

Expanding Our Reach of Research

Alan Rudolph, vice president of research



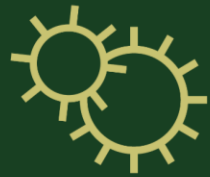
Colorado State University

CSU is a top-tier research university

- \$477 million in annual research expenditures
- Research expenditures up 10% last year
- Expenditures have grown 35% in five years



Our Research Impacts:



Fight COVID-19



Protect Environment



Support Communities



Prevent Disease



Grow Economy

CSU Research Reaches Around the World



Here's what we're doing ...

- INCUS – A NASA and CSU joint venture
- BROADN – Understanding air intimately
- SolaVAX™ – Universal COVID-19 vaccine
- Soil Carbon Solutions Center – farms that save the planet

Investigation of Connective Updrafts (INCUS)

- \$177m NASA-CSU project
- Study storms in the Tropics to improve climate models
- Puts three small satellites into space
- Launch in 2026
- [CSU team](#) includes atmospheric scientists, meteorologists and computer scientists
- Other partners: JPL; City College of New York; Stony Brook University; and Texas A&M University





Biology Integration Institute: Regional One Health Aerobiome Discovery Network (BROADN)

- \$12.5m funded by NSF
- Deep dive into microbes in the air
- [One Health approach](#) to air, health and environment
- Knowledge needed to better understand disease transmission
- Five colleges, including scientists at CSU Pueblo, Doane University, the CU Boulder, and international organizations

SolaVAX™

- Up to \$15.5m NIH funding
- Create a new coronavirus vaccine
- Uses process [common to blood transfusions](#) to combining UV light and riboflavin to create an inactivated virus that stimulates human immune response
- Research conducted safely in BSL 3 lab at Foothills Campus
- Successful in pre-clinical tests
- Exemplifies interdisciplinary research



Soil Carbon Solutions Center

- Regenerative agriculture project
- Use soil to capture carbon and slow global warming and promote agriculture
- Develop sound science and proven technologies to guide policy
- Diverse team of soil scientists, energy experts, sociologists, economists and ecologists
- [Click here](#) for more information



Artificial Intelligence for One Health Benefits for Colorado



Environmental and
Ecosystem Health

Animal and Human
Health

Food, Energy and
Water
Health

Enabling Partnerships through Colorado Data Assets Within and Across
these Channels of Colorado Impact
Developing Next Generation Workforce and New Jobs

CSU expands research to reach new heights

- CSU is a leader in One Health science, sustainability and climate change solutions, agriculture and technology innovation.
- Discover more about CSU research in the short video [found here](#).
- Visit our university news page [found here](#).
- Subscribe to our monthly Research Review newsletter by [clicking here](#).
- Follow us on Twitter @ResearchCSU
- Contact me at Alan.Rudolph@colostate.edu