BECOMING INTERNATIONALLY KNOWN FOR OUR RESEARCH

Denver

APRIL 2024 BOARD OF REGENTS

OUR MISSION

CU Denver in Colorado's only urban research university solves challenges that impact our communities, locally and globally. Our faculty—leaders in their fields—work with students to conduct research in several key areas that change our daily world from data science, biomedical engineering, and artificial intelligence to cybersecurity, smart cities technology and climate change. Our researchers are making advances while training the next generation of scientists, engineers and innovators who will shape the region for decades to come. More than 50 percent of our students identify as people of color and most of our alumni stay or return to Colorado after graduating to conduct research, teach, and work in our communities. Some of our faculty have provided expert testimony on Capitol Hill and the United Nations while others serve as reviewers for some of the agencies including the National Science Foundation and the National Institutes of Health that fund research in the United States.

RESEARCH HIGHLIGHTS FYTD 2024*

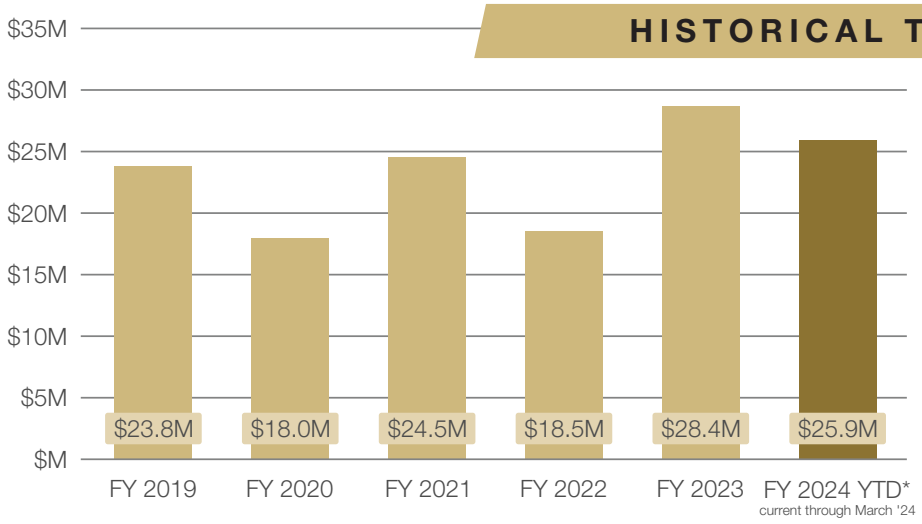
- **$25.9 million** in awards (up 30%)
- **$17.7 million** in expenditures (up 3%)
- **#60 PhDs** expected at May '24 Commencement

RESEARCH HIGHLIGHTS FY 2023

- **$28.4 million** in awards (up 54%)
- **$24.7 million** in expenditures (up 31%)
- **#51 PhDs** degrees conferred in 2023

HISTORICAL TREND

SPONSORED PROJECTS AWARDS



RESEARCH STRATEGY & SUCCESS

Faculty Grants Academy:
In 2023, CU Denver launched the Faculty Grants Academy. More than 40 faculty members participated in the year-long program which aims to help them understand and leverage resources available to them at the university in order to develop competitive grant proposals. Through a series of workshops, faculty explored the entire grant and research cycle, from ideation to developing and submitting a grant proposal to communicating findings. Several of the faculty who are in the program have already secured grants.

Grand Challenges:
For three years CU Denver has funded research teams with high potential through the Grand Challenges Initiative. The goal is to provide funding to teams focused on convergence research that aims to solve real world problems. The funding helps teams generate initial ideas and findings that can then lead to additional external research funding. So far, 12 teams have been awarded funding. Researchers on these teams have published at least 58 articles in journals or books since 2022.

STEM PIPELINE

MARC U STAR:
The competitive program provides academic, experiential, and financial support, as well as mentorship and guidance, to help prepare CU Denver students enter and complete a behavioral or biomedical sciences Ph.D. program. Undergraduate students who are underrepresented in these fields are provided support for a consecutive 24-month period in the final 2 years of their undergraduate training. Those selected receive an award that pays for 60% of their CU Denver tuition, an academic year stipend, a summer stipend, money to support travel to academic conferences, and room and board for out-of-state summer research experiences. This is a highly successful program. Many students who have completed it have stayed or returned to Colorado after completing their Ph.D. For example, first generation Jennifer Jamie completed her bachelor's degree at CU Denver in 2019 and was admitted to the University of Michigan's competitive Neuroscience Graduate Program to complete her doctorate. Her research is focused on the brain's role in reproduction and how challenges, such as prenatal androgen exposure, alter fertility. Jamie defended her dissertation and will graduate in May. She has already accepted a postdoctoral fellowship at a lab at the CU Anschutz campus beginning August 2024. A grant from the National Institute of General Medical Sciences supports the program. About 25 CU Denver faculty serve as mentors in a variety of disciplines. More than 50 students have participated in the program since 2013.

EurēCA:
The comprehensive program pairs undergraduate students with mentors to help students conduct a research project based on a personal interest. The students learn about the process—inquiry, design, investigation, and discovery—outside the classroom. Not only do the students learn about the process, but they also create a bond with mentors who can continue to guide them throughout their undergraduate career. Student can receive grant funding to do their work during the school year and then present at an on-campus research showcase in the Spring. Students can also apply for EurēCAs summer fellowships which give students the same opportunity to conduct research over the summer. The goal is to provide a supportive and positive experience that can lead to the opportunity to engage in mentored learning experiences. More than 600 students have participated in paid research opportunities in the past 5 years and more than 225 have received grants to conduct their own research.

RESEARCH WITH IMPACT

Climate Change: Integrative Biology Assistant Professor Michael Moore is investigating the way climate change affects various species, including insects. His work, published in *Nature Climate Change* and the *Proceedings from the National Academy of Sciences*, provides insights into species likely to survive increasing temperatures. The decline of insect biodiversity has a direct impact on humans, which makes Moore's work crucial. He is also a mentor to the next generation of scientists. Sarah E. Nalley, a doctoral candidate, lost her home to the 2021 Marshall Fire. This inspired her to study the impacts of wildfire on animal ecology and evolution and she came to Moore's lab to do it.

Mental Health: Assistant Professor of Health and Behavioral Sciences Hyeyoung Oh Nelson recently published a study about maternal health that found that nearly 40% of women experienced birth trauma and postpartum mood disorders that went unidentified and untreated. These women were left isolated navigating life with a newborn, while managing physical and emotional issues that persisted well beyond the clinically acknowledged 6-week postpartum period. The study was published in the highly ranked *Social Science and Medicine Journal* and is helping bring attention to this critical public health issue. She is continuing her research to educate the community about experiences within the U.S. maternal healthcare experience, with particular interest in driving factors and consequences of persisting racialized disparities in maternal health.

Employee Retention: Assistant Professor of Management Mijeong Kwon recently published a study in the *Harvard Business Review* which examines how intrinsically motivated employees may alienate their colleagues at work, potentially impacting the retention of these colleagues.

Engineering and Space:
Electrical Engineering Professor Mark Golkowski is leading a national, NSF-funded research study on the April 8 total eclipse to better understand how the sun impacts technology used on earth. As part of the study, CU Denver is partnered with Northglenn High School to encourage those interested in STEM careers by giving them a chance to work alongside CU Denver electrical engineering student mentors. The study provides hands-on learning opportunities for CU Denver students, which helps build leadership skills and teaches important industry skills, making them more workplace ready, while also contributing to greater knowledge about the sun's impact on our planet.