused devastating and lasting impacts. While the University of Colorado Boulder can never undo or rectify the devastation wrought on Indigenous peoples, we commit to improving and enhancing engagement with Indigenous peoples and issues locally and globally.



CU Boulder Land Acknowledgement

We will do this by:

- Recognizing and amplifying the voices of Indigenous CU Boulder students, staff and faculty and their work.
- Educating, conducting research, supporting student success and integrating Indigenous knowledge.
- Consulting, engaging and working collaboratively with tribal nations to enhance our ability to provide access and culturally sensitive support and to recruit, retain and graduate Native American students in a climate that is inclusive and respectful.



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Welcome

- ✓ **Federal Actions, Ramifications and Responses**
- ✓ **Meeting the Challenge**
- ✓ **Impact of CU Boulder Research, Scholarship and Creative Work**
- ✓ **Closing thoughts**



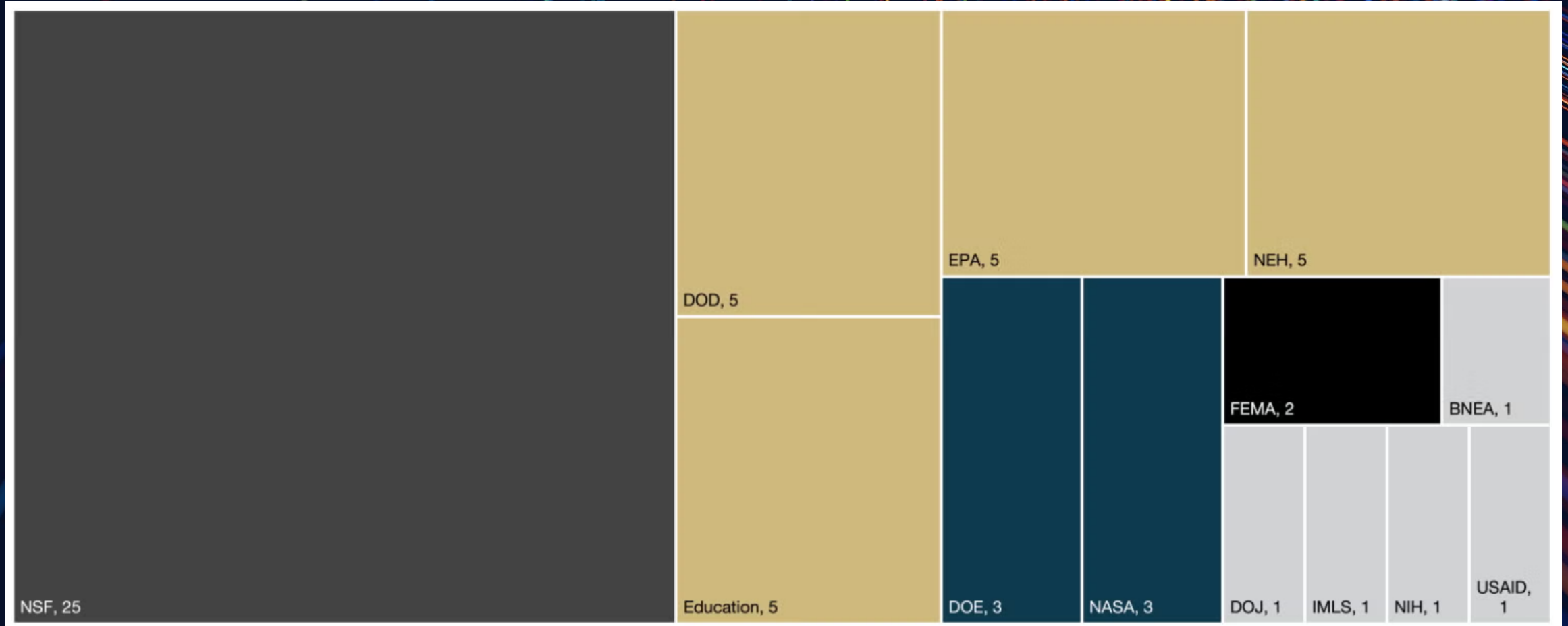
Federal impacts: Shutdown

- Federal government shutdown began October 1
- CU Boulder receives about 70% of research funding from the federal government
- Campus communications:
 - Preparations for possible shutdown (Sept. 23)
 - Update from CU leadership (Oct. 1)
 - Navigating the federal shutdown (Oct. 1)
 - A letter from Massimo Ruzzene (Oct. 1)
- We continue to monitor this evolving situation
- Updates are shared through our federal funding webpage and CU Boulder Today, as well as direct communications with groups who are directly affected



Summary of federal impact

58 awards currently affected by terminations or stop work orders*



*16 awards have resumed or been reinstated after stop work orders or terminations (DOD 2; IMLS 2; NIH 10; NOAA 2)

Current as of 10/3



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Summary of federal impact

58 grants cancelled and/or subject to stop work order

16 grants restarted or reinstated

\$30M total funding lost (approx.)

↳ **6%** of all federal awards received in FY24, or

↳ **4%** of all awards received in FY24

156 impact stories submitted



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Current as of 10/3



CU Boulder participation in legal actions



- **Colorado Attorney General legal actions against:**
 - ✓ NSF mass termination of grants
 - ✓ NIH 15% cap on F&A
- **Formal appeals of grant terminations:**
 - ✓ NSF, NIH, IMLS, EPA, UCAR & NEH, DOE
- **F&A 15% Cap Litigations led by APLU, AAU & ACE**
 - ✓ Impact declarations submitted for NIH (February), DOE (April), NSF (May), DOD (June)



CU Boulder participation in advocacy

- Sen. Bennet has discussed CU's top DOE concerns with the Secretary of Energy
- Sen. Hickenlooper has called attention to CU NASA and NOAA priorities
- Rep. Neguse has been a leading voice - and coalition builder - to push back on the proposed cuts to NOAA
- Rep. Crank has engaged the Secretary of Commerce on approval of cooperative agreement funding to CU
- Rep. DeGette has urged the CDC to unfreeze funds for important social science research happening at CU in partnership with local communities
- Rep. Hurd will lead a bipartisan, delegation letter to NASA's Acting Administrator urging the agency not to implement cuts to science programs or missions
- Members across the delegation, including Rep. Boebert, have engaged the Dept. of Education on frozen funds and grant terminations

(Led by the Office of Government Relations)



Higher-ed groups pitch new model for indirect research costs

The FAIR Model: Financial Accountability in Research

- A new model for transparent, flexible reimbursement of indirect costs
- Led by the **Joint Associations Group (JAG)**: AAU, APLU, COGR and others
 - ✓ Announced in April
 - ✓ Responds to efforts to cap F&A at 15%
 - ✓ Institutions assign costs by research type and project needs
 - ✓ Institutions ensure accountability
- Status:
 - ✓ Presented to OMB, OSTP, and Congress
 - ✓ Two-year transition proposed
 - ✓ Ongoing stakeholder engagement



Areas to watch

Education

- Cuts to education R&D (some have been fully or partially restored)
- New priorities include evidence-based literacy, education choice, returning education to the states, and artificial intelligence

Arts and Humanities

- Thousands of grants at the NEH and the NEA were terminated
- NEH and NEA staff severely cut
- Agencies redirecting resources to support projects closely aligned with the administration's priorities

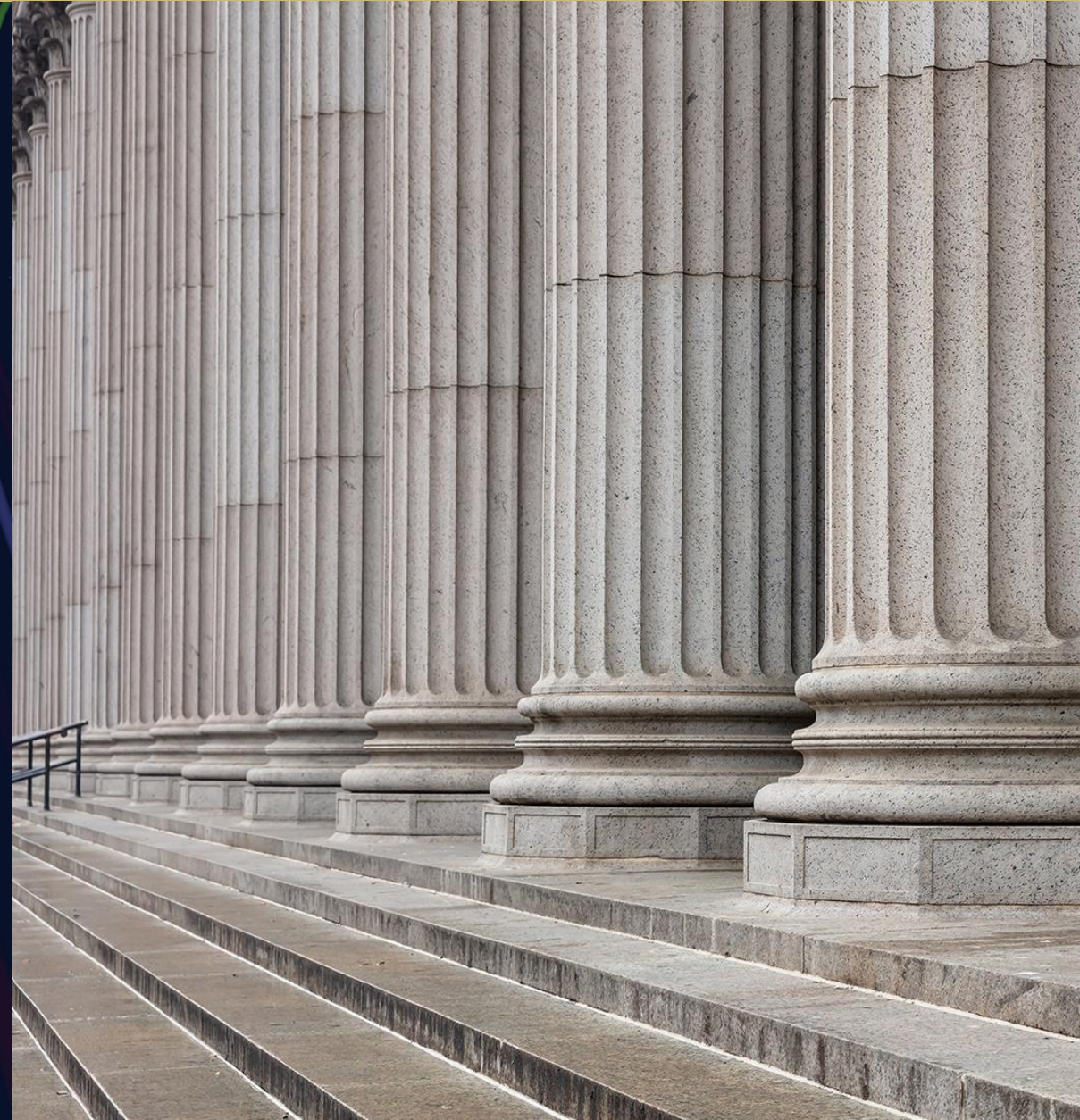
Social Sciences

- Administration proposed significant cuts to agencies crucial for social science research including NIH and NSF. Congress is pushing back:
 - **Senate Report: NSF Social, Behavioral, and Economic Sciences**
 - *"The SBE Directorate funds more than half of our Nation's university-based behavioral science research ... The Committee believes that behavioral science provides evidence-based understanding of human behavior ... and encourages NSF to continue its support of these programs."*
 - **New:** Senate report directs NSF to fund the SBE Directorate at no less than the FY 2024 level



What to watch for

- ✓ **Shutdown developments**
- ✓ **Upcoming court decisions**
- ✓ **Appropriations**
- ✓ **Latest executive orders**
 - **Gold Standard Science**
(May 23, 2025)
 - **America's AI Action Plan**
(July 23, 2025)
 - **Improving Oversight of Federal Grantmaking**
(August 7, 2025)



Five FY27 R&D Budgetary Priorities

- **Unrivaled American Leadership in Critical & Emerging Technologies**
Global leadership in cutting-edge fields like AI, quantum science.
- **Unleash American Energy Dominance & Explore New Frontiers**
Energy independence through diverse sources while boosting exploration in polar and ocean environments.
- **Strengthen American Security**
Next-generation defense systems and resilience measures against cyber, biological, and environmental threats to national infrastructure.
- **Safeguard Health & Biotechnology**
Combat major diseases and improve food and agricultural systems while enhancing biosafety and biosecurity through advanced threat detection.
- **Assure Continued Space Dominance**
Maintain leadership in space via lunar and Mars missions, in-space infrastructure, advanced propulsion, and partnerships with commercial space ventures.



Meeting the challenge and advancing our mission



**Research Operations &
Administration**



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**Research Security &
Integrity**



**Research Strategy &
Development**



**Innovation &
Partnerships**

**Venture Partners at CU
Boulder**

Innovation & Partnerships



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**Industry
Research
Partnerships**

**Innovation &
Entrepreneurship**

**Workforce
Development**

Boosting private sector support: Industry Research Partnerships (IRP)

- New team dedicated to supporting industry-sponsored research partnerships
- Helping faculty identify impactful industry partnerships
- Serving as an R&D partner to industry to simplify the path to innovation
- Integrating workforce and other student opportunities into partnerships



Industry Research Partnerships
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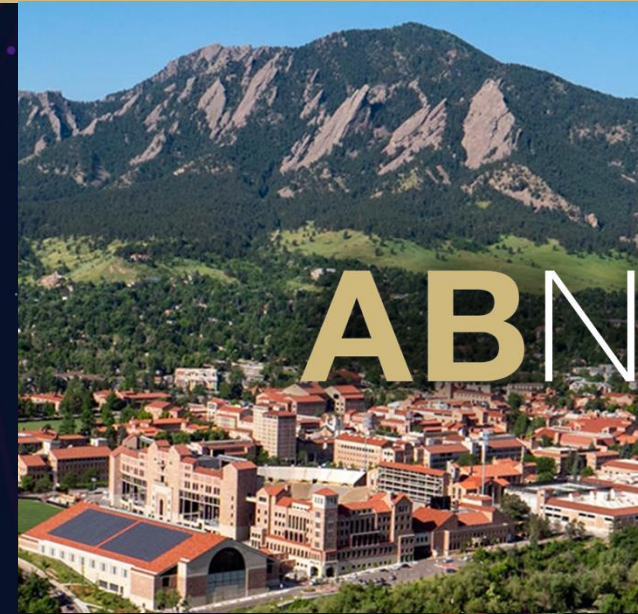
Sharpened focus on: Research Strategy and Development

Empowering scholar success through integrated support

- ✓ Aligns campus research strengths with evolving funding priorities
- ✓ Catalyzes large-scale, interdisciplinary proposals
- ✓ Supports faculty through seed funding and strategic initiatives
- ✓ Provides an integrated approach to supporting researchers
- ✓ Enhances proposal development support
- ✓ Expands faculty development opportunities
- ✓ Strengthens collaboration with community partners



Strategic investments meet opportunities



Center for National Security Initiatives (NSI)



Research Impact:
Supporting 64 active research projects



Growing Team & Talent:
52 total personnel, with 29 full-time researchers and staff and 23 graduate students



Strategic Opportunity:
Focusing on space security research



Infrastructure & Governance:
Advancing plans for a secure facility

Sustainability Research Initiative (SRI)

Progress

- Identified focal topic areas:
 - ✓ AI / data centers
 - ✓ Carbon management
 - ✓ Climate and health
 - ✓ Monitoring, measurement, reporting of sustainability outcomes
- Selected and onboarded 7 faculty fellows
- Kicked off SRI strategy development process

What's next

- Integration with campuswide initiative
- Workshop and seminar series to identify immediate transdisciplinary opportunities



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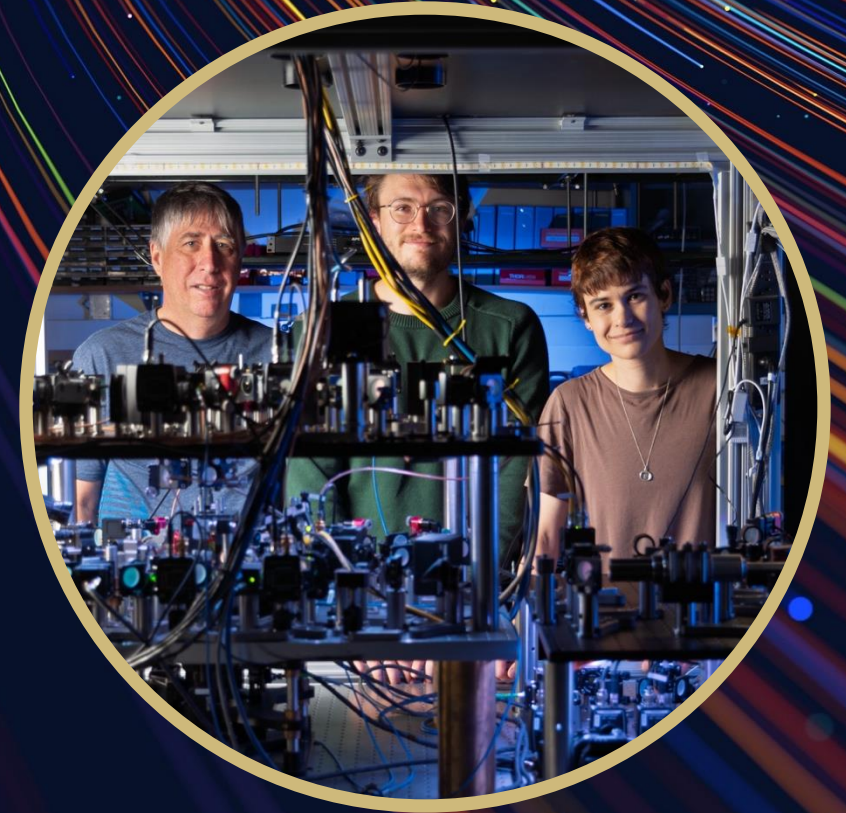
Research Security & Integrity

- Progress in streamlining in IRB and export control reviews
- Supporting research security training
- Research security infrastructure for controlled unclassified information (CUI)
- International shipping policy



Research Operations & Administration

- **Human resource, finance, budget and operational support**—serving institutes and researchers across other campus units
- **Program Management Office (PMO)**—supporting complex projects and evolving needs of researchers
- **Office of Contracts and Grants**—responding to federal impacts and supporting our campus research community





Impact of CU Boulder research, scholarship and creative work



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IMAP: CU Boulder and LASP's Role

- The Interstellar Mapping and Acceleration Probe (IMAP) will enhance space weather forecasting
- LASP built one of the mission's 10 scientific instruments: the Interstellar Dust Experiment (IDEX)
- LASP serves as IMAP's Science Operations Center, supported by CU Boulder students training to become mission operators



Farm-diversification research earns top international prize

- Widespread agricultural diversification could improve the health of the world's environment and its people
- Led by Zia Mehrabi—of environmental studies—and team
- As one of three international champions in the *Frontiers Planet Prize*, the team will receive \$1M to advance the research



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Rasmussen, L. V., Grass, I., Mehrabi, Z., Smith, O. M., Bezner-Kerr, R., Blesh, J., ... & Kremen, C. (2024). Joint environmental and social benefits from diversified agriculture. *Science*, 384(6691), 87-93.

Leading scholarship and creativity with global reach



Advancing International Research and Education Fulbright Scholar Program



Humanities & Social Sciences Fellowships Gerda Henkel, Japan Foundation, ACLS, Stanford, American Philosophical Society



Arts & Innovation Digital Research Infrastructure for the Arts and Humanities (DARIAH)



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Life-changing advances in the social sciences



Easing postpartum depression
through peer support



Rebuilding lives after disaster headlines fade



Enhancing safety in K-12 schools



Understanding of mountain ecosystems

- The **Mountain Research Station**: a hub for understanding alpine ecosystems and environmental evolutions
- Located at **9,500 feet** in the Front Range
- Home to the **Niwot Ridge Long-term Ecological Research Program (LTER)**
- Maintains one of the longest continuous atmospheric CO₂ measurement records in the U.S. and in the world



Artificial Intelligence: Diverse directions

**NSF National
AI Institute
for Student-AI
Teaming**



AI-powered, enhanced
weather prediction



AI-enabled drones in search
and rescue operations



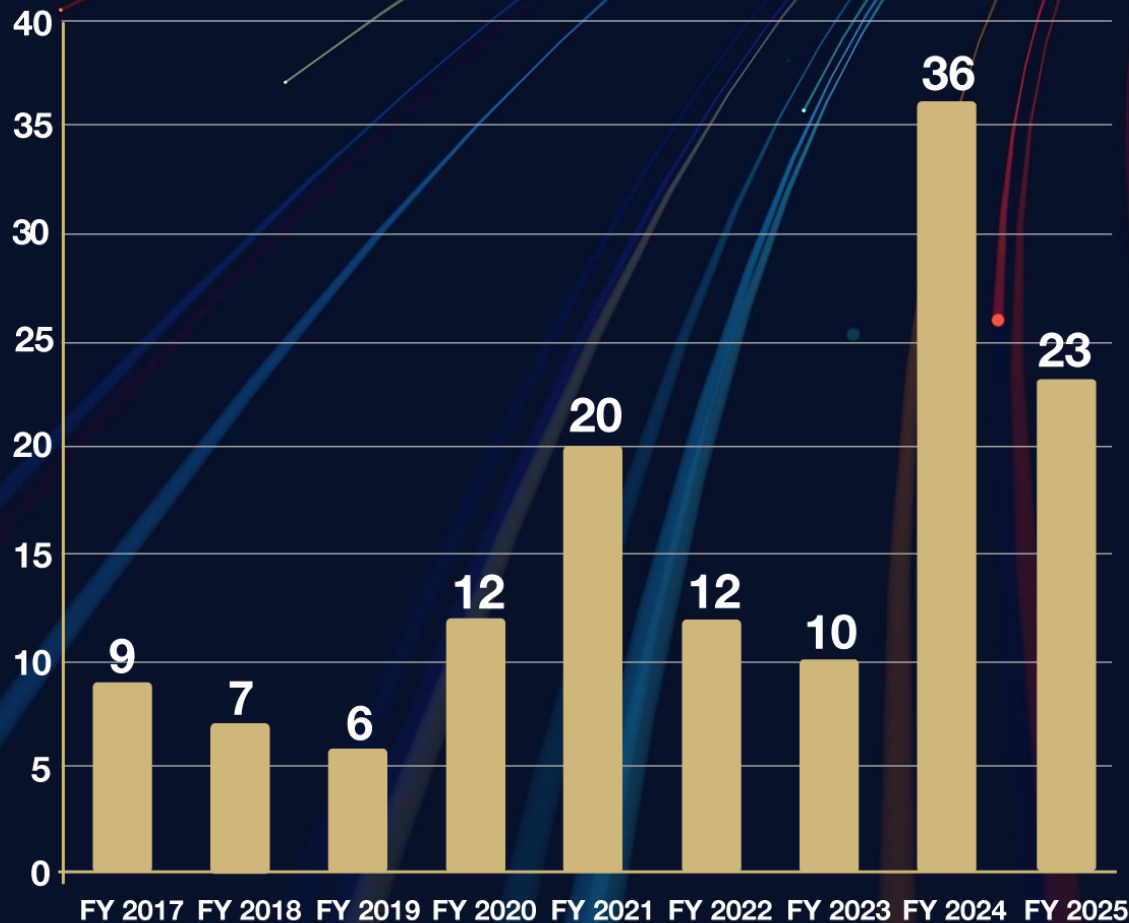
Improving healthcare AI
applications



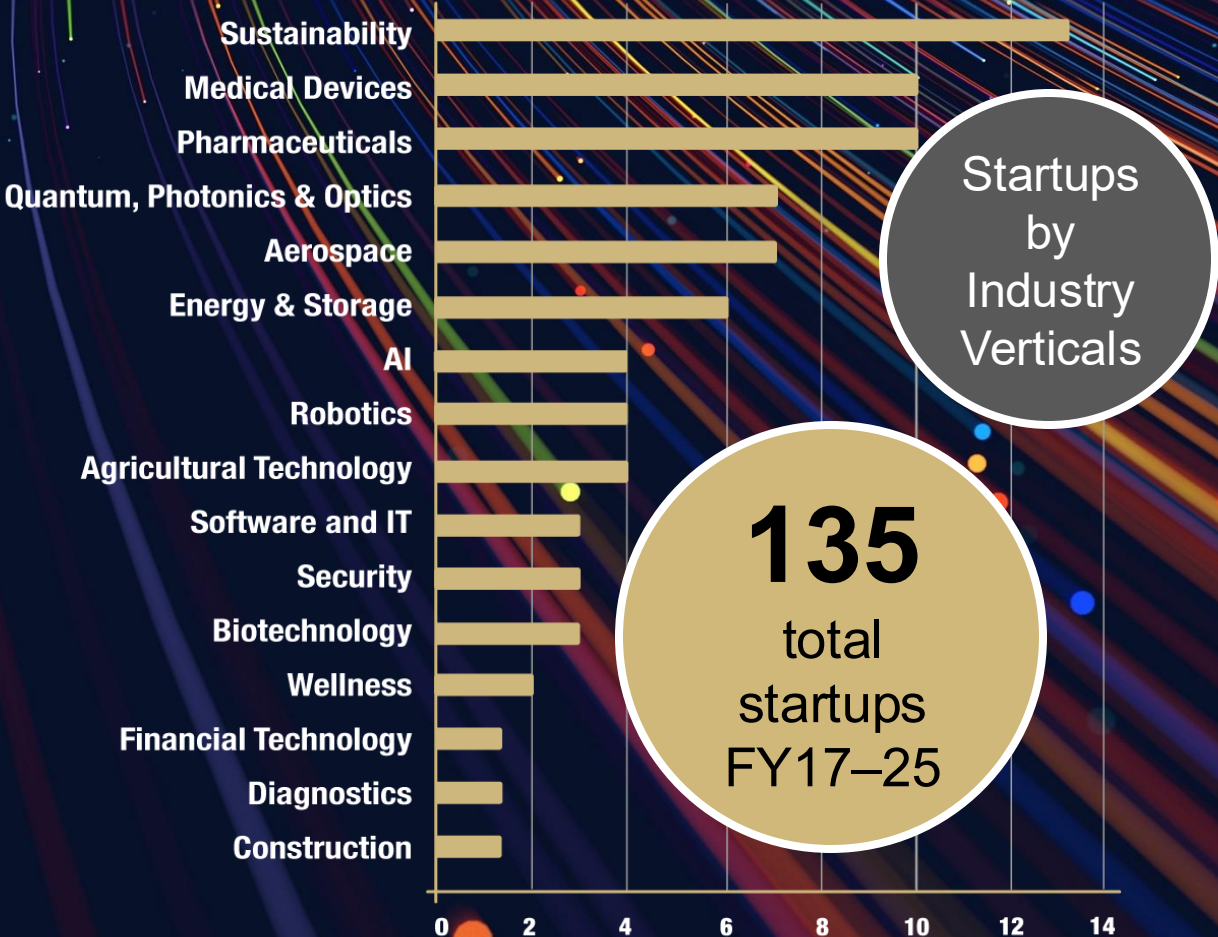
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Startup surge at CU Boulder

Startups Launched Through Venture Partners
(2017–2025)



Startups Launched Through Venture Partners by Industry
(2022–2025)



Ranked #1 for launching startups based on university discoveries

	Startups Launched	Campus	Fiscal Year	Startups per \$100M in same-year research funding
#1	38	Stanford University	2022	2.1
#2	35	CU Boulder	2024	5.1
#3	32	Stanford University	2016	3.2
#4		MIT	2018	1.8
#5		MIT	2020	1.7
#6	31	University of Michigan	2020	1.8
#7	29	MIT	2017	1.7
#8		Columbia University	2018	3.5
#9	28	MIT	2015	3.0
#10		Stanford University	2015	1.7
#11		Stanford University	2018	1.7

#1

For startup generation in 2024

20

Startups/Year
5-year average

2nd

Most Startups
by a U.S.
university ever

CU Boulder also leads in startup efficiency, with 5.1 startups per \$100M in research funding



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Startups on the rise



reviewer
zero.ai



Flari



PrecisionTerra

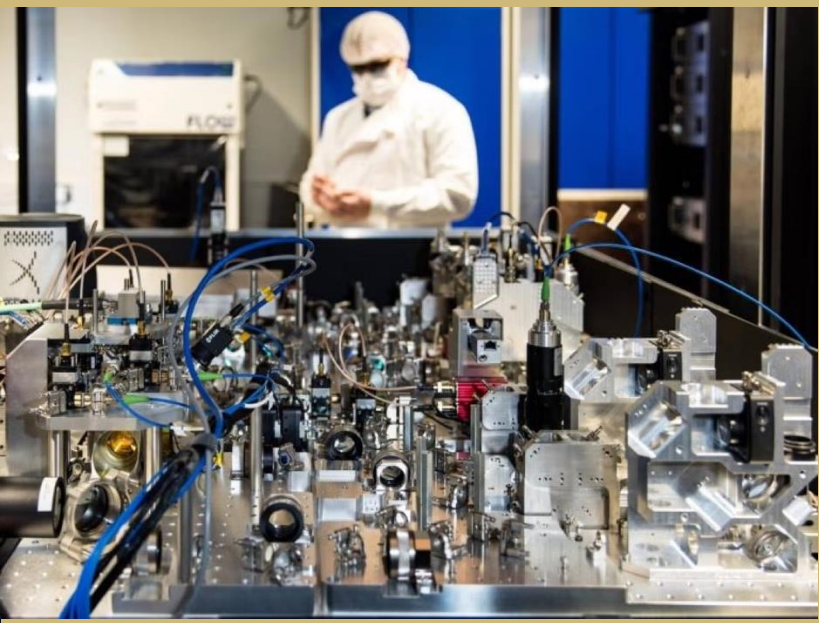


LONGPATH
TECHNOLOGIES



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CU Boulder's unicorns



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State and national impact



\$426M

capital raised by
portfolio
companies

FY 2023-24 Metrics



\$32M

revenue from
commercialization to
CU Boulder since
2019

Economic Impact



\$8B

impact on national
economy
(2018–2022)



\$5.2B

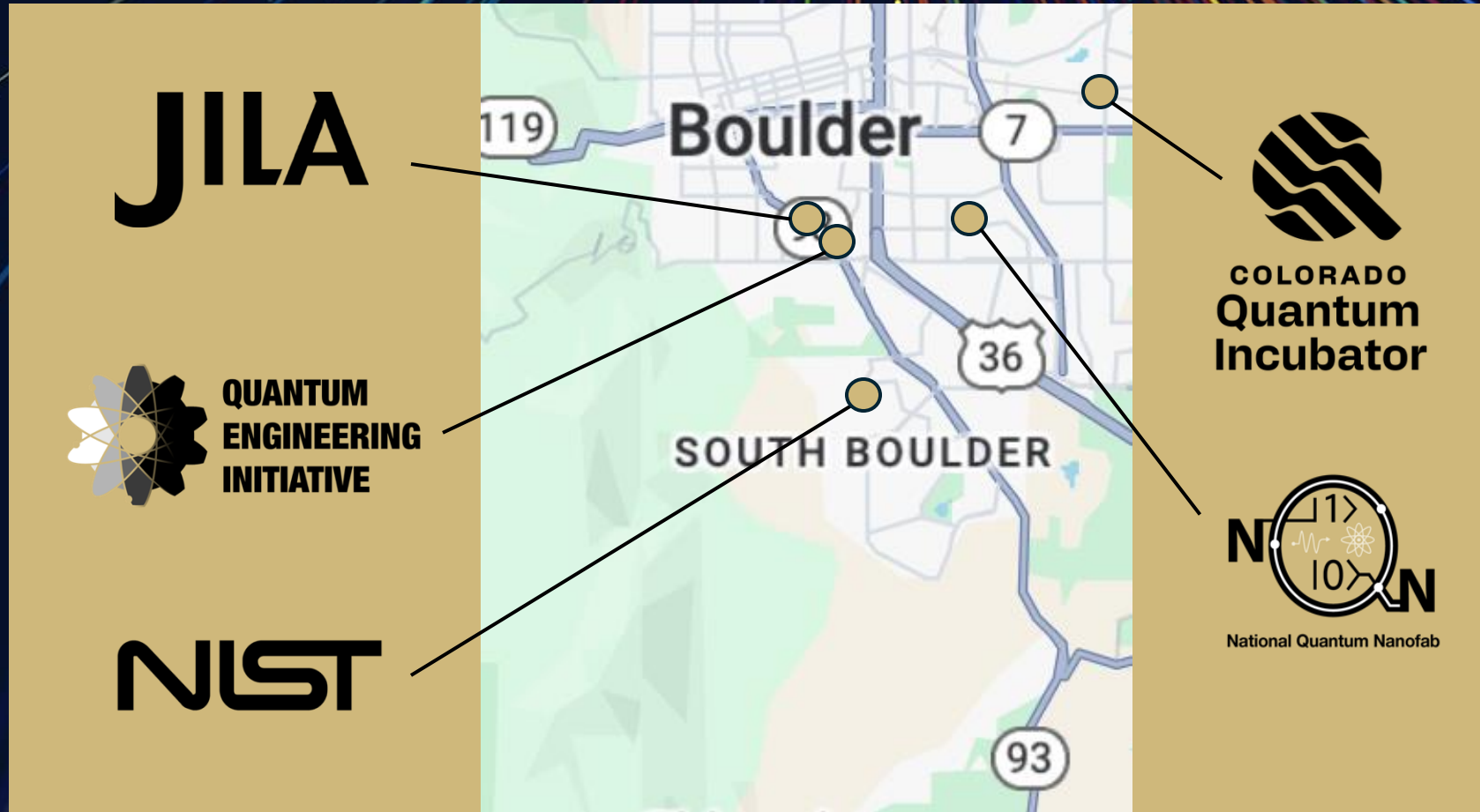
impact on state
economy
(2018–2022)

Source: *Economic Impact of Commercialization on the State and National Economy* conducted by Business Research Division, Leeds School of Business, University of Colorado Boulder, October 2022



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Boulder Quantum Ecosystem



National Quantum Nanofab facility



- Operational by mid-2028
- The cornerstone of a quantum nanofabrication ecosystem
- Combines cutting-edge equipment with Boulder's scientific and technical expertise
- Will accelerate the development of quantum hardware
- Will advance applications such as quantum computing, quantum networking, atomic clocks, and advanced sensors





COLORADO Quantum Incubator

5555 Central Ave.
Boulder, Colorado

The **Colorado
Quantum Incubator** is
where quantum
innovators come to
break through



CU Boulder's impact



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Q&A



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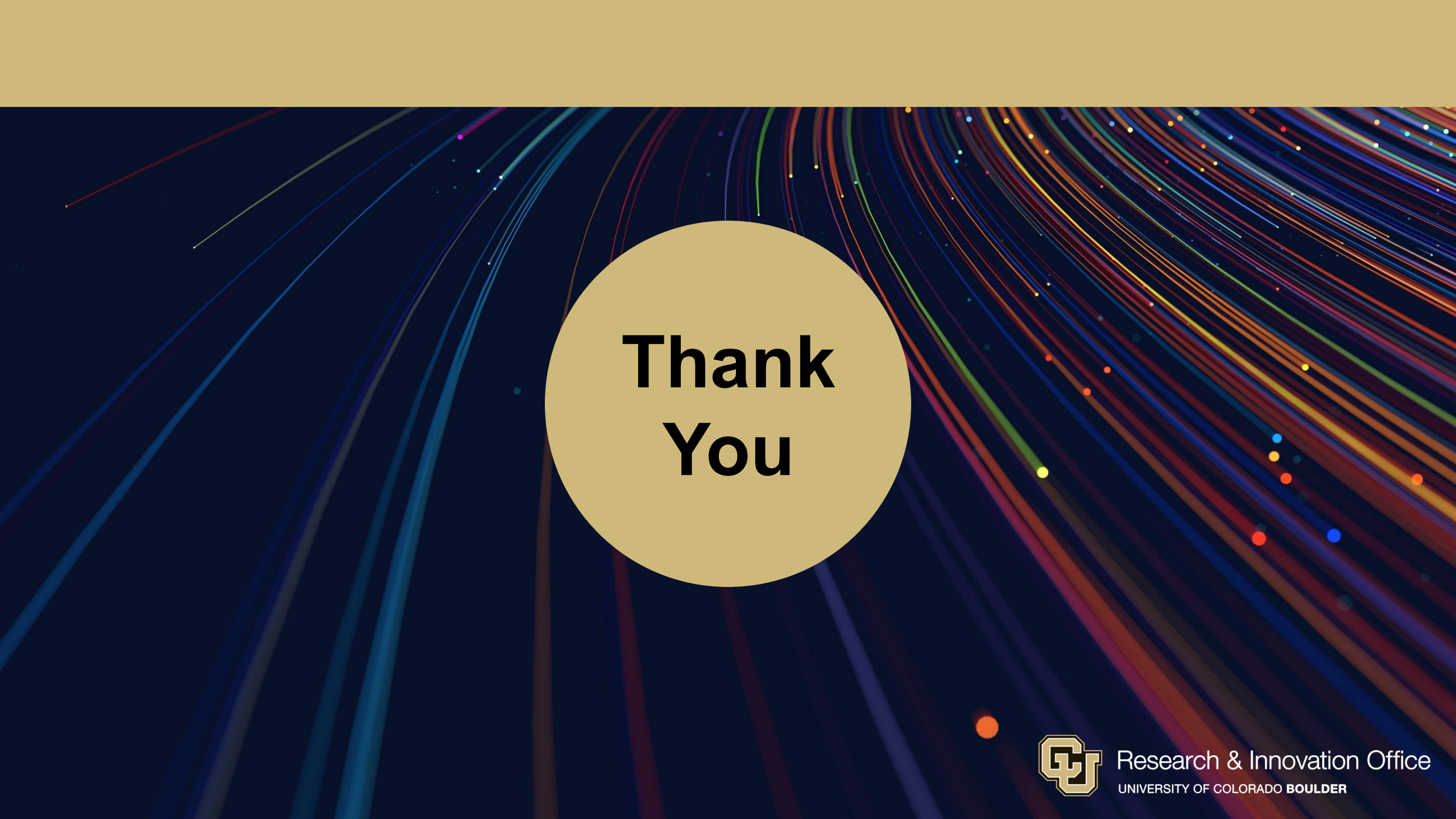
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The background of the slide is a dark blue field filled with numerous thin, curved, multi-colored lines in shades of blue, green, yellow, and red, creating a sense of motion and depth. A large, solid yellow circle is centered on the slide, containing the text "Thank You".

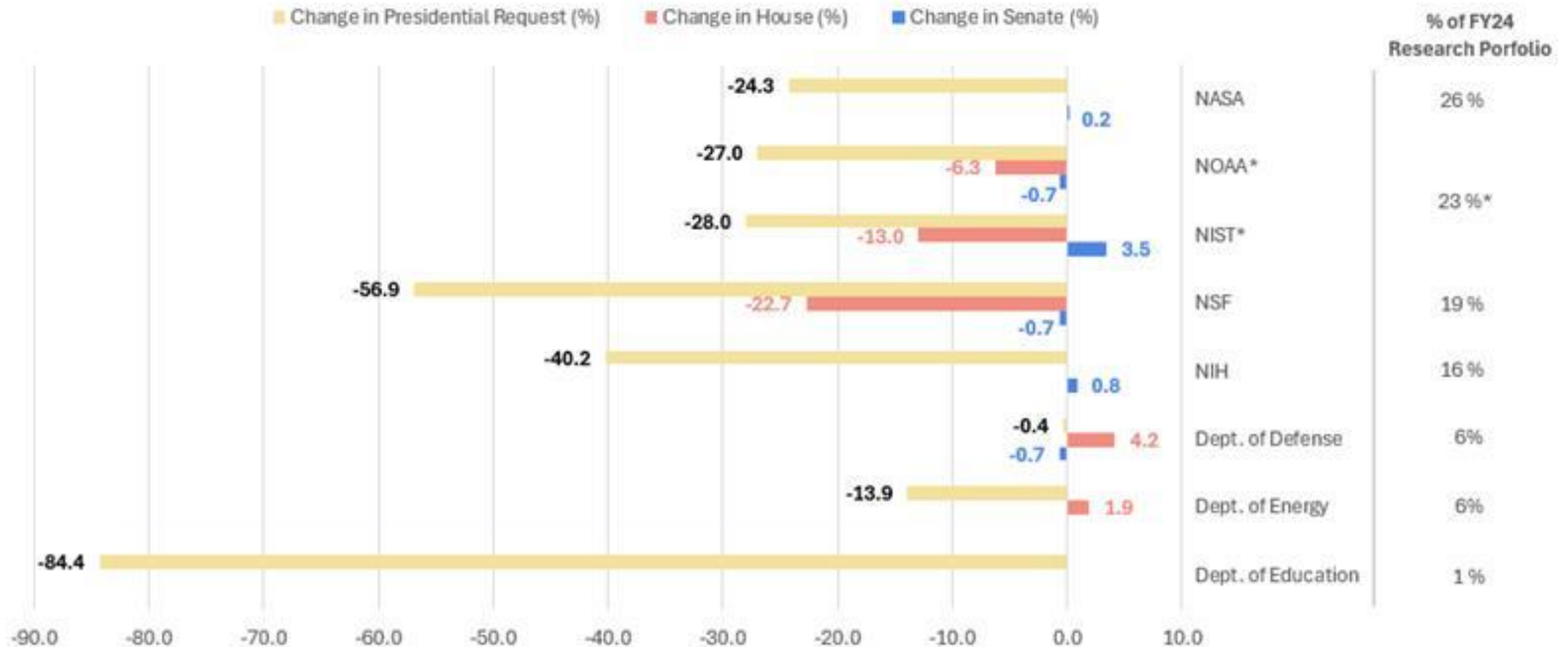
Thank You



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FY 2026 Federal Appropriations

Federal Science Budget Tracker



Niwot Ridge Long-term Ecological Research Program

- Established in 1980 with support from NSF
- Education, outreach and knowledge to inform alpine resource management and conservation
- Helps identify where and when environmental changes lead to ecological changes
- Discovers the mechanisms driving ecological stability in mountain ecosystems

