Research and Innovation

University of Colorado Boulder

CU Boulder is committed to being the driving force behind a dynamic research and innovation ecosystem emanating from Colorado's Front Range, with far-reaching impact on the state, the nation and beyond. We're creating impact through our strategic imperatives: ***Lead. Innovate. Impact.***

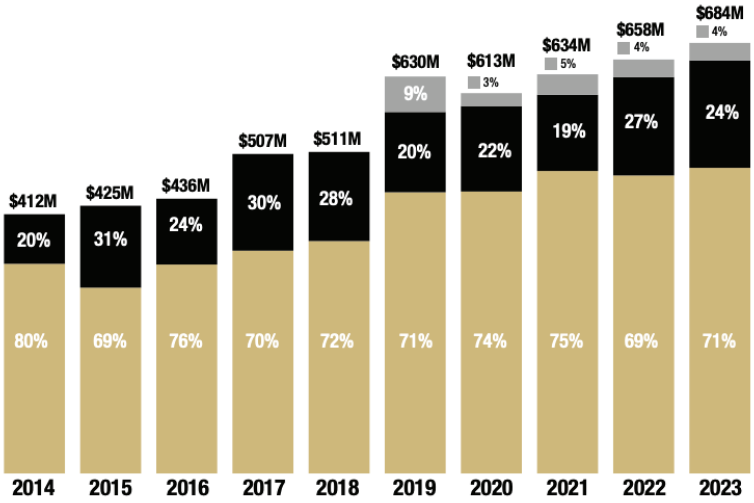
Research Development | **Research Administration** | **Partnerships & Innovation** | **Research Institutes**

$684M in total research funding FY22-23

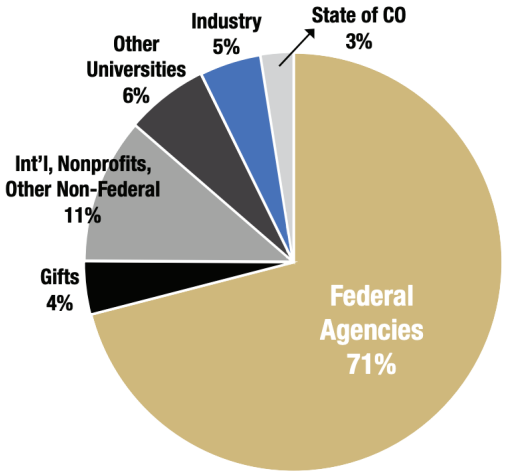
95% increase in research funding over the last decade (2013-2023)

#5 nationally in startup creation

10-Year Summary



Sources of Funding



Federal Agencies
$485.8 Million

Non-Federal Sources
$170.5 Million

CU Foundation Gifts
$27.9 Million

A CU Boulder and CU Anschutz Research Collaboration

- **Every $1 invested in AB Nexus has returned $16+ in external funding**: Since 2020, AB Nexus has awarded $3.5M to 48 teams through 6 rounds of grant competition, attracting more than $60M in funding from outside sources—a 16:1 return on investment.
- **Addressing important health challenges**: The majority of the 48 projects are still underway, many with significant potential to attract outside investment and advance discoveries to improve human health and well-being.
- **ARPA-H awards up to $39M for non-invasive osteoarthritis therapies**: The awarded project, led by CU Boulder and CU Anschutz scientists, was catalyzed by AB Nexus, which provides funding and resources to support partnerships between the campuses.

Research Initiative: Sustainability

- **CU Boulder as a global leader in climate resilience**: Enable CU Boulder to play a pivotal role in shaping broader conversations and priorities in climate, environment and a just and sustainable future.
- **Positively impact humanity**: Seed and pursue use-inspired research projects that lead to innovative solutions that positively impact society.
- **Inspire collaborations**: Facilitate interdisciplinary collaboration by bringing together experts from various fields across campus.
- **Pre-launch activities underway**: Anticipated launch in summer 2024.

CU Boulder **Research Focus Area Opportunities**

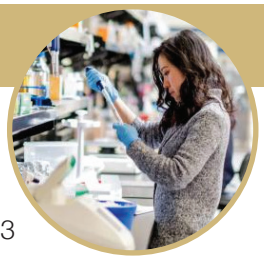
Aerospace

- **Epicenter of space research**: For 75 years, the Laboratory for Atmospheric and Space Physics (LASP) has been instrumental in positioning the university as a hub for the state's aerospace and defense economy, the largest per capita in the nation.
- **Rising hypersonics leader**: CU Boulder is the only U.S. university to currently hold two Department of Defense Multidisciplinary University Research Initiative (MURI) program awards in hypersonics.
- **Aerospace spinout boost**: LiteWave Technologies—the CU Boulder spinout that revolutionized LiDAR (Light Detection and Ranging) by redesigning it to 'see' objects in shallow water from above the water's surface—was acquired by major government contractor Arcfield.

Earth and Environmental Sciences

- **Geosciences giant**: CU Boulder is regularly recognized in U.S. News & World Report rankings as a top global university in the geosciences, consistently earning one of the top three spots.
- **NSF Regional Innovation Engines**: The inaugural competition announced 16 finalists, including the CO-WY Engine, of which CU Boulder is a founding partner. The competition could net winners $160M over 10 years to drive innovation, community resilience and sustainability.
- **Making concrete sustainable**: Prometheus Materials, a CU Boulder spinout inspired by nature, is transforming the concrete industry by producing zero-carbon bio-cement and bio-concrete, reducing carbon emissions and construction's environmental harms.

Biosciences and Health



- **Highly cited researchers**: Biosciences researchers Jason Burdick and Roy Parker were among the Top 1% of Highly Cited Researchers for 2023 according to Clarivate Analytics.
- **Making vaccines accessible in developing countries**: CU Boulder startup VitriVax—which is developing vaccine technology that makes vaccines resistant to heat and cold damage—received a $5 million, two-year grant from the Bill & Melinda Gates Foundation.
- **Breathalyzer sniffs out diseases in real-time**: CU Boulder and NIST scientists are advancing a new laser-based breathalyzer powered by quantum technology and artificial intelligence that can detect COVID-19 and other diseases in real-time with excellent accuracy.

Quantum Science & Technology

- **Quantum Tech Hub**: The U.S. DOC EDA named the Elevate Quantum Consortium—with CU Boulder playing a leading role—as a Regional Technology Hub for Quantum Information Technology (QIT), positioning Colorado to apply for and secure significant federal funding opportunities to advance the industry.
- **Partnership with OEDIT**: The CU Boulder-convened Quantum Community Coalition unveiled its Colorado "Quantum-Ready Workforce" Vision; OEDIT awarded quantum seed grants to advance industry and university innovation projects in Colorado.
- **Translating research into impact**: CU Boulder spinout LongPath Technologies recently secured landmark backing from DOE for a loan of up to $189 million to accelerate scale-up of the company's methane monitoring systems.

2024 Federal Appropriations: Trends, Challenges and Opportunities

- **NASA's Science Mission Directorate** ~6% cut may limit new opportunities, impact implementation of priorities from recent decadal surveys
- **$13M from DOD** for CU-led Space Consortium
- **NOAA's Climate Laboratories and Cooperative Institutes**, which funds CIRES, is flat funded
- **DOD flagged $2.5M** for perovskite-based energy generation, will support research at select universities including CU Boulder
- Despite 5% cut, **NSF funding includes ~20% increase** for education and workforce training programs and quantum information science (QIS) research
- **NIH's National Institute of Environmental Health Sciences** is flat funded and encouraged to expand support for research on "health conditions related to the environment" (AB Nexus special track)
- **DOE investing $245M in QIS**, with $125M earmarked for DOE's five National QIS Research Centers—including the Quantum Systems Accelerator, in which CU Boulder participates