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CU's outreach across the state showcased in new initiative[1]

[2]

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Mention "CU" to people across Colorado, and some people will think first, if not only, of the Boulder campus. Others will go on to recall the campuses in three other cities: Colorado Springs, Denver and Aurora.

Yet CU's presence is felt in communities small and large all across the state.

In an effort to make that a top-of-mind point for more Coloradans, CU President Bruce Benson has introduced CU For Colorado, an initiative that promotes awareness of more than 230 University of Colorado outreach programs.

The effort's most visible platform is <u>a new website</u>[4] that gathers searchable information on outreach work across the CU system. The Office of Academic Affairs, along with University Relations, worked with the campuses to identify programs; faculty and staff are invited to suggest additions <u>by filling out this form.</u>[5]

"Every day, our faculty and staff are sharing knowledge and expertise with communities all across the state," Benson said. "CU For Colorado will serve as a powerful indicator of how we're working together with the public to improve the economy, health and culture of Colorado."

The programs compiled within CU For Colorado reflect the four pillars that encompass all of the university's activities: Learning and teaching: CU provides educational opportunities, training and resources for partnerships with P-20 students and teachers, and Colorado's other higher education institutions. Examples include the Center for STEM Education, the CU Pre-Collegiate Development Programs and CU Succeed. Discovery and innovation: CU research addresses compelling needs in Colorado and beyond. It also creates new companies and jobs and helps drive the state's economy. Examples: the Colorado Water and Energy Research Center, the El Pomar Institute for Innovation and Commercialization and the Colorado Center for Biorefining and Biofuels. Community and culture: CU brings arts, cultural and social programs to communities and works in partnership with them to promote the pursuit of knowledge. Examples: Boots to Suits, Center of the American West and the Colorado Shakespeare Festival in Schools. Health and wellness: CU offers health and clinical care, educational resources, opportunities in research studies, and wellness initiatives to communities throughout the state. Examples: the Colorado Area Health Education Centers, CU Mini Med School and the CU Mammogram Van.

The website's searchable, sortable database showcases programs by region, by program type and by home campus. Individual program entries provide links to other CU sites for more information.

Stories about the people and places benefiting from CU outreach are featured on the website and also on the CU For Colorado <u>Facebook[6]</u> and <u>Twitter[7]</u> sites. Other marketing material, including logo signage for use at outreach sites, is being developed.

Benson has begun touting the effort, having written about it in his most recent newsletter and speaking about it at an appearance last week in Grand Junction.

"We want more people in Colorado to know about the valuable services CU provides," Benson said.

If you have questions about or suggestions for the CU For Colorado database, email outreach@cu.edu[8].

<u>[10]</u>

Four generations of Gregory Walker's family have been scholars and musicians. So perhaps it was destiny – but probably more so an abundance of talent – that he has become a critically acclaimed violinist and award-winning composer as well as a professor at the University of Colorado Denver.

"I don't think I really got to choose a career ... I didn't really think in terms of having a choice," Walker says. His father, George T. Walker, is a composer and pianist and the first African-American to win the Pulitzer Prize in music. George Walker also taught at CU-Boulder. Gregory's mother, Helen Walker-Hill, is a pianist and music historian, holds a degree from CU and also was a faculty member. Gregory's grandfather, George Siemens, taught genetics at CU Denver.

Even before he finished his doctoral work at CU in 1992, a family friend – Associate Professor Emeritus Donna Bogard – encouraged Gregory to apply for a teaching position at the university: "Way back in 1991, the music faculty here knew they wanted somebody comfortable with rock music, but really didn't know where to start. Lucky me."

Walker has been a soloist with orchestras and symphonies around the world and composed numerous pieces, including those for electric instruments. He has produced CDs for several record labels and performed with a diverse group of artists, from pop star Lyle Lovett to violinist Itzhak Perlman to pop and jazz trumpeter Doc Severinsen.

He says music (to the occasional impatience of his wife, Lori, and sons Grayson and Dashiel) doesn't go away when he gets home from "work," but he finds time to participate in the traditional Chinese martial arts and to write. His novel, "Trigram Cluster Funk," will be published by Double Dragon Press in October.

1. Your CD, "Electric Vivaldi: Global Solstice," will be released in September. How did this collection come about and why is it special to you?

One of the reasons I enjoy working with my College of Arts and Media colleagues is that their mission of creating an intersection of art, technology and commerce resembles my own passion. That maybe doesn't have so much to do with commerce as it does with extending new artistic expression to a wider audience, which just happens to include that commercial population. I think I'd be happy pursuing any number of creative directions, but about 10 years ago, I was listening to an obscure European orchestra's colorful approach to the popular Vivaldi Four Seasons violin concerti. Suddenly realizing that it might be possible to not only take the orchestra's ideas even further, but also create an accessible version of the music for contemporary audiences with electronic sounds, I launched into a yearlong process of pulling together financial and artistic support for a first "Newport Classic Electric Vivaldi Four Seasons" compact disc. When it was released, I knew there were possibilities that still hadn't been fully explored, but my creative attention span is much too short to continue mining the same vein for very long. Consequently, this latest Centaur Records "Electric Vivaldi: Global Solstice" adds elements of world music and a new instrument that was a big part of my youth, the electric guitar.

2. Tell me about the instruments you play and your compositions.

At one time or another, as an orchestral soloist I've been engaged to play a variety of different kinds of violins, guitars and electronic paraphernalia. For other types of engagements, I may resort to other instruments, usually ones with strings. Even the instruments I love the most don't necessarily come easy, but I've always been motivated by untapped potential, theirs and mine. And I do admire anyone who can play the piano.

I've written dozens of songs for local progressive rock bands and electronic dance music producers, as well as a similar number of large-scale symphonic, chamber and electronic works that have been premiered around the United States and abroad. Then there are the recordings and music videos that I contribute to as engineer, director, editor, art director, you name it. This summer, there's even been an invitation to show off mellow stylings I did not know I had with Swing Je T'aime, an up-and-coming gypsy jazz band.

3. Why did you choose to compose for and perform with orchestras? What are the actions you take when you

compose?

I grew up in a family of classical musicians. Music wasn't entertainment, wasn't a job, just a way of life. The symphony orchestra was considered the ultimate medium. In some ways, the orchestra is the closest music can get to the diversity of the natural universe. On the other hand, it also embodies culture's regimented, domesticated mass obedience. The soloist is a defiant point of light.

When the time comes to actually write for the thing, I go to the instrument for which I have no aptitude, the piano. Every little idea emerges clumsily over weeks because my fingers can't move any faster. So slowly, many ideas are just lost mid-stream, but we can hope that if they were forgotten, they were forgettable. Eventually, imagination and the wonders of computer software allow me to add additional dimensions. And when the world premiere finally arrives, it's over in minutes ... maybe leaving an impression there was something behind the notes.

4. What are some of your favorite stage performances? What made them special?

There are two aspects of musical performance that are especially poignant for me, but they're easy to miss.

The first is the sensation of audience connection, real or perceived. Some years ago, I was hired as a violin concertmaster for a small orchestra performing Handel's "Messiah" at a church in Boulder. At one point, a profoundly bitter and inebriated homeless man walked in the door and loudly proceeded to the front of the audience. We all just tried to concentrate and ignore him. When we got to the famous "Hallelujah Chorus," the audience joined in singing along with the orchestra's choir. After the last chord and before the next aria, the homeless man stood up and walked toward me. I saw him out of the corner of my eye, reached over the edge of the stage, and we shook hands.

The second aspect is personal challenge and visceral risk. In 2009, the Philadelphia Orchestra engaged me to premiere a violin concerto by Pulitzer Prize-winning composer George Walker, my father, with a \$4.5 million dollar Stradivarius in a performance that was broadcast nationwide on National Public Radio. This would seem like an enviable, dossier-enhancing activity for anyone who has not suffered from lifelong stage fright.

My father's music carries a unique meaning for me not only because it's cool to play your dad's music, but because I believe he's an unsung musical genius for the ages.

5. What is your teaching philosophy and what do you hope students take away from your classes?

Compared to my diverse and accomplished colleagues at the College of Arts and Media, I'm not much of a teacher, per se. I try to be a kind of interpretive artist in the classroom. The value of a music curriculum, of all things, can be just like the proverbial tree falling in the forest with no one there to hear it – unless I can interpret the curriculum's significance and bring them around. Going to where those who share this world – the students – are, and coming to a mutual understanding so they can actually be inspired to accompany me. Because the only thing they'll ever bother to take away is what became significant.

NASA mission involving CU-Boulder discovers particle accelerator in heart of Van Allen radiation[11]

<u>[12]</u>

Using data from a NASA satellite, a team of scientists led by the Los Alamos National Laboratory in New Mexico and involving the University of Colorado Boulder have discovered a massive particle accelerator in the heart of one of the harshest regions of near-Earth space, a region of super-energetic, charged particles surrounding the globe known as the Van Allen radiation belts.

The new results from NASA's Van Allen Probes mission show the acceleration energy is in the belts themselves. Local

bumps of energy kick particles inside the belts to ever-faster speeds, much like a well-timed push on a moving swing. Knowing the location of the acceleration within the radiation belts will help scientists improve predictions of space weather that can be hazardous to satellites near Earth. The results were published July 25 in the journal Science.

"Until the 1990s, we thought the Van Allen belts were pretty well-behaved and changed slowly," says Geoff Reeves, lead author on the paper and a radiation belt scientist at Los Alamos National Laboratory. "With more and more measurements, however, we realized how quickly and unpredictably the radiation belts change. They are basically never in equilibrium, but in a constant state of change."

In order for scientists to understand such changes better, the twin Van Allen Probes fly straight through this intense area of space. One of the top priorities for the mission, launched last August, is to understand how particles in the belts are accelerated to ultra-high energies.

"We see case after case where the very high energy electrons appear suddenly right in the heart of the outer belt," said CU-Boulder Professor Daniel Baker, director of the Laboratory for Atmospheric and Space Physics and a study coauthor. "But now we can prove where the electrons originate from and we can see the waves – and the lower energy 'seed' particles – from which the relativistic electrons grow. We can essentially peer into the inner workings of our local cosmic accelerator with unprecedented clarity."

By taking simultaneous measurements with advanced technology instruments, the Van Allen Probes were able to distinguish between two broad possibilities on what accelerates the particles to such amazing speeds. The possibilities are radial acceleration or local acceleration. In radial acceleration, particles are transported perpendicular to the magnetic fields that surround Earth, from areas of low magnetic strength far from Earth to areas of high magnetic strength closer to Earth.

Physics dictates particle speeds in this scenario will increase as the magnetic field strength increases. The speed of the particles would increase as they move toward Earth, much the way a rock rolling down a hill gathers speed because of gravity. The local acceleration theory proposes the particles gain energy from a local energy source, similar to the way warm ocean water can fuel a hurricane above it.

Reeves and his team found they could distinguish between these two theories when they observed a rapid energy increase in the radiation belts Oct. 9, 2012. The observations did not show an intensification in particle energy starting at high altitude and moving gradually toward Earth, as would be expected in a radial acceleration scenario. Instead, the data showed an increase in energy that started right in the middle of the radiation belts and gradually spread both inward and outward, implying a local acceleration source. The research shows this local energy comes from electromagnetic waves coursing through the belts, tapping energy from other particles residing in the same region of space.

"These new results go a long way toward answering the questions of where and how particles are accelerated to high energy," said Mona Kessel, Van Allen Probes program scientist in Washington. "One mission goal has been substantially addressed."

The challenge for scientists now is to determine which waves are at work, according to the science team. The Van Allen Probes, which are designed to measure and distinguish between many types of electromagnetic waves, will tackle this task, too.

Baker said the new findings would not have been possible without the Relativistic Electric Proton Telescope, or REPT, developed by a team at CU-Boulder's LASP that is riding on the Van Allen Probes. CU-Boulder will receive more than \$18 million from NASA during the Van Allen Probes mission lifetime for REPT and an electronics package known as the Digital Fields Board, said Baker, who led the LASP team that developed REPT.

"We are now getting a crash course in true radiation belt physics," Baker said. "While before we were nibbling at the edges or looking through a cloudy screen, things are incredibly clear now. With our beautiful new sensors, we can see almost every 'thumbprint' of every large solar storm that has impressed itself on the Earth's radiation belts."

The Johns Hopkins University Applied Physics Laboratory in Laurel, Md., built and operates the twin Van Allen Probes for NASA's Science Mission Directorate. The Van Allen Probes are the second mission in NASA's Living With a Star program, managed by NASA's Goddard Space Flight Center in Greenbelt, Md. The program explores aspects of the connected sun-Earth system that directly affect life and society.

For more information about the Van Allen Probes visit: <u>http://www.nasa.gov/vanallenprobes[13]</u>. For more information on LASP visit <u>http://lasp.colorado.edu/home/[14]</u>.

Tenure list: August 2013[15]

At its Wednesday meeting at 1800 Grant St. in Denver, the Board of Regents approved awards of tenure and appointments with tenure for five faculty members across the system:

University of Colorado Boulder

Effective Aug. 19 Harsha Gangadharbatla, Journalism and Mass Communication Daniel Kaffine, Economics Jonathan Rogers, Leeds School of Business Paul Ziemann, Chemistry and Biochemistry University of Colorado Denver | Anschutz Medical Campus

Effective today Frederick Masoudi, Medicine/Cardiology

New fiscal year brings changes to pay statements[16]

When University of Colorado employees received their July 31 paycheck, many may have noticed that 2013-2014 benefits had taken effect and premiums had been deducted.

Preparing for the new fiscal year, the university provided improved services and programs, while working diligently to keep overall costs and employee premiums low. The following are a few new ways the university contributes to employee compensation, benefits and wellness.

Retirement matching funds

The one-year wait was lifted for new employees to enter the 401(a) Optional Retirement Plan. This allowed new faculty and university staff to benefit from the university's 10 percent contribution of salary to an employee's individual retirement account on the first of the month following their date of hire.

Health benefits

Since the inception of the CU Health and Wellness Trust, the university has been successful in keeping health care cost increases low for employees. The year-over-year costs increases have declined each year, to a record low of 3.8 percent for 2013-14.

Even better, the 3.8 percent cost increase for 2013-14 will not result in rate increases for employees for all except one category of coverage. The trust plans also added a diabetes management program and new hearing aid coverage. Dental plans were improved by unbundling dental plans from medical plans to allow for more employee choice.

Vision coverage options expanded with the CU Health Plan – Vision for faculty, officers, university staff and classified staff working in positions equal to or greater than 50 percent. The plan includes routine eye exams as well as discounts

on glasses and contact lenses.

The vision and hearing plan enhancements were a direct result of employee suggestions last summer for health plan improvements.

Merit pools

Employees likely saw an increased salary with the July 31 pay period. The University of Colorado Board of Regents approved a merit salary pool of 3.1 percent for faculty and university staff (officers and exempt professionals), and a new state merit increase plan went into effect for classified staff.

For faculty and university staff, each campus controlled how the merit pool was allocated. Classified employees received a 2 percent cost of living increase plus a merit increase drawn from a pool of 1.6 percent.

Be Colorado. Move.

Introduced in April, Be Colorado Move. encourages employees to increase their exercise and improve their health. Participants can earn \$25 a month by engaging in 30 minutes of moderate to vigorous physical activity for a minimum of 12 days. That can mean up to \$300 extra dollars to employees' pockets and improved fitness. Move. participants will see the first payment in their Aug. 31 paycheck, with payment information available through the CU employee portal beginning Aug. 23.

Find how to join Move. at <u>becolorado.org[17]</u>.

See your benefits on the portal

Employees can find details on their 2013-14 benefits in the employee portal. Go to <u>https://my.cu.edu/[18]</u> and log into your portal. All 2013-14 benefits information can be viewed in the CU Resources tab by clicking the "Employee Information" dropdown menu and selecting "Benefits Summary."

For questions, please contact Employee Services at 303-860-4200, option 3, or toll-free at 855-216-7740, option 3, to speak to a benefits counselor.

<u>Campus police bring good humor, safety message to children[19]</u>

UCCS police officers pose for a group picture with FDC students and staff. (Photos by Clay Garner, UCCS Police Department)

UCCS police officers pose for a group picture with FDC students and staff. (Photos by Clay Garner, UCCS Police Department)

UCCS Police Sergeant Grant Lockwood opens the back door to a group of FDC students.

UCCS police officers visited the youngest members of the campus community July 31 as part of a campus relations and safety event.

Six UCCS police officers, including Brian McPike, interim chief, visited with youngsters at the Family Development Center on a sunny Wednesday morning. The visit, dubbed Cops and Kids, was the first of what will be an annual collaboration between the two departments. The department also hosts the popular annual Bike Rodeo at the FDC.

UCCS police officers demonstrate lights and sirens in a police car.

The department's Cops and Coffee event is a popular outreach conducted annually by the department with UCCS faculty and staff. The Cops and Kids event allowed the police officers to interact with the children in a positive, safe environment, according to McPike.

"This is the best part about our jobs," McPike said. "We get to personally interact with the kids, while having fun with them at the same time. Of course, the Popsicles we brought ensured we made many friends."

The officers let the preschoolers climb throughout the police cruisers, as well sit on motorcycles, earning smiles from the officers and praise from FDC leaders.

"A great time was had by everyone who participated and best of all our children learned that police officers are our friends," wrote Ida Bauer, director of the Family Development Center.

A week's worth of camping syncs internal clock to sunrise and sunset, CU-Boulder study finds[23]

At the Eagles Nest Wilderness of Colorado, eight study participants camped for a week. The CU-Boulder study found that being exposed only to natural light during the camping trip synched everyone's internal circadian clock with sunrise and sunset. (Photo courtesy of Kenneth Wright) At the Eagles Nest Wilderness of Colorado, eight study participants camped for a week. The CU-Boulder study found that being exposed only to natural light during the camping trip synched everyone's internal circadian clock with sunrise and sunset. (Photo courtesy of Kenneth Wright)

Spending only one week exposed only to natural light while camping in the Rocky Mountains was enough to sync the circadian clocks of eight people participating in a University of Colorado Boulder study with the timing of sunrise and sunset.

The study, published online last week in the journal Current Biology, found that the synchronization happened in that short period of time for all participants, regardless of whether they were early birds or night owls during their normal lives.

"What's remarkable is how, when we're exposed to natural sunlight, our clocks perfectly become in sync in less than a week to the solar day," said CU-Boulder integrative physiology professor Kenneth Wright, who led the study.

Electrical lighting, widely available since the 1930s, has affected our internal circadian clocks, which tell our bodies when to prepare for sleep and when to prepare for wakefulness. The ability to flip a switch and flood a room with light allows humans to be exposed to light much later into the night than would be possible naturally.

Even when people are exposed to electrical lights during daylight hours, the intensity of indoor lighting is much less than sunlight and the color of electrical light also differs from natural light, which changes shade throughout the day.

To quantify the effects of electrical lighting, a research team led by Wright, who also is the director of CU-Boulder's Sleep and Chronobiology Laboratory, monitored eight participants for one week as they went about their normal daily lives. The participants wore wrist monitors that recorded the intensity of light they were exposed to, the timing of that light and their activity, which allowed the researchers to infer when they were sleeping.

At the end of the week, the researchers also recorded the timing of participants' circadian clocks in the laboratory by measuring the presence of the hormone melatonin. The release of melatonin is one of the ways our bodies signal the onset of our biological nighttime. Melatonin levels decrease again at the start of our biological daytime.

The same metrics were recorded during and after a second week when the eight participants—six men and two women with a mean age of 30—went camping in Colorado's Eagles Nest Wilderness. During the week, the campers were

exposed only to sunlight and the glow of a campfire. Flashlights and personal electronic devices were not allowed.

On average, participants' biological nighttimes started about two hours later when they were exposed to electrical lights than after a week of camping. During the week when participants went about their normal lives, they also woke up before their biological night had ended.

After the camping trip—when study subjects were exposed to four times the intensity of light compared with their normal lives—participants' biological nighttimes began near sunset and ended at sunrise. They also woke up soon after their biological night had ended. Becoming in sync with sunset and sunrise happened for all individuals even though the measurements from the previous week indicated that some people were prone to staying up late and others to getting up earlier.

"When people are living in the modern world—living in these constructed environments—we have the opportunity to have a lot of differences among individuals," Wright said. "Some people are morning types and others like to stay up later. What we found is that natural light-dark cycles provide a strong signal that reduces the differences that we see among people – night owls and early birds – dramatically."

Our genes determine our propensity to become night owls or early birds in the absence of a strong signal to nudge our internal circadian clocks to stay in sync with the solar day, Wright said.

The new study, which demonstrates how strong of a signal exposure to natural light is, offers some possible solutions for people who are struggling with their sleep patterns. For example, people who naturally drift toward staying up late may also find that it's more difficult to feel alert in the morning – when melatonin levels may indicate they're still in their biological nighttimes – at work or in school.

To combat a person's genetic drift toward later nights, exposure to more sunlight in the morning and midday could help nudge his or her internal clock earlier. Also, dimming electrical lights at night, forgoing late-night TV and cutting out screen time with laptops and other personal electronic devices may help internal circadian clocks stay more closely attuned with the solar day, Wright said.

Other CU-Boulder co-authors of the study are doctoral students Andrew McHill and Evan Chinoy; former undergraduate students Brian Birks and Brandon Griffin, both of whom are now professional research assistants; and former postdoctoral researcher Thomas Rusterholz.

CU's 'Top Docs' shine in 5280 Magazine list[25]

[26]

Nearly 200 of metro Denver's top doctors, as listed in 5280 Magazine's August issue, are faculty members at the University of Colorado School of Medicine (SOM), proving again that many of the Mile High City's best doctors are training the next generation of health care providers.

On this year's list are 196 physicians who teach for the SOM. Most of them -135 – are faculty members who are employees of the school or are paid by one of the school's affiliated health care providers. The other 61 are clinical volunteer faculty.

<u>View the complete list of CU's Top Docs, 2013[27]</u>

The magazine's annual list of "Top Docs" is determined by a vote of peer physicians who are asked to select whom they would trust to care for themselves and their families. The process includes an online ballot conducted from mid-January through mid-March.

The magazine has published its annual survey of medical professionals the past 20 years and the list is typically

dominated by physicians who are faculty at the SOM. The total number of "Top Docs" on this year's 5280 list is 334 physicians in 95 specialties.

SOM affiliated providers that employ the listed physicians are University of Colorado Hospital, Children's Hospital Colorado, National Jewish Health, the Denver Veterans Affairs Medical Center and Denver Health Medical Center.

SOM physicians and clinical volunteers instruct the next generation of caregivers, conduct groundbreaking research and provide excellent clinical care to patients and service to the community. SOM faculty educate and train more than 1,700 medical professionals each year including medical students, residents and fellows.

Cradle of mankind becomes classroom at Tanzania field school[28]

CU Denver anthropology students Tracey Lancaster, left, and Elicia Abella dig in the research trench at the Laetoli fossil site. They are looking for more hominid footprints that date back 3.6 million years.)

NORTHERN TANZANIA – Early light spills across the vast grassland that, for centuries, has been walked only by animals and nomadic Masai tribes. The only sound and movement comes courtesy of modern man. Several trucks boil dust as they rumble over the savannah.

A string of mysterious footprints in a geologic layer has drawn nine University of Colorado Denver and two Texas A&M anthropology students to this land. On a crisp and clear July morning – winter on this side of the equator – they pull up to Laetoli, one of the world's most important fossil sites.

The students lather on sunscreen, lace up boots and prepare for another day of work. While most northern Tanzania visitors come for the region's teeming wildlife, these researchers from CU Denver – a mix of graduate and undergraduate students – are here to uncover ancient treasure. They hope to discover what the fossils can tell us about the story of mankind.

"It's like a Catholic going to the Vatican," said CU Denver student Kevin Darcy as he walks up to a mound of basalt that protects the telltale Laetoli footprints. "It's like Mecca," adds fellow graduate student Corina Marin. "We've spent over a decade reading about this site and the new evidence they're always finding in the region. It's like, 'Man, we're finally here. I can't believe we're here."

The anthropology students and one film student, all first-timers to Tanzania, are midway through a six-week field school deep in the African outback. They've already spent two weeks digging into the renowned Olduvai Gorge fossil site, explored regional cities and viewed wildlife galore. Still to come is a trench-digging project at Laetoli – an effort to uncover more of the hominid footprints that date 3.6 million years – and eye-opening visits to Masai villages to witness rite-of-passage and wedding ceremonies.

Each June and July, the <u>Tanzania Field School</u>[30] offers an unparalleled educational experience – a blend of handson practical field work and cultural excursions – just as anthropology associate professor Charles Musiba, Ph.D., envisioned when he launched the school in 2006. <u>An expert in the study of human origins</u>[31], Musiba, a Tanzania native, wanted students to perform firsthand research in places they'd only read about in textbooks.

These sites, Olduvai Gorge and Laetoli, are considered the cradle of humanity, where the earliest hominids left traces of man's first forays upon two legs.

"It's just absolutely amazing to be part of this team and working these sites," Marin said. "We're all following in the footsteps of the Leakeys. So for me, it's absolutely a dream come true."

'Footprints of our ancestors'

In 1976, two members of anthropologist Mary Leakey's team were tossing dried elephant dung at each other when one of the men discovered rain drop marks and animal tracks in the rock. Two years later, Paul Abell, another member of Leakey's team, discovered the trail of about 70 fossilized hominid footprints that made Laetoli famous. The footprints, which reveal the walkers had arches, unlike an ape's flat feet, are the earliest evidence of hominids walking upright.

"Here you see the place of the footprints of all of our ancestors, every single one of us, it's our ancestry. That's really left an impression on me," said Thornton Giese, another CU Denver anthropology student. "We can read about it in books or hear lectures, but actually coming out and seeing the real thing – well, hopefully we'll see more footprints – that's something I will carry with me for the rest of my life."

The students carry shovels, pick-axes and trowels to dig out a 15-yard-by-30-yard trench to uncover fossilized treasures more than a foot underground. They spend more than eight hours a day for two weeks methodically digging down to Volcanic Tuft No. 7, which blanketed the area after a series of volcanic eruptions 3.6 million years ago. T-7's fine ash layer became like wet cement after light rains fell, capturing prints of animals and early hominids.

As student Brian Miller digs into the ground, Musiba instructs, "Careful when you're using the shovel. You don't want to scrape the surface (of the T-7 layer) too much."

While the work is tedious, the students are intrigued by the geologic layerings, a fault line that runs through the trench, and various bone fragments being unearthed. Part of a tooth from a large animal, possibly an elephant, is among the discoveries. In a segment of T-7, Musiba uncovers what appears to be fossilized buffalo tracks. The team finds other fossilized animal tracks during two weeks at the Laetoli trench.

Tracey Lancaster, a first-year graduate student in the <u>CU Denver Department of Anthropology</u>[32], said every specimen and every track uncovered is valuable. "These are important because they will tell us what animals walked through here. They will tell us about the environment they lived in."

Collaborative research

The CU Denver team is accompanied, on this first day of trench digging at Laetoli, by renowned researchers Gail Ashley (geologist, Rutgers University), Henry Bunn (anthropologist, University of Wisconsin-Madison) and Adam Durant (volcanologist, Norwegian Institute for Air Research).

A few days earlier, an entourage of officials from the Tanzania Parliament and Ministry of Tourism and Natural Resources met with Musiba and the students at Laetoli, inquiring about their research and plans for a \$35 million onsite museum. The facility will showcase the 75 footprints already found – believed to be left by four hominids, including a child – and any others that the students unearth.

"This is the beginning of a very huge project, and the students should be proud of that," Musiba said. "It's a project in which they are exploring for more footprints and will help guide the effort toward erecting a museum on the site."

A smaller museum already exists on a hill overlooking the footprint site. The structure was built in 2008 and includes a replica casting of the famous footprints as well as exhibits prepared by Musiba and colleagues, including field school co-founder Professor Cassian Magori of St. Francis University College of Health and Allied Sciences.

Darcy, meanwhile, is working on a cultural anthropology management project related to plans for the new museum, which may be built in the shape of a giant footprint. He spent much of the field school visiting Masai villages, called bomas, to gather residents' concerns and hopes in regard to an influx of visitors to their native land.

"I'm studying how to balance the tourism that will come with a new museum with the heritage of the people and the preservation of the Laetoli research site," Darcy said.

Musiba said government officials are excited about the prospect of a new museum at Laetoli, which is a World Heritage Site.

"They are interested in how we are integrating local communities as we develop and build the site," he said. "It has changed officials' way of thinking about how communities surrounding the World Heritage sites can benefit from tourism, for instance."

Hallmark of humankind

Margaret Kaisoe, a local Masai, stands next to a cast replica of hominid footprints at the current Laetoli fossil site museum in northern Tanzania. A new museum is planned to be built around the actual footprints down the hill from the current museum.

Margaret Kaisoe, a local Masai, lives in a small house near the current museum. She was born here and cherishes the customs and culture of her people. But she also recognizes that the world is changing and that if her land offers an educational resource to visitors, so be it.

"The fossils are important because they tell us about an event and how people once lived here," she said. "We want to help people learn more."

Margaret notes that a global attraction such as a new museum could benefit the Masai by offering water pipelines, improved roads and employment opportunities.

The CU Denver students, including those from previous field school sessions, pictured in displays inside the current museum, will play a significant role to the heritage site. The new facility will include classrooms, a research center and displays about the cradle of humankind. At the center will be the actual footprints.

"It's something for the entire world," Giese said of the museum project. "This is something that really brings all of humanity together because this is where humans started evolving into what we are."

As the sun arcs over the savannah to mark another day, the students dig, scoop and brush through hard layers of earth. They painstakingly log data that will add to the research record of this international jewel. They also register emotional impressions of this hallmark of humankind – with its stunning scenery and warm-hearted people – that won't easily be forgotten.

Transformative experience

CU Denver anthropology students Thornton Giese, left, and Khashayar Asgari enjoy watching a sunset over the Serengeti Plain near the Laetoli base camp.

"I will really miss the open hospitality and friendship that exists within every person that you run into in this country," CU Denver student Vincent Burchard-Smith said. "This has been far more of an educational experience than any of the time I've spent in a classroom."

Elicia Abella, a graduate student in biological anthropology, called working at the famed fossil sites an "unreal" and "invigorating" experience. "There is just this spirit that we're all in this together," she said. "We're trying to find specimens and collect as much as we can. It's just amazing to me because we all share that same geeky passion. It's an influx here of just really brilliant people."

Musiba said the field school is a transformative experience that makes students better global citizens. "Their global perspective completely changes, and that's what anthropologists do," he said. "We see our world through a very different prism."

But what if no more footprints are found during this year's field school? There's a saying in Africa – "It's not a problem" – and CU Denver student Thornton Giese couldn't agree more.

"If we don't find footprints, that raises questions about how these footprints were weathered and eroded away over time and how we can protect that from happening," he said. "We're still learning a lot."

Argys named interim dean[35]

<u>[36]</u>

Laura Argys, a professor of economics, has been named interim dean of the College of Liberal Arts and Sciences at CU Denver. Argys has taught courses ranging from introductory economics to graduate research seminars.

"Laura is a labor economist and economic demographer who conducts research in the areas of health, education and family policies, with a focus on child well-being and health," said Provost and Vice Chancellor for Academic and Student Affairs Rod Nairn. "Dr. Argys has served as chair of the Department of Economics and associate dean for research and creative activities in CLAS."

Argys follows Dan Howard, who is leaving CU Denver to be the provost at New Mexico State University (NMSU). Before coming to CU in 2008, Howard spent 20 years at NMSU, including heading the biology department and as the interim associate dean for research in NMSU's College of Arts and Sciences.

Argys sees the challenge as "an exciting opportunity to continue the momentum that the college has built in the past five years. I look forward to working with the faculty and staff in the upcoming year to continue to expand and sustain research support and infrastructure in the college, to enhance the learning experiences and success of CU Denver students pursuing a liberal arts education and to grow our partnerships with other schools and colleges, campuses and the community. As is true throughout higher education in the state and across the country, we face challenges to our funding from a variety of sources and competition for students on a national level. We can't afford to sit on the sidelines."

She intends to focus attention on programs and projects such as the BA/BS-MD program, which admits top students to the downtown campus with a reserved spot in medical school; international college programs; the recent undergraduate program in public health; fundraising opportunities and the CLAS presence in the new building under construction on the Auraria Campus.

Connections resumes weekly publication[37]

With today's issue, CU Connections resumes its regular weekly publication schedule for the new academic year.

A new edition appears each Thursday morning throughout the year. For part of the summer, new editions appear every other week. Connections will not publish new issues on Nov. 28 (Thanksgiving), Dec. 26 and Jan. 2, 2014.

Deadline for submissions is noon Friday before each Thursday's publication. Questions: Contact Connections editor Jay Dedrick, <u>jay.dedrick@cu.edu[</u>38], 303-860-5707.

[40]

Heather Kling is not accustomed to the spotlight. She'd prefer to stay behind the scenes if she could. But after recently being named Employee of the Quarter, Kling, program manager, Office of Veteran and Military Student Affairs, at the University of Colorado Colorado Springs, may have to deal with a little extra attention.

The former Army Sergeant First Class and UCCS alumna said she was surprised when she was notified of the award, along with an accompanying day of administrative leave, a \$100 stipend, a certificate of recognition, and three months of free and reserved campus parking.

"I'm still flabbergasted," Kling said. "It's a great honor that I'm grateful to have received."

While Kling may be surprised, Phillip Morris, program director, Office of Veteran and Military Student Affairs (OVMSA), was not.

"Heather is the foremost authority at UCCS when it comes to the Department of Veterans Affairs funding and administrative issues," Morris said. "In addition to managing a very effective processing office, Heather also works diligently with our 10- to 15-member work-study staff to make sure they perform their jobs well, and learn and grow while working at the OVMSA."

Kling also represents the OVMSA at orientations, graduate fairs and the numerous military job and education events throughout Colorado Springs.

She said she wouldn't have received this award if it weren't for the work of her entire office.

"The Office of Military and Veteran Student Affairs has come a long way in the last few years and there's such great support from everyone here," Kling said.

Before joining the OVMSA in 2010, Kling served in the United States Army for more than 20 years. After retiring, she earned her Bachelor of Arts in psychology from the UCCS College of Letters, Arts and Sciences.

Outside of work, Kling is working toward her master's of public administration and enjoys hiking with her three dogs, Sammie, Bailey and Ellie.

Bedrick brings expertise, leadership to Cancer Center[41]

[42]

Ed Bedrick, a prominent statistician, has joined the University of Colorado Cancer Center as the director of the Biostatistics and Bioinformatics Shared Resource and the Colorado School of Public Health as a professor of biostatistics and informatics.

Before joining the CU Cancer Center, Bedrick served as professor of biostatistics and the director of the Biostatistics and Bioinformatics Shared Resource at the University of New Mexico Cancer Center. His research interests include biostatistics, Bayesian methodology, categorical data analysis, computation statistics, meta-analysis and test of equivalence with survival data.

"We are very pleased to welcome Dr. Bedrick to the University of Colorado Cancer Center," said Dan Theodorescu, director of the CU Cancer Center. "He brings substantial expertise and experience to a leadership position critical to our Cancer Center. I am excited to see Dr. Bedrick take our Biostatistics and Bioinformatics Shared Resource to the next level."

The Biostatistics and Bioinformatics Shared Resource provides quantitative and information science support for the planning, design, analysis and presentation of basic science, clinical and epidemiological investigations. Bedrick will be responsible for redeveloping the resource, creating a broader clinical trials portal, recruiting biostatistics faculty and increasing service utilization among Cancer Center researchers.

"The shared resource needs to be better integrated into the research and clinical programs of the Cancer Center," Bedrick said. "I'm hoping to start my time by meeting with key leadership to try to get a view of their needs and then use that information to figure out what our shared resource can to do to meet them."

Besides teaching at the Colorado School of Public Health, Bedrick will be focused on getting more biostatistics faculty and students involved in the work of the Cancer Center.

In 1984, Bedrick earned his Ph.D. in statistics from the University of Minnesota and was hired as an assistant professor in the Department of Mathematics and Statistics at the University of New Mexico, where he has spent the past 30 years.

Bedrick's current research projects are looking at novel methods for meta-analysis and tests of equivalence with timeto-event data, the development of novel statistical methods for inferring animal diet from stable isotope data, and the impact of summarizing data prior to performing statistical inference.

"I'm very excited about coming to Colorado," Bedrick said. "I particularly like the Southwest portion of the U.S., and clearly the University of Colorado has a lot to offer me — strong research, clinical and academic programs, and people who have really made me feel welcome. This will be a great opportunity for me and my family."

UCCS, CC biologists to collaborate in gene research[43]

[44]

A chance dinnertime conversation turned into a \$677,091 National Science Foundation grant for two professors of biology: **Eugenia Olesnicky Killian**, assistant professor, Department of Biology at UCCS, and her husband, Darrell Killian, assistant professor of biology at Colorado College.

The grant will support the couple's research on how genes regulate the nervous system.

The two departments will divide the grant and use it to support summer student stipends, a research technician and outreach efforts including working with the UCCS Center for Science, Technology, Engineering and Math Education to develop genetic and nervous system-specific examples to share with middle and high school students.

Married for six years, the pair discovered during a dinnertime conversation a common interest in genes, though each works with a different life form – Darrell with worms and Eugenia with flies.

"We both happened at some point in our careers to have worked on the same gene," Eugenia said. "To put that in perspective, while the worm has 19,000 genes total and the fruit fly has 16,000, we have only focused in depth on a handful of genes each."

<u>[45]</u>

During a postdoctoral fellowship, Eugenia identified 90 genes in fruit flies that are important to the development of painsensing nerve cells. The NSF grant will allow the Killians to test if the same genes – almost all of which are present in flies, worms and humans – have a similar role in worms. If they find the genes have the same function in flies and worms, they believe it likely they play a similar role in humans. The Killians' research will involve analyzing more than 50 genes for their involvement in dendrite development. Dendrites affect the function of neurons and are associated with disorders such as Alzheimer's disease, Down syndrome and anxiety.

Three of Eugenia's students, both undergraduate and master's students in biology, are already spending time in Darrell's laboratory at CC as well as hers at UCCS. The students and the Killians will meet every week or so to talk about research papers and other work that will help them further their research.

"We are trying to create a dynamic research culture," Eugenia said. "We're not just training them to do research, which is the most important, but also to introduce them to the scientific culture that you'd see in graduate school."

Students will use a new confocal microscope at UCCS, purchased with funds from the CU BioFrontiers Institute, which produces high-resolution images.

[46]

Both Killians hope to integrate the research into student projects with the work expected to promote critical thinking and sophisticated laboratory skills.

"This collaborative research project will greatly benefit students and biology departments on both campuses by promoting the sharing of ideas, experiences, reagents, and lab equipment," the Killians wrote in their grant application.

- Diane Alters of Colorado College contributed to this article; photos by Jeff Foster, University Advancement

Vellequette to lead tech transfer at two campuses[47]

MaryBeth Vellequette has been appointed the tech transfer director for the University of Colorado's Boulder and Colorado Springs campuses. Vellequette joined the CU Tech Transfer Office's Boulder licensing group in 2009 and is an experienced patent agent, having worked at both OmniVision Technologies and local law firm Greenlee, Winner & Sullivan. She also served as vice president of R&D for startup diagnostics company DDx Inc. Vellequette has an undergraduate degree in chemistry from Mount Holyoke College, and a Ph.D. in physical chemistry from Stanford University.

Following the retirement of TTO operations director **Kathe Zaslow**, several experienced staff members will perform operations functions at the CU system level, reporting directly to TTO's interim associate vice president. Zaslow played a key role in reviewing more than 800 IP service agreements per year, the majority of which were biological material transfer agreements (MTAs). **Amanda Hitchell** has been hired as contract support specialist to handle MTAs for all CU campuses; she will also negotiate confidentiality agreements and IP terms in sponsored research agreements and consulting agreements for CU Denver|Anschutz Medical Campus researchers. For CU-Boulder and UCCS, **Frank Robison** has joined University Counsel to support the review of IP terms in sponsored research agreements as well as review of license agreements and other IP agreements.

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Bruehl

Otanez

Borrayo

Peggy Bruehl, instructor, and Aimee Bernard, senior instructor, Department of Integrative Biology at CU Denver, attended an intensive weeklong National Science Foundation-supported professional development workshop at Hobart & William Smith College in Geneva, New York in mid-June. The workshop is based on a new teaching approach that seeks to transform the learning environment of undergraduate science courses to model the creativity, complexity and excitement of the scientific process. This teaching approach, called the CREATE (Consider, Read, Elucidate the hypotheses, Analyze and interpret the data, and Think of the next Experiment) strategy, focuses on the directed reading of primary literature and incorporates numerous pedagogical tools designed to increase critical thinking skills and to instill a deep appreciation of the scientific process. Bernard was selected to be a full implementer for the 2013-14 academic year by the creators of this teaching method and will use the method in her BIOL4622/5622 Topics in Immunology course. ... Michael J. Rice, professor and endowed chair of psychiatric mental health nursing at the University of Colorado Denver, was elected a member at-large to the board of directors of the American Psychiatric Nurses Association (APNA). Rice has extensive experience representing APNA on various task forces and committees. He will assume his position during the annual meeting and town hall at the APNA 27th annual conference in October in San Antonio. ... Two School of Medicine faculty members and an administrator were recently appointed to leadership positions within the Association of American Medical Colleges (AAMC). Kevin Lillehei, professor and chair of neurosurgery, and Pamela Peterson, associate professor of medicine in the cardiology division, will become charter members of the AAMC's Council of Faculty and Academic Societies. The council identifies critical issues facing medical school faculty and provides a strong voice for faculty within the AAMC leadership structure. ... Cheryl Welch, director of faculty affairs at CU Denver, recently was appointed to the Research Project Development Subcommittee of the AAMC's Group on Faculty Affairs. The subcommittee will engage in strategic planning and oversee collaborative and scholarly projects pertaining to faculty evaluation, faculty development, promotion and tenure and other faculty matters. ... CU Denver's Marty Otañez, assistant professor of anthropology, and Evelinn A. Borrayo, professor of psychology, received a two-year, \$500,000 award from the Ford Foundation to promote "Social Media for Sexual and Reproductive Rights, Access and Justice." The two are colleagues in the Latino Research and Policy Center in the School of Public Health. As part of the grant, during the summer, Otañez and undergraduate and graduate CU Denver students completed one of three digital storytelling workshops with Latina teens who are pregnant or already parents. The sessions conducted at Denver's Florence Crittenton High School focus on themes including stigma associated with being a teen mom and health and reproductive rights and justice. ... Ann Komara, associate professor and cochair of Landscape Architecture at CU Denver, wrote an essay about landscape architect Satoru Nishita that has been published on The Cultural Landscape Foundation website. Nishita, who died July 16, 2013, was the partner-in-charge and lead landscape architect for many notable projects in landscape architect and urban planner Lawrence Halprin's office, including Skyline Park in Denver (1973). He also was involved in the design of Babi Yar Park in Denver. ... Lawrence Hergott, professor of medicine in the CU School of Medicine cardiology division, wrote an essay for the Journal of the American Medical Association about preserving the soul of medicine when external pressures threaten to distract us. "I have been increasingly concerned about the effects of external forces imposed on physicians in the last decade. My concern includes not only the obviously diminished autonomy of physicians, but also what seems to be lessened organizational and cultural value of physicians. More bothersome are some of the responses physicians have made to the pressures," Hergott wrote. "Some of the imposed pressures, and some of the responses to them, threaten to extinguish the soul of medicine - that thing beyond the biomedical, immutable, sustaining: the caring, compassionate, dedicated, enthusiastic attitude that set us on the difficult-by-nature, enriching journey called the medical life." ... Five staff members joined the University of Colorado Colorado Springs in June. They are: Amy Booth, site coordinator, Beth-El College of Nursing and Health Sciences; Jonathan Radtke, associate manager, bookstore; Bradley Plesz, audio visual technician, University Center; Steve Smith, administrative assistant, Department of Human Resources; and Cynthia Rhoads, program assistant, Department of Human Resources.

In memoriam[52]

Names of current and former University of Colorado faculty and staff who have died in recent weeks. List compiled by Employee Services.

CU-Boulder

Ben Burton Balsley, 81, research professor. July 31, 2013. Jack J. Kraushaar, 89, faculty retiree emeritus. July 25, 2013. Patti R. McNeely, 61, PERA retiree. July 24, 2013.

Save the date: CU System Diversity Summit 2014[53]

Plans are underway for the next systemwide diversity summit, which will be April 17, 2014, on the CU Denver campus.

The chief diversity officers of each campus will appoint a planning team this month, with more details about the summit to be announced in October.

Watch CU Connections for event updates.

International employees: Schedule tax appointments before first paycheck[54]

All new University of Colorado international employees – including students, scholars and researchers – must consult with CU's international tax specialists to determine and document their tax residency status and fill out related paperwork. Tax appointments also might be required for workers whose immigration status has changed.

Ideally, this consultation should occur before an employee's first paycheck to prevent unnecessary tax deductions.

"We want employees to have a better understanding of how the tax system works and how it will affect them," said Alicia Dandeneau, an international tax specialist in CU Employee Services.

What to bring: Employees should be prepared to review their history of presence in the U.S. and corresponding immigration statuses. They should bring their passport and immigration documents to the meeting. A Social Security number is not required at the initial appointment.

Schedule an appointment: Employees should schedule appointments through the online scheduling system at https://www.securedata-trans7.com/ap/universityofcolorado1/index.php?page=10[55].

Keeping secret words secret[56]

Passwords have become a critical part of our daily lives. We use passwords to log onto our computer, read our email, update our finances, shop online and even watch movies. It seems that doing almost anything on the Internet today requires some type of password. As a result, your passwords represent the keys to your information kingdom.

Cybercriminals understand the importance of your password. If they can get your password, they can have access to your bank accounts, read your email, steal your money, sell your information, or even steal your identity. It is extremely important to protect your passwords.

To understand the eight steps to protecting your passwords, read the August 2013 Office of Information Security Cybersecurity newsletter[57].

Together Colorado 5K Walk/Run For Fun in the Sun to benefit Colorado Combined Campaign[58]

The <u>Together Colorado 5K Walk/Run For Fun in the Sun[</u>59] is a leisurely morning walk, run or stroll around Sloan's Lake in Denver to celebrate Colorado nonprofit organizations.

Saturday's inaugural event is raising money in support of the ongoing Colorado Combined Campaign and its mission to encourage charitable giving to benefit the state and its communities, as coordinated by state employees in cooperation with approved nonprofit organizations. Through the efforts of hundreds of supporters, Together Colorado 5K Walk/Run For Fun in the Sun will raise thousands of dollars that will provide funding for nonprofit organizations directly tied to Colorado.

Event itinerary:

8 a.m.-8:45 a.m., on-site registration 8:45 a.m.-9 a.m., public address 9 a.m.-10 a.m., 5K Walk or Run for Fun in the Sun 10 a.m.-noon, post-walk/run entertainment

Registration and fundraising incentive levels start at \$15 for children ages 7-18 years and \$30 for adults. All donors receive a 2013 event T-shirt. All registrants will be entered into the door prize drawing for fabulous prizes, such as \$250 Frontier Fly Bucks.

All registration donations will benefit the people of Colorado through the Colorado Combined Campaign and its charity partners. Your individual donation amount of \$15 or \$30 is the amount you paid for registration minus the gift value (if applicable). This donation amount will appear in your donation totals.

Registration, less a service charge and credit card processing fee (as noted on the registration page), will be donated to the Colorado Combined Campaign for distribution to nonprofit organizations with a direct connection to the state of Colorado. For registration and more information, <u>click here</u>[59].

Links

^[1] https://connections.cu.edu/stories/cu%E2%80%99s-outreach-across-state-showcased-new-initiative[2] http://www.cu.edu/forcolorado[3] http://www.cu.edu/forcolorado/[4] https://www.cusys.edu/forcolorado/[5]

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