

CSU MATTERS

MAY 2019

COLORADO STATE UNIVERSITY



CSU CONTRIBUTES TO NASA TWINS STUDY

NEW DEAN FOR COLLEGE OF HEALTH AND HUMAN SCIENCES

ENGLISH PROF WINS GUGGENHEIM FELLOWSHIP

SOLAR ARRAYS LET THE SUNSHINE IN

RESEARCH CENTER NAMED TOP MANUFACTURER

RESEARCH

RADIATION SCIENTIST UNEARTH'S SURPRISE IN NASA TWINS STUDY

A Colorado State scientist added surprising detail to the first published research in the landmark NASA Twins Study, which examined effects of long-term space travel on human health by investigating changes in astronaut Scott Kelly as he orbited Earth in the International Space Station for nearly a full year.

The study is unprecedented in the scope of its evaluations and its use of Kelly's identical twin, Mark, as an earth-bound control subject.

Susan Bailey, a radiation cancer biologist, leads a CSU team that used blood samples from the twins to evaluate biomarkers of aging and DNA damage. Bailey was perplexed to find the orbiting astronaut's telomeres – the protective end caps of chromosomes – were longer during flight. That was surprising, Bailey said, because telomeres typically shorten as the body ages, endures stress, or is exposed to radiation, including space radiation. The deterioration can forewarn cancer and other disease.

Yet after elongation in space, Kelly's telomeres rapidly shortened when he returned home. Did space flight present a fountain of youth, followed by accelerated aging back on Earth?

Not likely, but it's too soon to know exactly what the changes mean, Bailey said. She and colleagues will continue to investigate by studying other astronauts on long missions.

The Bailey lab is one of 10 selected teams nationwide that contributed to research published in the journal *Science* last month. Revelations from the NASA Twins Study are helping scientists understand how humans respond to extended spaceflight – essential knowledge as America's space agency readies for trips to the moon and Mars.

The first publication cataloged a number of changes in the orbiting astronaut. However, Kelly's overall health largely rebounded after the mission, researchers concluded. ■

Susan Bailey was principal investigator on the part of the NASA Twins Study examining telomeres.

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SUSTAINABILITY

SOLAR ARRAYS EXPAND TO LET THE SUNSHINE IN

With numerous honors for environmental sustainability, Colorado State had plenty to celebrate during Earth Week in April. One green effort of note: the 10-year anniversary of the University's first array of photovoltaic solar panels.

The Engineering Building was the first on campus with a rooftop solar array; it generated about 19 kilowatts of energy. Today, CSU has 14 solar arrays – including a 30-acre array on the Foothills Campus – that together generate 6,754 kilowatts.

CSU is aiming for 100% renewable energy, a goal also embraced by the city of Fort Collins and the Platte River Power Authority, which serves much of Northern Colorado. It's a high bar, given that University facilities across the state use 170 million kilowatt hours of power each year; to meet the goal, officials anticipate adding other types of renewable energy, including wind power, to the effort. ■

LEADERSHIP

DEPARTMENT HEAD TO LEAD COLLEGE OF HEALTH AND HUMAN SCIENCES

Lise Youngblade, who heads CSU's Department of Human Development and Family Studies, has been named dean of the College of Health and Human Sciences after a national search. She will succeed retiring Dean Jeff McCubbin in August.

Youngblade, an expert in child and adolescent socio-emotional development, has worked at CSU for 13 years. In addition to her leadership role as a department head, she has guided college strategic initiatives, research, and graduate programs.

More than 4,650 students, or about 17% of the campus total, are enrolled in College of Health and Human Sciences programs focused on health, well-being, and the positive development of people and communities. ■



ACCOLADES

ENGLISH PROFESSOR EARNS GUGGENHEIM FELLOWSHIP

Camille Dungy, a professor in CSU's Department of English, earned a prestigious Guggenheim Fellowship in honor of her achievement and promise as an award-winning poet and essayist.

Dungy is CSU's first female faculty member to earn a fellowship from the John Simon Guggenheim Memorial Foundation, which grants the honor to individuals who have demonstrated exceptional capacity for productive scholarship or exceptional creative ability in the arts. She is among 168 scholars, artists, and writers to receive the fellowship this year.

Dungy will use fellowship funding to support a writing project called "Soil," an exploration into the intersection of an accelerating environmental crisis and socio-cultural issues including love, family, survival, and care. ■

ACCOLADES

RESEARCH CENTER NAMED TOP BIOMEDICAL MANUFACTURER

CSU's Infectious Disease Research Center, which develops new diagnostics, therapeutics, and vaccines, was named 2019 Bioscience/Medical Manufacturer of the Year at the Colorado Manufacturing Awards in Denver last month.

The center, on the University's Foothills Campus, provides a state-of-the-art platform for collaborative academic and industry research into the basic biology, biochemistry, molecular biology, and epidemiology of bacteria and viruses that cause human and animal disease. Its work is aimed at innovations that diagnose, prevent, and cure infectious disease. ■

