Cohn named new deputy chief of police at CU Denver[1]

[2]

Jeffrey Cohn – an experienced law enforcement professional who has worked in a variety of areas including patrol operations, investigations and community programs – has been named the new deputy chief of police for the University of Colorado Denver Police Department.

He served for more than 25 years with the city of Lakewood Police Department. During his tenure there, Cohn was the program manager for the School Resource Program and the Neighborhood Action Team. More recently, he was appointed as the commander for the Property Crimes Division.

Cohn is a certified fraud examiner and completed the Colorado Sheriff's Association Command School. He holds a bachelor's degree in administration of justice, an AAS Accounting degree and is pursuing a master's degree in criminal justice through American Public University.

"I am confident our police department will benefit from Mr. Cohn's passion for excellence and strong leadership skills," Chief of Police Doug Abraham said. "We are fortunate to have him as a leader in the University Police Department."

Shining light on sustainability at the holidays – and beyond[3]

[4]

"Doing what you can with what you have" may not be a common holiday theme, but it is something that staff and volunteers at the Environmental Center at CU-Boulder[5] especially promote during this time of year when commercialism runs rampant.

Those colorful lights you string up in trees and around your house need lots of energy to produce that holiday glow – more than 2.2 million MWh of electricity, or enough to provide energy to more than 173,000 homes for one year.

Students sort through compost materials at Buffaloes football games, part of the CU-Boulder Environmental Center's zero-waste initiative.

Americans produce 25 percent more trash this time of the year, notes the center, and much of that comes from wrapping paper torn from all those gifts. According to the center, if every family wrapped three presents in re-used materials, it would save enough paper to cover 45,000 football fields.

While one of the center's goals is to educate the community, a larger mission is to promote a culture of sustainability at CU-Boulder through a variety of programs with the help of permanent staff, 120 student employees and 400-plus student and community volunteers. The most visible push from the center, which was founded in 1970, might be the zero-waste initiative at Buffs football and basketball games, where nearly all packaging and other items are reused, recycled or composted. Campus officials hope to reach their goal of 90 percent effectiveness by 2020.

Another center program provides home energy audits for students to help them understand the implications of energy use to both the environment and their pocketbooks, says SarahDawn Haynes, the center's outreach and engagement coordinator. The center also provides bus pass and bicycle programs to reduce the carbon footprint.

Student employees also clean and repair used computers that are then given to high school students through a program that not only reduces waste but also supports the university's mission to provide teens with the tools they need for educational success.

The center promotes environmental leadership and justice, says Haynes. “Recycling and investment in renewable energy is not just about people who afford it; it’s for everyone. Research shows that landfills are located primarily in low-income communities and those of color.”

Beyond the holidays, there are simple ways to create a culture of sustainability beyond recycling, monitoring energy use and reuse, Haynes says. Ideas include: buy locally whenever possible; stay informed about energy issues; encourage family and friends to be environmentally friendly; walk or bike instead of driving; and don’t buy packaged water.

“It’s critical to use what you have where you are at,” Haynes says. “All of these things add up to a better lifestyle for us and the world.”

HOLIDAY SUSTAINABILITY TIPS

(From the Environmental Center and Eco-Cycle) Wrapping paper is often used once and thrown away. Try using colorful pages torn from magazines to wrap small gifts, and old maps or the Sunday comics for larger boxes. Avoid using paper entirely by using reusable decorative tins, baskets or boxes. If you do buy wrapping paper, look for ones made of recycled paper. Reusable cloth ribbons can be used in place of plastic bows. Finally, unwrap gifts carefully and save wrappings for reuse next year. If you buy gifts, look for durable and reusable items and resist the latest “fad” at the mall. Think of how many pet rocks, mood rings and Cabbage Patch Dolls ended up in the landfill! Look for gifts with an environmental message: a nature book, a refillable thermos bottle, a canvas tote bag, a battery recharger or items made from recycled materials. Choose solar-powered instead of battery-powered products. Or better yet, ones that require no power at all. Other environmentally smart gifts include homemade ones: home-baked cookies, bread or jams, a plant or tree. Ones that don't create any waste at all: concert or movie tickets, dinner at a restaurant, or an IOU to help rake leaves or repair a leaky faucet. Ones that get “used up”: candles, soap, or seeds for next year's garden. If you go out shopping, bring your own tote bags and avoid coming home with an armload of plastic bags holding just one item. You are probably receiving piles of mail order catalogs at this time of year. Call the company's toll-free number and ask that you be removed from their mailing list. Fortunately, magazines and catalogs can be recycled on campus and at local recycling centers. If you send holiday cards, look for ones made of recycled paper. Avoid cards with glossy, shiny or gold foil coatings since these cannot be recycled. Save the cards that you get in the mail, cut off the front pictures, and reuse as “postcards” next year. This saves on postage too. Or, send '”electronic cards'” or make a phone call instead! For tree trimmings, try edible or compostable items like popcorn or cranberries on a string, gingerbread cookies or items made from "found" objects around your home. Use LED holiday lights, which last up to 10 times longer and use 80 percent less energy than traditional lights. When possible, use decorations powered by solar lights.

NASA’s MAVEN mission scientists identify links in chain leading to Mars atmospheric loss[7]

[8]

Early discoveries by NASA’s newest Mars orbiter are starting to reveal key features about the loss of the planet’s atmosphere to space over time.

The findings are among the first returns from NASA’s Mars Atmosphere and Volatile Evolution (MAVEN) mission, which achieved orbit Sept. 21 and entered its science phase on Nov. 16. The observations reveal a new process by which the solar wind – an intense stream of hot, high-energy particles blowing off the sun at more than 1 million mph – can penetrate deep into a planetary atmosphere.

MAVEN scientists have made the first comprehensive measurements of the composition of Mars’ upper atmosphere, as well as its electrically charged ionosphere. The results also offer an unprecedented view of ions, or charged particles, as they gain the energy they need to escape from the atmosphere.

“We are beginning to see the links in a chain that begins with solar-driven processes acting on gas in the upper atmosphere and leads to atmospheric loss,” said University of Colorado Boulder professor Bruce Jakosky, MAVEN’s principal investigator. “Over the course of the full mission, we’ll be able to fill in this picture and really understand the processes by which the atmosphere changed over time.”

On each orbit around Mars, MAVEN dips into the ionosphere – the layer of ions and electrons extending from about 75 miles to 300 miles above the surface, said Jakosky of CU-Boulder’s Laboratory for Atmospheric and Space Physics. The layer serves as a kind of shield around the planet, deflecting the solar wind.

Scientists have long thought that measurements of the solar wind could be made only before these particles hit the invisible boundary of the ionosphere. But MAVEN’s Solar Wind Ion Analyzer has discovered something surprising: a stream of solar-wind particles that are not deflected, but instead penetrate deep into Mars’ upper atmosphere and ionosphere.

Interactions in the upper atmosphere appear to transform this stream of ions into a neutral form that can penetrate to surprisingly low altitudes. Deep in the ionosphere, the stream emerges, almost Houdini-like, in ion form again, according to the MAVEN science team.

The reappearance of these ions, which retain characteristics of the pristine solar wind, provides a new way to track the properties of the solar wind and may make it easier to link drivers of atmospheric loss directly to activity in the upper atmosphere and ionosphere.

MAVEN’s Neutral Gas and Ion Mass Spectrometer is allowing scientists to explore the nature of the reservoir from which gases are escaping by conducting the first comprehensive analysis of the composition of the upper atmosphere and ionosphere. The studies will help researchers make connections between the lower atmosphere, which controls climate, and the upper atmosphere, where the loss is occurring.

The instrument has measured the abundances of many gases in ion and neutral forms, revealing well-defined structure in the upper atmosphere and ionosphere, in contrast to the lower atmosphere, where gases are well mixed. The variations in these abundances over time will provide new insights into the physics and chemistry of this region and already have provided evidence of significant upper-atmospheric “weather” that has not been measured in detail before.

New findings into how gases leave the atmosphere are being provided by the spacecraft’s Suprathermal and Thermal Ion Composition (STATIC) instrument. Within hours after being turned on at Mars, STATIC detected a “polar plume” of ions escaping from Mars. This measurement is important in determining the rate of atmospheric loss, according to MAVEN scientists.

“Each of these results is unexpected,” Jakosky said. “Together, they're helping us to understand how the upper atmosphere works today. This will let us determine how it worked in the past and how much gas from the atmosphere has been lost to space.”

As the satellite dips down into the atmosphere, STATIC identifies the cold ionosphere at closest approach and subsequently measures the heating of this charged gas to escape velocities as MAVEN rises in altitude. The energized ions ultimately break free of the planet’s gravity as they move along a plume that extends behind Mars.

The MAVEN spacecraft and its instruments have the full technical capability proposed in 2007 and are on track to carry out the primary science mission, said Jakosky. The MAVEN team delivered the spacecraft to Mars on schedule, launching on the very day in 2013 projected by the team five years earlier. MAVEN was also delivered well under the confirmed budget established by NASA in 2010.

“The MAVEN spacecraft and its instruments are fully operational and well on their way to carrying out the primary science mission,” said Jim Green, director of NASA’s Planetary Science Division at NASA Headquarters in Washington. “The management team’s outstanding work enabled the project to be delivered on schedule and under

budget."

NASA's Goddard Space Flight Center manages the MAVEN mission. For more information about NASA's MAVEN mission, visit: http://www.nasa.gov/maven[9] or http://lasp.colorado.edu/home/maven/[10].

CU Denver researcher's work making tracks for Moab museum[11]

[12]

Moab Giants, a $10 million dinosaur museum, is being built about 10 miles north of Moab, Utah. It will feature some specimens from the collection of retired CU Denver professor Martin Lockley, Ph.D.

A dinosaur museum and open-air park is rising from the sandstone bluffs near Moab. Just as he did during a 30-year career at CU Denver, dinosaur footprints expert Martin Lockley, Ph.D., is leaving his imprint on the moon-like landscape of eastern Utah.

Lockley, who officially retired from CU Denver[14] in 2010 but continues research from a basement office in St. Cajetan's, is science director for Moab Giants. The $10 million museum, being built on 45 acres just north of Moab, is expected to open in summer or fall 2015.
It's a testament to Lockley's scientific reputation and the public's fascination with dinosaurs that the "retired" professor is in the spotlight as much as ever. His paleontological discoveries are also currently on display in the yearlong "Steps in Stone: Walking Through Time" exhibit[15] at the CU-Boulder Museum of Natural History[15]—areprisal of Lockley's CU Denver-based Dinosaur Tracks Museum. Meanwhile, an exhibit of fossilized dinosaur tracks is in the works for where it all started—the CU Denver campus.

While the Dinosaur Tracks Museum might have been relatively small in physical space—it was located in St. Cajetan's basement for 16 years—it was large in stature. The collection, which moved to CU-Boulder in 2012, after Lockley's retirement, boasted some 3,000 specimens from 24 countries.

[16]
"The College of Liberal Arts and Sciences[17] has realized that this (museum) is part of our history as a campus and wants the exhibit to commemorate the work that was done here," Lockley said. "We've been deeply involved in the dinosaur milieu of Colorado, and we've done it all through tracks research. We're the track people."

Lockley's paleontological partner is research professor Karen Houck, Ph.D., the only other doctoral dinosaur tracker still on faculty at CU Denver. They were core members of the CU Denver-based Dinosaur Trackers Research Group, whose examination of track sites included the near—Dinosaur Ridge near Morrison—and the distant—far-flung fossil sites across the globe.

The triumvirate of exhibits currently underway—a site has yet to be finalized for the CU Denver installation—all spring from the Dinosaur Tracks Museum collection that Lockley, who served as museum director, and Houck assembled over the years. Replicas of their work—castings of actual dinosaur footprint discoveries, including many in Colorado and Utah—are being displayed, or are soon to be displayed, in the high-profile museum exhibits.

Moab Giants will exhibit more than 30 species of dinosaurs, including some replicas from the CU Denver collection. It will showcase tracks of the mighty creatures that roamed Earth millions of years ago, but especially those species found in the Western United States. Moab Giants, and other facilities like it, serve a dual role, Lockley said.

One aspect, naturally, is to be entertaining and solvent. "The other is to be repositories for scientific specimens that belong to the government," Lockley said. "I can't collect these tracks without a permit, which is issued by the state or

federal government—whoever owns the land."

Because the surface typically can't be disturbed, researchers prefer to cast rubber molds in order to create replica footprints. In certain cases—such as where tracks are close to falling from a rock outcropping or being covered by spring rains—the entire trackway can be removed.

Meanwhile, the general fascination with dinosaurs just keeps growing. Moab Giants is primarily being built by Polish investors who have experience building dinosaur museums in Europe.

"These are extinct animals that were of mythological proportions," Lockley said. "These animals are not hunting us today, but they were real. It's something for our imaginations to play with."

From Wales to Colorado

[18]
Martin Lockley, a native of Wales, began his research in early marine fossils, but switched to dinosaur track hunting after being hired to teach geology at landlocked CU Denver in 1980. He started with a fossil find in a coal mine near Gunnison, followed by a major dinosaur trackway discovery near La Junta, the latter receiving extensive news coverage—one of the first times CU Denver research landed in the national media spotlight. Anyone interested in seeing the **"Steps in Stone: Walking Through Time" exhibit** at the CU-Boulder Museum of Natural History has plenty of time. The exhibit runs through Dec. 31, 2015.

The research collection from the Dinosaur Tracks Museum went to CU-Boulder, but many replicas remain in the basement of St. Cajetan's. "I'm holding them here to use as part of the exhibit here (at CU Denver)," he said.

The appraised value of the Dinosaur Tracks Museum, and subsequent fossils added to the collection, is close to $2 million, Lockley said. Part of the value comes from the extensive re-creation of fossils as they appear in their natural state.

"The making of a dinosaur track involves two components—there's the animal's foot and the substrate," Houck said. "Martin does more (scientific work) on the animal and I focus on the substrate. It's a good combination."

She noted that unlike bone diggers, who can display skeletons in a variety of settings, fossilized trackways must be set in the context in which they were found. "With footprints, you have to show the animal in its setting—you can't avoid it," Houck said. "When the animal was walking it was interacting with its environment. So you have to show that environment."

Lockley's research environment spans the globe. He recently finished a collaborative research project with Korean dinosaur tracker colleagues. Three years ago, the Korea contingent, interested in exploring a fossil site near Moab, signed a formal agreement with CU Denver to fund the effort and partner with Lockley. The teams have since exchanged replicas of dinosaur footprints found at the site.

Lockley, who has authored hundreds of research papers, has also studied prints left by pterosaurs and birds, ancient mammals and hominins. For his work on the latter, he was recently appointed, along with CU Denver Associate Professor of Anthropology Charles Musiba, to an international team who will oversee creation of a museum in Tanzania[19] to showcase the world's earliest collection of bipedal hominin footprints.

With equal parts whimsy and reality, Lockley says of footprint trackers—both dinosaur and hominin: "You can't get rid of us."

So by late 2015, his work will appear in another museum, this one just across the state border to the west. Lockley keeps his eyes on the next horizon, the next discovery. "We haven't found many mammal tracks from the dinosaur era," he said. "There's always a new frontier."

Search committee for CU Denver chancellor announced[20]

CU President Bruce Benson has announced the members of the search committee that's charged with recruiting the next chancellor of the University of Colorado Denver.

As previously announced, CU-Boulder Chancellor Phil DiStefano is chairing the committee, which will have assistance from a national search firm. Such a committee is required by Board of Regents policy[21].

The committee consists of DiStefano and 19 others chosen from several constituencies at CU Denver, elsewhere across CU and the business, nonprofit and education communities beyond the university.

"The members of this committee represent a broad spectrum of contributions and service to CU and our state," Benson said. "Their diverse perspectives and experiences will be invaluable as this team works to find a great chancellor to lead CU Denver. I'm confident they'll do just that."

The members of the CU Denver Chancellor Search Committee are:
Phil DiStefano, CU-Boulder chancellor, chair **Glen Gallegos,** CU Board of Regents **Rebecca Kantor,** dean, School of Education and Human Development, CU Denver **Joanne Addison,** chair, Faculty Assembly; associate professor, English, CU Denver **Lucy Dwight,** senior instructor, School of Public Affairs, CU Denver **Amy Dahlbach,** executive assistant to the associate vice chancellor for the Office of Information Technology, CU Denver **Scott Cao,** president and chair, CU Denver Student Government Association **Gedeon LaFarge,** AIA, CU Denver alumnus **Brenda Allen,** professor of communication; associate vice chancellor, diversity and inclusion, CU Denver **Dave Baker,** First Bank president, CU Foundation trustee, CU Denver alumnus **Maria Garcia Berry,** Chief Executive Officer CRL Associates Inc.; member of the Board of Directors of the Auraria Higher Education Center **Nancy Sharpe,** Commissioner District 2, Arapahoe County Board **Brian Vogt,** Denver Botanic Gardens president and CEO **Nate Easley,** executive director of the Denver Scholarship Foundation, past Denver Public School Board president **Jim Linfield,** CU Foundation chair **Virginia "Gin" Butler,** ambassador, Forest City Stapleton; past chair of the Colorado Black Chamber of Commerce **Theresa Pena,** Colorado Community College System board member **Diedra Garcia,** CEO, Hispanic Chamber of Commerce of Metro Denver **Nolbert Chavez,** lobbyist, former state legislator **Rosemary Rodriguez,** state director for Sen. Michael Bennet, Denver Board of Education member
Eyeing a target of July for having a new permanent chancellor in place at the downtown campus, the committee is scheduled to meet for the first time in early January. The first candidate interviews are anticipated for March, with three to five finalists to be named in April. Finalists would visit the campus shortly after.

Before the president makes a decision, he will consult with constituent groups and the Board of Regents.

The position became open in September when Benson announced that the CU Denver campus and the CU Anschutz Medical Campus would be led by separate chancellors [22]going forward. At that time he named Don Elliman, who had been serving as chancellor of both campuses, chancellor for CU Anschutz. Benson also asked CU Denver Chancellor Emeritus Jerry Wartgow to return; he is leading the CU Denver campus on an interim basis until the new chancellor arrives.

Extreme Weight Loss: Destination Boot Camp Returns in 2015[23]

For many, the new year brings weight loss resolutions and the University of Colorado Anschutz Health and Wellness Center[24] at the Anschutz Medical Campus is ready to help. The center's new transformative weight loss program Extreme Weight Loss: Destination Boot Camp will offer three Chapter 1 boot camps in 2015: March 22-28, June 14-20, and July 26-August 1.

Extreme Weight Loss: Destination Boot Camp[25], a collaboration between the University of Colorado Anschutz Health

and Wellness Center and Eyeworks USA, is an evidenced-based program inspired by the unscripted ABC-TV series "Extreme Weight Loss" documenting show participant's year-long weight loss transformations. Cast members in seasons four and five (set to air next spring) spent the first 90 days of their successful weight loss journeys at the CU Anschutz Health and Wellness Center.

Participants in Extreme Weight Loss: Destination Boot Camp spend a week at the CU Anschutz Health and Wellness Center learning a unique approach to weight loss that emphasizes mindset and teaches the tools to a successful lifestyle transformation. Hotel accommodations and meals are provided.

At the conclusion of boot camp, participants head home and have the option to continue their weight loss transformation with online classes and a transformation coach in Chapters 2, 3 and 4 for a full year of support.

Extreme Weight Loss: Destination Boot Camp at the CU Anschutz Health and Wellness Center is designed for anyone who is ready to replace fad dieting with long-term weight loss transformation success. Information about boot camp sessions can be found online[25] or by calling 844-404-2008.

October marked the successful— and sold out— launch of Extreme Weight Loss: Destination Boot Camp. The 130 participants who attended from across the United States and Canada found the experience so impactful that more than 92 percent signed up to continue their transformation journey at home with Chapter 2 of the program.

Kenny Frazee, a 55-year-old insurance fraud investigator came to October's Extreme Weight Loss: Destination Boot Camp at the CU Anschutz Health and Wellness Center close to 100 pounds overweight. "There's no doubt in my mind that I got to be with the best staff anywhere on the planet," Frazee said. "Never in my life have I had a better experience, learned more or had so much fun. I can't stop thinking about it."

Frazee is continuing his weight loss transformation with Chapter 2 at home in New Jersey.

Holly Wyatt, MD[26], associate director of the CU Anschutz Health and Wellness Center and the medical director on "Extreme Weight Loss," is a guiding force on the TV show, along with series trainers Chris and Heidi Powell, in helping the show cast members safely lose weight. In her practice at the center, Wyatt also works with individuals and small groups to help them transform their lives through weight loss.

"I was inspired while helping the participants on the TV show make a commitment to a new lifestyle," said Wyatt. "Now, those who attended our first Extreme Weight Loss: Destination Boot Camp have made the same commitment. Many of the changes they make have little to do with diet and exercise; it's more about a positive mindset shift."

The program is based on principles outlined in "State of Slim[27]", written by Wyatt and James O. Hill, Ph.D., the center's executive director which include: identifying your personal "why" for losing weight, focusing on positive aspects of weight loss, creating a supportive environment and developing new habits to make healthy decisions.

"We have 30 years of experience and science-based research backing up the principles we share with program participants," said Wyatt. "In addition to looking at nutrition and exercise, we assess individual metabolic function, sleep and stress levels and explore the psychology behind a successful weight loss transformation."

The University of Colorado Anschutz Health and Wellness Center has entered into a licensing agreement with Eyeworks USA for its new destination boot camp weight loss program. This collaboration between the CU Anschutz Health and Wellness Center and Eyeworks USA is inspired by the popularity of the unscripted television series "Extreme Weight Loss" which is produced for the ABC Television Network by Eyeworks USA and is executive produced by JD Roth, Todd A. Nelson, Matt Assmus and Brant Pinvidic.

CU School of Medicine receives $1.5 million estate gift[28]

The University of Colorado School of Medicine at the Anschutz Medical Campus has received a $1.5 million estate gift from an early CU professor of orthopedics—nearly 70 years after his death—to fund a new endowment in bone pathology research.

When Samuel Fosdick Jones, a leading Denver physician, was retiring from both his practice and his professorship at CU in 1930, he wanted to give back to the place that had given him his “health, practice and wife,” so he established a trust to benefit bone pathology research, which at the time was an emerging specialty in medicine.

The S. Fosdick Jones Fund will benefit research in the Department of Orthopedics in perpetuity. Four significant research focuses within the department will be near-term beneficiaries of this endowment:
Degenerative joint diseases led by Karen King, Ph.D., in the Orthopedics Molecular Biology laboratory Bone-fracture repair and pediatric growth plate tissue engineering led by Karin Payne, Ph.D., in the Regenerative Orthopedics laboratory Genetics of scoliosis, limb deformity and neuromuscular disorders led by Nancy Hadley-Miller, M.D., in the Musculoskeletal Research Center Bone cancer and musculoskeletal tumor research led by Bennie Lindeque, MMed, Ph.D.
Bone pathology, also known as orthopedic pathology, is a medical specialty that focuses on the diagnosis, care and treatment of patients with disorders of the musculoskeletal system, including bones, joints, muscles, ligaments, tendons, nerves and skin. The Jones Fund, established in the wake of the trust’s liquidation, will support CU Anschutz’s momentum to build one of the nation’s top orthopedics departments.

“There has been a rapid expansion of the CU School of Medicine, and a phenomenal expansion in the musculoskeletal area,” said Robert D’Ambrosia, M.D., chair of the Department of Orthopedics. “During the generation when Dr. Jones was here at CU, there were only a couple of people in orthopedics. In the last 13 years, the orthopedics department has gone from being an under-recognized department to being one of the largest (orthopedics) departments in the U.S., with almost 90 full-time faculty. This gift will substantially aid that.”

Jones served as the head of orthopedics at CU’s School of Medicine from 1917 through 1928, and he was on staff in 1925 when the new medical center near Colorado Boulevard and Ninth Avenue was dedicated. Jones, who died in 1946, left his estate in a trust that for many years distributed income to friends and family. Upon the death of the last beneficiary, the balance of this trust reverted to CU to benefit surgical bone pathology.

CU-Boulder co-leading new severe weather research group[29]

[30]
Building on years of collaboration using unmanned aircraft to fly into the storms that create the massive tornadoes that rip across the Midwest, scientists at the University of Colorado Boulder and the University of Nebraska-Lincoln have formed a new research consortium.

The Unmanned Aircraft System and Severe Storms Research Group (USSRG) builds upon a partnership first formed in 2006, when CU-Boulder’s Brian Argrow and Eric Frew, both aerospace engineers with expertise in unmanned aircraft systems (UAS), began working with UNL atmospheric scientist Adam Houston.

“For most of the past decade, CU-Boulder’s UAS research group has collaborated closely with Dr. Houston and his UNL severe-storm research group,” said Argrow, who will co-direct the new venture with Houston. “Our creation of the new consortium establishes a forum to productively engage current and future collaborators with whom we will work to use UAS to better understand the origins and evolution of severe storms, and to potentially revolutionize severe-storm forecasting and warning systems.”

Argrow is the founding director of the Research and Engineering Center for Unmanned Vehicles (RECUV) in CU-Boulder’s College of Engineering and Applied Science. Frew is RECUV’s current director.

Past collaboration between CU-Boulder and UNL led to the first direct sampling of a thunderstorm system by a small

unmanned aircraft in 2009 via the Collaborative Colorado-Nebraska UAS Experiment. The research team also was the first to intercept a supercell thunderstorm using a UAS in May 2010, during the second Verification of the Origins of Rotation in Tornadoes Experiment, or VORTEX2, and the first to obtain simultaneous samplings of thunderstorm outflow by multiple unmanned aircraft earlier this year.

The consortium also includes the Cooperative Institute for Research in Environmental Sciences, a joint institute of CU-Boulder and the National Oceanic and Atmospheric Administration.

Other members are the Center for Severe Weather Research, the National Severe Storms Laboratory, Texas Tech University, NOAA's Unmanned Aircraft Systems Program, BlackSwift Technologies, the Colorado Department of Transportation, the National Center for Atmospheric Research, the University of Nebraska Public Policy Center, the Jonathan Merage Foundation, Colorado State University, and UASUSA.

One of the consortium's assets is a well-established working relationship with the Federal Aviation Administration, the researchers said. CU-Boulder and UNL worked with the FAA at the outset to gain approval for their use of unmanned aircraft in weather research.

"One of our biggest accomplishments was getting that authorization," Houston said. "We have legal authorization to fly over a very large area in northeast Colorado, southwest Nebraska, northwest Kansas and southeast Wyoming and we're making progress to get authorization to fly over the Texas Panhandle and western Oklahoma. Most people don't have the ability to fly unmanned aircraft legally over such a large area and that's one reason why we're on the front line of this research."

Cover and inset photo by Mike Coniglio, NSSL

Bringing the past into class: Photo re-creation meets the original American girl[31]

"American Girl in Italy" by Ruth Orkin "American Boy in Italy"

It could almost be the original famous photograph—people standing on either side of the street, ogling, leering, whistling, while a single person walks down the sidewalk, head held high. Only instead of an American girl walking down the street, it's an American boy, and instead of Italians from 1951, it's a group of CU Denver[33] students in 2014.

Carol Golemboski, associate professor and head of the College of Arts and Media's photography program

Carol Golemboski[35], associate professor and head of the College of Arts & Media[36]'s Photography program[37], chose the image, photographer Ruth Orkin's iconic "American Girl in Italy," as the subject for her photography class's replica. This was the fourth year that Golemboski and her husband, fellow instructor Bill Adams[38], took a group of 14 students to Florence, Italy, for a study-abroad course on photography, and the third time they have replicated a famous work of art as part of that course.

This replica, however, was by far the most rewarding. The re-creation is so similar to the original that it has been a hit with everyone who has seen it—students, parents, staff—even the original American girl.

"I had to re-read it several times to believe it," Golemboski says, thinking about the email that first informed her that Ninalee Craig, the now 86-year-old subject of the original photo, had seen and liked their reproduction. It's not every day that a photography icon compliments a school project.?

Studying Art Abroad

The course, Photography in Florence, is designed to be a journey to the past. The students spend half the time in Florence learning about 19th century photographic processes, using "old-school," large-format cameras, shooting on film, and developing their own photos. Then, they spend the other half relating art history, which surrounds them in Florence, to photography, focusing on the trend in contemporary photography of re-inventing classic works of art. At the end of the course, Golemboski chooses a classic photograph or piece of art, and the class recreates it using the classic tools they studied.

It's a final project that Golemboski has replicated each study-abroad trip because it allows students to physically participate in the ideas from their lectures. But she never imagined that her effort to merge contemporary art with art from the past would literally bring the past into conversation with her class.

Part of the recreation process is looking at the underlying values or cultural issues suggested by the original work of art and re-examining them in the context of contemporary culture. Golemboski always tries to make the photo as relevant to contemporary issues as possible (the year "The Da Vinci Code" movie came out, her class did "The Last Supper"), and she always encourages her students to recreate the photograph in a way that suggests new meanings through their contemporary interpretation. This time, the group did that by reversing the genders of Orkin's signature photo.

Gender Swap

"Everyone said it had to be me," says Tyler Dickey, the student replacing the American girl in their recreation. "I guess I just have a shining personality."

The original American girl, easily attracting the attention of the entire street, appears to have had a shining personality, too. The original photo raises questions about what Ninalee Craig is thinking as she walks through what appears to be a gauntlet of catcalls. Craig has given interviews in recent years declaring that the photo was not a painful moment of degradation; the dynamic between the genders is central to the photo.

"No matter what happened on that day, people bring all kinds of different meanings to the photo when they view it," Golemboski says. "We wanted to reverse the genders, to put women in the position of power to subvert the traditional idea of male privilege that this photo seems to suggest."

It is partly the gender reversal that makes the replica so interesting, and partly how exact it is.

Golemboski says she was blown away by her students' ability to copy every aspect of the photo. Because the photo is also a group shot of everyone on the trip, including Golemboski's children, everyone found a figure in the original image to imitate. They got everything right—some with their hands in their pockets, others leaning against the wall, a pair on a bike borrowed from a staff member at Santa Reparata, their host school in Florence.

The students gave the photo their all because it was 100 percent their project. They chose their parts, scouted a location that would look similar to the original (and now too crowded for photography), Piazza della Repubblica, set up the large-format camera, and developed the film. It was even a former CU Denver photography student who happened to be in Florence at the time of the trip who ducked under the black cloth of the camera and snapped the photo for the class.

Despite the rain that threatened to ruin the photo, the interested passers-by constantly interrupting the shoot, the photo turned out perfectly. So perfectly that Golemboski wanted to share it.

A Blast From the Past

Back in Denver, Golemboski decided to make a "blurb book," a photo album from their trip, as a keepsake for her hard-working students. Though the trip produced many outstanding pieces of art, the "American Girl" replica was the clear star. Because half their photo's magic is derived from its proximity to the original, Golemboski contacted original photographer Ruth Orkin's daughter, Mary Engle, who manages her deceased mother's archives. Golemboski sent Engle a copy of their replica and asked for permission to reprint the original photo alongside it in their book.

For weeks, she heard nothing. Then, finally, a message:

Yes, Engle said, you can reprint the photo. She had shown the replica to Ninalee Craig, the original American

girl—Ninalee loved it, and Engle thought it was pretty good, too.

"The first thing I wanted to do was tell my students," Golemboski says. "I wanted them to know just how successful their art was."

"I was ecstatic!" Joe Addison, the student who arranged all his peers for the shot, says. "Taking the picture was hard work. It's no easy task to photograph a group of photographers. To hear that Ms. Craig liked what we did, it made me feel like we hadn't just been tourists taking a picture, but real photographers making art."

Later, Golemboski was contacted by one of Ninalee's friends, Jack Arno, who wanted to barter—two blurb books in exchange for a signed lithograph of "American Girl" and a catalog of the making of the original photo. Golemboski accepted and, as a surprise, also sent Ninalee a large print of their recreation signed by all the students. Now, Golemboski has a catalog of behind-the-scenes photos from the original shoot to keep with her blurb book with outtakes of her students dancing in the rain.

"It was just one of those teaching moments where everything comes together in such a beautiful way," Golemboski says. "There's such a wonderful validation in these artists responding to our humble creation so positively. I think it's safe to say it's a lesson my students will never forget."

Developing ethical world-changing leaders goal of new UCCS program[39]

Bringing executive-level leadership education to undergraduates is the goal of a new UCCS program.

Garrett Gatlin, interim director, Chancellor's Leadership Class, outlined a plan called UCCSlead during the Dec. 12 campus forum. The plan expands UCCS student leadership efforts beyond the scholarship program-based Chancellor's Leadership Class to reach students of all academic levels. Eventually, Gatlin hopes to reach as many as 1,000 students with leadership training similar to what an executive might receive mid-career. Students can participate at three different levels and be eligible for recognition upon graduation.

There is a demand for leadership development among students that is not being met, both Gatlin and Chancellor Pam Shockley-Zalabak said. Last year, there were 458 applications for six positions in the Chancellor's Leadership Class. Those figures helped drive the effort to find more ways to accommodate students interested in leadership studies.

"That kind of interest is great," said Chancellor Pam Shockley-Zalabak. "But we need to be broad in our appeal. We are not trying to be so selective that we seem like Harvard. Our goal is access."

This spring, Gatlin will pilot the new program with the goal of full implementation for the fall 2015 semester. The goal, Gatlin said, is to make leadership development a process during a student's time at UCCS – not a single event.

Plans call for various modules that emphasize leadership for self, others, teams and organizations and allow students to earn certificates at three levels of involvement. The program will build on existing campus academic offerings and add extra-curricular activities, generally on Saturdays, to give students additional contact hours. The concept builds on efforts used to train executives by such organizations as the Center for Creative Leadership.

"We have a unique opportunity to develop engaged and ethical world-changing leaders," Gatlin said.

Gatlin encouraged faculty and staff involvement in such areas as mentoring, becoming advocates for the program and serving as a facilitator. Brochures were distributed at the forum and Gatlin encouraged visits to a website, www.uccs.edu/uccslead[40], or personal contact at either ggatlin@uccs.edu[41] or by calling 719-255-3215.

Morris study shows benefits of prefab construction at St. Joe's[42]

A study by **Matthew Morris,** an instructor of construction engineering and management,and doctoral student **Eric Antillon**, both of the Department of Civil, Environmental and Architectural Engineering at CU-Boulder, found that using prefabricated elements in the construction of the new Saint Joseph Hospital in Denver cut 72 workdays off the construction schedule and resulted in $4.3 million in savings.

The study, done in partnership with Mortenson construction, which built the new 831,000-square-foot Saint Joseph Hospital, is one of the first to try and quantify the full costs and benefits of using prefabricated elements in a large-scale construction project.

Developers often choose prefabrication to save time on a project. But because the process of building a unit — like a bathroom or an exterior wall panel — off-site can be more expensive up front because of the cost of transporting the finished products to the job site, the overall financial benefits haven't been well understood.

"The direct cost of the actual units is more expensive — in this case 6 percent more expensive — but the cost savings come from indirect costs related to time savings," said Morris. "If you save three months on the schedule, that's three months when you don't have to pay for all the things you need to run a job site. This reduces your cost of big-ticket items such as supervision, equipment and your field office."

For the Saint Joseph Hospital, Mortenson construction chose to prefabricate the exterior wall panels, the bathroom pods, the headwalls in patient rooms, and the utilities that run above hospital corridors by bundling them into prebuilt racks.

Prefabrication is an especially efficient technique in hospitals or any large building where the same type of unit has to be built over and over again, such as dorms or barracks, Morris said. At Saint Joseph Hospital, the need to have hospital rooms with standard equipment and private bathrooms allowed Mortenson to prefabricate 440 bathroom units and 376 patient room headwalls.

Aside from allowing a project to be completed more quickly, prefabricating units off-site can also improve the safety of the job site by decreasing the number of different tradespeople who need to work in the building at any one time, reducing elevated work and providing a controlled environment. Morris and Antillon calculated that using prefabricated utility racks in the corridors along with other prefabricated units avoided seven safety incidents on the job site.

Even with the impressive cost benefits calculated in the study, Morris said it may be possible for builders like Mortenson to save even more time in the future by perfecting the sequence of work. In the case of Saint Joseph Hospital, some prefabricated elements moved the project forward so quickly that the workers responsible for the next phase of the project weren't always ready to immediately get started.

"Fine-tuning is the next step," he said. "Now we know that prefabrication saves time and money and increases quality and safety. The next steps include developing best practices, training project teams and continuing to drive out inefficiencies."

Six non-tenure-track faculty receive grants[43]

Six grants for $500 each provided through the Office of the Provost recently were awarded by the CU Denver Association of Lecturers and Instructors (UCDALI). Recipients of the Non-Tenure-Track Faculty Professional

Development grants for fall 2014 are:
Stacy Barton, instructor, College of Arts and Media, who will continue work on her feature-length film Red Pearl, telling the story of a young fashion designer moving west to Denver to start her career after graduating college; **Angela Buckley**, lecturer, College of Arts and Media, who is working with Burmese refugees in Aurora for her photography project "Colorado Community Documentation Project." The final images will be in the museum collection of History Colorado and featured online; **Lori Elliott**, clinical associate professor, School of Education and Human Development, who is developing a project on digital storytelling to create and utilize digital stories to lead students to understand the ways digital media impact youth engagement in literacy practices today; **David Fodel**, lecturer, College of Arts and Media, who is working on Solar Wind Harp, a collaborative project with National Oceanic and Atmospheric Administration scientist George Millward using solar wind data collected in real time from the NASA DSCOVR probe as artistic material that is performed and manipulated into sonic and visual elements in front of a live audience; **Robyn Mobbs**, senior instructor, School of Public Affairs, who is doing teaching enhancement work toward further understanding about strategies and tools available to design and foster rich and engaging discussion in both face-to-face and online learning environments; and **James Van Leeuen**, senior research fellow, School of Public Affairs, who will work on completion of his project Katanga Slums Longitudinal Data Study and Analysis (Uganda), collecting extensive data related to public health and education in Kampala, Uganda.

Holiday party food gets a healthy recipe rehab from CU Anschutz Health and Wellness Center[44]

The University of Colorado Anschutz Health and Wellness Center[45] at the Anschutz Medical Campus in Aurora is home to the brand new Extreme Weight Loss: Destination Boot Camp transformation weight loss program. The first sessions in October were a sell-out and 2015 boot camps[25] will be held in March, June and July.

Bistro Elaia provides meals for the "bootcampers" participating in the program and is located in the lobby of the CU Anschutz Health and Wellness Center. Menus are developed by resident chef Paolo Neville in collaboration with health and wellness center dieticians.

The same collaboration created these holiday tips and slimmed-down festive recipes[46]. The twists chef Neville puts on traditional finger food tricks party-goers into eating healthy and makes it easy to keep the fun in the gathering. **Plan ahead**: Whether you're a guest or a host, never go to a party hungry, fill up on a healthy snack beforehand. **Stick with your routine**: The holidays aren't an excuse not to exercise; fit your workout in before the party. **Location, location, location**: Avoid temptation. Step away from the food tables. **Fool the guests:** Serve up a slimmed-down recipe that looks good, tastes great and has everyone guessing at your secret. **Lighter beverages**: Sparkling Black Berry Spritzer is a festive, nonalcoholic choice, or add a little splash of rum. **Cut out the chips**: Bistro Elaia Spiced Almonds provide a crunch plus an extra flavor boost. **Cut out the crackers**: Holiday Salad Quinoa Canapé includes fresh mint, nuts and cranberries all served up on a refreshing slice of cucumber. **Lean protein**: Roasted Flank Steak Roulade uses a leaner cut of beef and still bursts with rich flavor. **Desserts are a must:** Meyer Lemon Mousse with Raspberrykeeps the holidays sweet with honey and stevia.
Bistro Elaia at the CU Anschutz Health and Wellness Center is Denver and Aurora's healthy catering choice and offers recipe rehab[47] tips year-round.

Cambier, Refaeli awarded patent to produce blood stem cells[48]

Cambier

Refaeli

A team led by School of Medicine colleagues **John Cambier,** Distinguished Professor and chair of Immunology and

Microbiology, and **Yosef Refaeli,** Dermatology Department and the Gates Center for Regenerative Medicine and Stem Cell Biology, received a patent for a technique to create large amounts of adult blood stem cells using small blood samples including cord blood or bone marrow.

The technology and related patents have been licensed to CU startup company Taiga Biotechnologies. Taiga is headed by Refaeli and Brian Turner, a former CU Microbiology and Immunology researcher who is also an inventor on the patent.

The company is pursuing several clinical indications where expanded access to stem cells could open up new avenues of treatment. For example, instead of receiving several bone marrow transplants after chemotherapy or radiation, a cancer patient could store his/her own blood sample before the procedure, then receive a transplant of his/her own cells expanded from the sample.

The company is currently in the process of clinical development in order to initiate human clinical trials within the next couple of years. One of the key elements to enable the first in-human clinical trials involve the cell biomanufacturing Good Manufacturing Practice (GMP) facility that is being built by the Gates Center for Regenerative Medicine and Stem Cell Biology at the Anschutz Medical Campus. This new facility will be essential to enabling the expansion of human blood stem cells in a controlled environment under FDA requirements, Refaeli said.

The patent, U.S. 8,883,507 “Conditionally Immortalized Long-term Hematopoietic Stem Cells and Methods of Making and Using Such Cells” is the first U.S. patent issued from a large international portfolio of intellectual property initially filed by CU Tech Transfer on behalf of the university in 2005.

Norlin Library Facility closed Dec. 20-Jan. 4 for electrical work[51]

The University of Colorado Boulder Norlin Library building will be closed Dec. 20-Jan. 4 for critical electrical repairs. Because safety measures require that no one occupy the building, there will be no access to the Norlin Library facility and limited access to collections during this period.

Although online information resources will be available as usual, fulfillment of requests for physical items will be significantly slowed. Interlibrary loan requests will be processed on a case-by-case basis. Requests that can be delivered electronically will continue to be processed as usual.

The Norlin Library facility will reopen at 8 a.m. Monday, Jan. 5.

An FAQ for specific impact details is available at http://ucblibraries.colorado.edu/closureFAQ/[52]

Dropping names ...[53]

McLeod

A team led by **Jeffrey Stansbury**, senior associate dean for research, vice chair of craniofacial biology at the School of Dental Medicine professor of chemical and biological engineering at CU-Boulder, has received a patent for a photopolymerization process that extends polymer formation beyond the temporal and spatial reach of the curing light. Stansbury said this technique may enable better dental restorative materials, bone cements, adhesives and coatings. The patent, U.S. 8,883,948 “Methods for Extensive Dark Curing based on Visible-Light Initiated, Controlled

Radical Polymerization," was issued on Nov. 11, 2014, and has been in process since July 2008. Former postdoc researcher Dongkwan Kim is also an inventor on this patent. … **Christine G. H. Franck**, planning director of Contemporary Traditional Architecture Initiatives in the CU Denver College of Architecture and Planning, recently delivered a lecture entitled "The Art of Craft Today" to the Institute of Classical Architecture & Art Tennessee Chapter. She examined the role and nature of craft in the building arts with a particular focus on those related to contemporary classical and traditional architecture. Franck's lecture looked at various aspects of the building crafts today, including the important role of craft traditions in enhancing the character of a place, contributing to robust local economies, and preserving and advancing knowledge of best practices. She also discussed the need for a greater focus on building crafts in architectural education, an issue the Contemporary Traditional Architecture Initiatives includes in its mission. … **Robert McLeod**, associate professor of electrical, computer and Energy Engineering at CU-Boulder, has been awarded a patent for improved optical packaging and circuit fabrication systems. The patented technology provides fully automatic, compact, mechanically robust, and inexpensive manufacturing of optical assemblies, including consumer equipment like scanners, printers, and CD/DVD/Blu-ray devices, and optical fiber communications circuits. U.S. patent 8,895,233 ("Three-dimensional direct-write lithography") was issued Nov. 25, 2014, and is the second patent to emerge from McLeod's work in hybrid integrated photonics. This is his fifth patent for research done at the university.

Publication note: No Connections on Christmas, New Year's[55]

CU Connections will not publish new issues on Christmas Day and New Year's Day.

Today's issue is the last to appear before the holidays. Connections returns after the winter break on Thursday, Jan. 8; deadline for submissions is noon Monday, Jan. 5.

During the holiday break, the website will be updated with news should events warrant.

Links
[1] https://connections.cu.edu/people/cohn-named-new-deputy-chief-police-cu-denver[2] https://connections.cu.edu/file/pcohnpng[3] https://connections.cu.edu/stories/shining-light-sustainability-holidays-%E2%80%93-and-beyond[4] https://connections.cu.edu/news/shining-light-on-sustainability-at-the-holidays-and-beyond/green-holiday_top[5] http://www.colorado.edu/ecenter/[6] https://connections.cu.edu/news/shining-light-on-sustainability-at-the-holidays-and-beyond/green-holiday_01[7] https://connections.cu.edu/stories/nasa%E2%80%99s-maven-mission-scientists-identify-links-chain-leading-mars-atmospheric-loss[8] https://connections.cu.edu/file/maventoppng-1[9] http://ucolorado.pr-optout.com/Tracking.aspx?Data=HHL%3d%3f%2b37%3a%26JDG%3c95%3a473%3b%26SDG%3c90%3a.&RE=MC&RI=4100720&Preview=False&DistributionActionID=15076&Action=Follow+Link[10] http://ucolorado.pr-optout.com/Tracking.aspx?Data=HHL%3d%3f%2b37%3a%26JDG%3c95%3a473%3b%26SDG%3c90%3a.&RE=MC&RI=4100720&Preview=False&DistributionActionID=15075&Action=Follow+Link[11] https://connections.cu.edu/stories/cu-denver-researcher%E2%80%99s-work-making-tracks-moab-museum[12] https://connections.cu.edu/file/dino-tracks-moabtoppng[13] https://connections.cu.edu/file/dino-tracks-moab01png[14] http://www.ucdenver.edu/about/denver/Pages/DenverCampus.aspx[15] http://cumuseum.colorado.edu/[16]

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