



WALTER SCOTT, JR. COLLEGE OF ENGINEERING

COLORADO STATE UNIVERSITY

OUR HISTORY

The Walter Scott, Jr. College of Engineering put the “M” in Colorado A&M, embodying the land-grant mission since the 1870s. Mechanical and irrigation engineering landed the college and university on the world stage. Lake Mead is named after Elwood Mead, the first civil engineering department head who was instrumental in the Hoover Dam. In 1913, Ralph Parshall developed the Parshall flume, helping countries measure irrigation flow, and in the 1960s, Professor Maurice Albertson wrote papers leading to creation of the Peace Corps. The college has reinvented its teaching and research to tackle highly complex societal challenges of the 21st century, from food security to infrastructure resilience, that require creative, interdisciplinary solutions.

YEAR FOUNDED
1883

NUMBER OF STUDENTS
3,715

SPONSORED PROJECT EXPENDITURES
\$120,629,961

Fall Census 2024

Fiscal Year 2025

DEPARTMENTS

- Atmospheric Science
- Mechanical Engineering
- Systems Engineering
- Cooperative Institute for Research in the Atmosphere (CIRA)
- Civil & Environmental Engineering
- School of Biomedical & Chemical Engineering
- Electrical & Computer Engineering
- School of Materials Science & Engineering

AREAS OF EXCELLENCE

CSU engineers translate research to commercial and societal impact within five signature research themes and growth areas: prediction of climate and weather, engineering for environmental sustainability, infrastructure resilience, health and human-environment systems, and data, information, and systems.

WHAT WE'RE KNOWN FOR

Atmospheric Science and CIRA: Atmospheric Science is one of the world’s top programs with the longest-running seasonal Atlantic hurricane forecast. CSU hosts one of 16 NOAA cooperative institutes (CIRA), which processes satellite data, studies hurricanes, provides forecasts for aviation, and informs policymakers.

Lasers: Home to one of the few high-power, ultrashort pulse lasers capable of creating conditions for fusion, which could generate unlimited clean energy. The petawatt-class laser system can generate extreme conditions, like at the center of stars, with potential use in materials diagnostics, medicine, and national security.

Powerhouse energy campus: The CSU Energy Institute at Powerhouse studies alternative energy sources, smart grids, and technologies to reduce methane emissions that have saved the oil and gas industry billions of dollars.

Water engineering: Cutting-edge research in hydraulics, hydrology, water quality, and water resources has trained engineers at global water agencies. Among other innovations, CSU water engineers employ remote sensing and machine learning to predict groundwater loss.

Health: The college’s researchers have developed materials for joint replacements and medical foam for faster healing, and led statewide wastewater monitoring to anticipate spikes in COVID-19 spread.



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ACCOLADES AND RANKINGS

First woman-led NASA Earth Venture mission: University Distinguished Professor Sue van den Heever is the principal investigator on INCUS, a \$177M mission aiming to understand why, when, and where severe weather such as hurricanes and tornadoes form, and why only some storms produce severe weather.

National Top 3 Atmospheric Science department: 12 fellows of the American Meteorological Society; eight fellows of the American Geophysical Union; one current member and two emeritus members of the National Academy of Engineering; and one emeritus member of the National Academy of Sciences.

3

NATIONAL ACADEMY OF INVENTORS FELLOWS

2

NATIONAL ACADEMY OF ENGINEERING MEMBERS

1

SHARED NOBEL PEACE PRIZE

Coordinating Lead Author for the Fourth Assessment of the Intergovernmental Panel on Climate Change

KEY INITIATIVES

First-year experience: In Fall 2025, the college debuted a common first year dedicated to student success, building community, and exposing students to all engineering majors and careers. New courses focus on project-based engineering design and solving global challenges.

New Engineering building: The new Don and Susie Law Engineering Future Technologies Building – at the merger of engineering, computer science, and AI – is scheduled to open in 2028. The building will equip all CSU students as leaders in sustainable energy, smart infrastructure, construction engineering, and health care. Hands-on learning spaces will emphasize digital prototyping and AI.

ATLAS laser building: One of the nation’s most powerful laser research facilities, known as the Advanced Technology Lasers for Applications and Science (ATLAS) Facility, is scheduled to open in 2026 on the Foothills Campus. Engineering boasts a 40-year partnership with the U.S. Department of Energy’s Fusion Energy Sciences Program and new collaboration with industry leader Marvel Fusion.

Artificial intelligence: The college is investing in AI faculty hires to prepare students for the digital transformation. Revolutionary research includes AI to study global atmospheric dynamics to make skillful weather prediction including fire forecasting, to predict protein structure and design, and to assess wind damage risks to buildings, among other innovations.

RECENT HIGH-IMPACT RESEARCH

Advanced radar technology for storm detection: Radars developed by electrical engineers have already saved lives and property by providing advanced early tornado and severe weather warnings. Technology developed at CSU has been deployed nationally in Weather Service radars in the U.S., Europe, and worldwide, for better forecasts and alerts.

Reducing methane emissions: Emission reduction from natural gas engine and compressor systems, in partnership with Caterpillar and the Natural Gas Industry Consortium, is expected to save \$65 billion annually for the oil and gas sector by avoiding proposed methane emissions fees.

Personal air monitoring for health protection: Faculty are working to deploy AirPen, a wearable air monitoring device, to empower low-income communities to protect themselves from outdoor pollution such as wildfire smoke.

AI tools to predict drought: Civil and environmental engineers are developing tools to predict droughts, flooding, and land subsidence using satellite imagery and AI. This will be scaled to forecast water scarcity and hazards before they occur, mitigating significant impacts to clean water access, irrigation, energy, and transportation.