Five questions for Ted Randolph

There’s more to developing a vaccine than finding the right ingredients to combat a disease; especially important is the stability of those ingredients, a long shelf-life and the ability to withstand sometimes brutal temperatures.

Ted Randolph, Gillespie Professor and co-director of the Center for Pharmaceutical Biotechnology at CU-Boulder, and colleagues recently were awarded a patent for an invention that Randolph hopes will contribute to the health and well-being of people around the world.

He spent his undergraduate years at CU-Boulder thinking about going to medical school. But after graduating, he found a summer job as a chemical engineer. He enjoyed the work so much that he dropped the idea of becoming a doctor and instead went to the University of California, Berkeley, and earned a Ph.D. in chemical engineering.

While at Berkley, he worked on ways of modifying cholesterol to develop steroid products used in birth control pills and other therapeutics. That kicked off some of the research he has done since, including his work during the past two decades at CU.

“Grad school was so much fun, doing research and discovering things and learning what no one had known before. It was so fascinating that I came as close as I could to being in grad school permanently – I became a professor.”

1. How has your research contributed to the success of some vaccines?

A long time ago, I worked with various volunteer organizations and vaccine campaigns in Central and South America. It was very exciting and very interesting work, but one of the frustrations was that we had to keep vaccines very cold or frozen while working in an environment where there weren’t any refrigerators or electricity. It was very difficult and prevented us from getting vaccines to certain parts of countries because we could only travel within a certain radius of available refrigerators and electricity. That got me thinking about the stability of vaccines. Many vaccines on the market today are extraordinarily temperature-sensitive. Some can only last an hour outside of a refrigerator, for example. That makes it nearly impossible to take them into a developing country and that led to a lot of work our group has been doing over the past 21 years.

We’ve been trying to understand how to keep protein-based drugs and vaccines stable. The analogy I like to use is milk in a refrigerator. It’s a protein solution and if you leave it there for two weeks, it makes cheese. A protein-based therapeutic or vaccine needs to have a two-year shelf life, not a two-week shelf life, for practical purposes: We have to manufacture it, make sure it is in an acceptable state, ship it to pharmacies, ship it to doctors’ offices and then get it to patients. That takes a lot of time and to make that time, you have to figure out how to make these therapeutics and vaccines stable.

We’ve worked on lots of strategies in the lab to figure out the best ways to do that and to understand the pathways by which these proteins go bad and how to block or prevent that.

That has led to our most recent work. What we’ve done is take proteins and embed them in a glass-like substance that is made of organic molecules. It’s mostly sugar but it looks like window glass. Once proteins are stuck in this glass matrix, they can’t move and can’t react, so they don’t go bad anywhere near as fast. We’ve basically been able to take vaccines with short shelf lives or those that require extraordinary refrigeration measures and make them room-temperature stable for extended periods of time or for months at elevated temperatures.
Our most recent version of this was done in collaboration with Molecular, Cellular and Developmental Biology (MCDB) Professor Bob Garcea, who is just down the hall from us in our new technology building and that’s been exciting. He’s working on Human papillomavirus (HPV) vaccines. There are perfectly efficacious HPV vaccines on the market now; however, they have a few drawbacks. They have to be refrigerated, but must be discarded if accidentally frozen, and they cost a huge amount of money -- $400 a dose. He’s come up with new ways of making vaccine preparations that are much cheaper to produce and we figured out how to stabilize them. We’ve taken the new HPV vaccine and kept it at 120 degrees Fahrenheit for five months without having it lose activity. The vaccines no longer need refrigeration. Now we can take these to evolving countries without having to deal with all the obstacles that are presented there. In the end, it will have a dramatic health impact. HPV is associated with most of the largest incidents of cancer in developing countries. Women there aren’t able to afford $400 for a vaccine even if we could get vaccines to them. So if we make it cheaper and more stable, we’re hoping to cut down dramatically on the instances of cervical cancer.

2. The patent you received in August was for this method of encapsulating proteins. How is it done?

It’s basically a freeze-dried method. Nature does this quite a bit. Take seeds, for example. Sugars are produced in seeds and when they dry, they form these glassy matrices that protect the seed protein so it can stand to be dried for extended periods of time. Our method was very much grabbing an example from nature and extending it.

We’ve tried to explore many different possible ways to stabilize proteins. Some of the problems come from what I call the “protein personality problem.” Every one of these therapeutic molecules degrades in a slightly different fashion, and so a lot of our work has been trying to find what is unique for a given molecule and how it falls apart and aggregates. We look at what they have in common and what kinds of tests we can do to differentiate between the two to design the best and most stable product in a short period of time. There are a whole lot of different strategies, and different additives you can put in, and different ways in the process to make proteins stable.

But with vaccines, the most spectacular result to date has been this glassy state, freeze-dried preparation.

Our moving into this new technology building has been wonderful. At the end of the day, the grad students you work with and people you collaborate with down the hall make doing research fun. Research can be frustrating: Things go wrong, you’re up late, you struggle. But all the great people make it better. By moving into this building, those of us in the engineering department are surrounded by people who are in chemistry and MCDB and it’s been really nice to be able to make friends and collaborate. I think a lot of professors go on sabbatical in order to meet new people and start collaborations. In a way, moving into this building is like being on permanent sabbatical.

3. What other research have you conducted in the vaccine arena?

We’ve also done some interesting work on problems of protein aggregation. We’re back to the idea that milk in your refrigerator makes cheese. It turns out that in a therapeutic product, when proteins come together and aggregate, they do a couple of things that are not good. First, they lose biological activity so they no longer function as a drug. Second, if you inject this protein into a patient, the immune response will basically cause an allergic reaction to the drug and that can mean the drug won’t work at all. We’ve been trying to understand the process by which proteins aggregate and also figure out ways to undo that.

We’ve had some inventions that use high pressure to break up aggregates. Essentially what you are doing with high pressure is like unboiling an egg. When you boil an egg, all the proteins in that egg pump up and aggregate. By applying high pressure, you can go backward.
In the industry, what we’re looking at is proteins that aggregate during production. We take that aggregated protein and cause it to undo the aggregates or to remove traces of aggregates in therapeutic drugs to reduce the chances of patients having allergic responses.

We formed a company a few years back – BaroFold Inc. - that has been taking various products into human clinical trials on some drugs, including those for multiple sclerosis.

4. You have earned many awards for your research, publications and service. Is there one that stands out for you?

It’s always nice to get an award; it makes you feel so good. One that has meaning came from the American Association of Pharmaceutical Scientists and is one of the top awards for articles. The reason it was particularly nice is that I am a chemical engineer coming in from the outside and to be recognized by pharmaceutical scientists for my contributions is special.

The other thing that I’ve really enjoyed in the 21 years I’ve been here is seeing the success of grad students who are the ones that really do all the work. We sit in our office and they work in the lab all night. It’s really fun to go to almost any scientific conference around the world and meet one of my former students and hear what great things they are doing. It’s a validation of the kind of training that goes on at the University of Colorado where we are able to generate top-notch people. Some of them are very, very successful and are at the VP level in some very, very big pharmaceutical companies or are running research groups in various pharmaceutical companies and vaccine development companies. It’s great to see that kind of leader come from the training they received here.

5. Away from the labs and the office, what hobbies or leisure activities do you enjoy?

I’m big on the Colorado outdoors. I hike until I have to snowshoe and then I snowshoe until I ski and then I hike again. I try to be in mountains as much as possible. That’s what is so great about being here: there are so many places to go that are so close.

I have various pictures of animals I’ve photographed while I’ve been in the wilderness that are hanging in my office. I like to look at them to remind me of where I’ve been. I’m not sure if I have a favorite, but there is a little pika that looks out at me with a kind of happy expression. I guess if the pika can be happy sitting in that rock field, we can all be happy. Each of my pictures brings back great memories.

Three regents races on November ballot

Voters in next month’s general election will decide who wins three of the nine seats on the University of Colorado Board of Regents.

Because incumbents James Geddes, R-Sedalia, and Joe Neguse, D-Broomfield, are not running for re-election, the board will welcome at least two new members in January. Irene Griego, D-Lakewood, is running for re-election.

Regents are elected to six-year terms. Geddes and Neguse were elected in 2008. Griego came to the board in 2011 as an appointment of Gov. John Hickenlooper after the resignation of Regent Monisha Merchant. Griego then won the 2012 election that determined who would serve the remaining two years of Merchant’s term.

The state begins ballot counting next week, as mail ballots already have been arriving in the mailboxes of registered voters. Election Day is Nov. 4.
A look at the candidates in the three regents races:

**2nd Congressional District:**

Three challengers are vying for the seat currently held by Neguse.

Republican **Kim McGahey** of Breckenridge is founder of the Summit Strikers Youth Soccer Club and the Breckenridge Soccer Club adult soccer team and currently referees high school soccer across Colorado. He has served on the Summit School District School Board and as president of the Breckenridge Elementary School PTA. Source: Summit County Colorado Republicans.

Libertarian **Daniel Ong.** No website available.

Democrat **Linda Shoemaker** of Boulder is a former journalist and attorney who has devoted the past 20 years to advancing quality public education in Colorado. A CU-Boulder alumna, she was elected and served as president of the Boulder Valley School District Board of Education, was founding board chair of the Bell Policy Center, and currently serves as president of the Brett Family Foundation, which she co-founded in 2000 with her husband, Steve Brett. Source: shoemakerforcu.com

**6th Congressional District:**

One of the two major-party candidates on the ballot will take the seat now held by Geddes.

Republican **John Carson** of Highlands Ranch was president of the Douglas County Board of Education from 2009 to 2013, and served on the board beginning with his election in 2005. He earned bachelor’s and law degrees at CU-Boulder and a tax law degree from Georgetown. The Greenwood Village attorney also served in the Marines and has extensive experience working on Washington’s Capitol Hill. Source: carsonforcuregent.com

Democrat **Naquetta Ricks** of Aurora has over 18 years of experience working in complex industries in the transportation, defense, information technology and real estate sectors. As the founder of her own small business, the Ricks Group, she brings her business expertise to help clients increase their capacity through her contract compliance, auditing and financial management skills. She earned a bachelor’s degree from Metropolitan State University and a master’s from CU Denver. Source: ricksforregent.com

**7th Congressional District:**

Libertarian **Steve Golter.** No website available.

Democrat **Irene Griego** of Lakewood has 38 years of experience in education, from pre-K to university level, as a teacher, principal, administrator and university instructor. She earned her bachelor’s degree at CU-Boulder and doctorate at CU Denver, with a master’s degree from the University of Northern Colorado in between. She is the recipient of numerous school and community awards. Source: griegoforcu.com

**Biomedical research lands CU-Boulder’s Palmer coveted award for $3.7 million NIH grant to fuel ‘high-risk, high-reward science’**
University of Colorado Boulder associate professor Amy Palmer of the BioFrontiers Institute has been awarded a coveted Director’s Pioneer Award from the National Institutes of Health, a five-year, $3.7 million grant made to select researchers showing exceptional creativity in solving pressing biomedical and behavioral research problems.

Palmer, a faculty member in the chemistry and biochemistry department, is studying how metals, including zinc, affect the health of humans. Zinc is involved in a wide array of biological functions, including the creation of the human genome. Zinc also plays a role in the susceptibility of humans to illnesses and infections.

Only 10 researchers nationwide were awarded NIH Pioneer Awards in 2014. The Pioneer Award challenges investigators to develop groundbreaking approaches that potentially can impact broad areas of biomedical or behavioral science.

While many people are aware of the role iron can play in human health, zinc is at least as important and is involved in a much wider array of biological functions, said Palmer. Some 10 percent of the proteins used to build our cells and tissues, for example, are believed to bind with zinc. A lack of zinc can cause life-threatening diarrhea, a decrease in the ability to heal wounds and delayed growth in and maturation in children.

“This is a really enabling award,” Palmer said. “It is intentionally designed to allow you to take your research program in a new and different direction. It lets you do pioneering work that is unlikely to be funded by other research grants. It’s for high-risk, high-reward science, and it will allow us to start an entirely new program.”

Since zinc availability in the human body is highly dynamic, Palmer is hoping to find out how it functions at a basic level – in the cell. She is investigating the prospect that zinc may be a global regulator of protein function, which may help to explain why it is involved in so many cellular processes, and why disruption of zinc is associated with a diverse array of diseases from cancer and neurodegeneration to diabetes.

To accomplish this, she’ll develop new technology to map sets of proteins that bind zinc and define how changes in zinc affect gene expression and cellular metabolism. Palmer hopes to gain an understanding of how zinc changes as certain diseases progress, which may result in biomarkers that could identify illnesses early on in their development. “Learning how zinc interacts in the cell may fundamentally change how we think about cellular regulation and how nutrition affects organisms,” Palmer said.

“As a graduate student, I studied copper, which is also an essential metal that plays important roles in biology,” she said. “After working with copper, I started reading about zinc in the brain. As far back as the 1950s, doctors studied zinc-rich areas of the brain, and nobody was sure what it was doing there. Metal ions, like zinc, play such an important role in biology. We can’t live without them, but the misbalance of metals is central in many diseases.”

Despite the widespread effects of zinc deficiency among humans, it is currently difficult and expensive to test for it in the doctor’s office, Palmer said. The World Health Organization estimates that 30 percent of humans are currently zinc deficient, and as many as 800,000 children die every year because of zinc deficiencies.

In fact, zinc supplementation is considered to be as important as providing clean water for the prevention of human death in some developing countries, according to Palmer. She hopes the new research effort may bring greater understanding as to how it is used by our bodies, and what it can tell us about our health.

“Supporting innovative investigators with the potential to transform scientific fields is a critical element
of our mission,” said NIH Director Dr. Francis S. Collins. “This program allows researchers to propose highly creative research projects across a broad range of biomedical and behavioral research areas that involve inherent risk but have the potential to lead to dramatic breakthroughs.”

Fundraising boosts third edition of GLBTI Symposium

Highly successful fundraising has given a boost to the third annual GLBTI Faculty Council Symposium, which is well on its way to reaching capacity for registration.

CU Denver’s Troyann Gentile and the School of Medicine’s Lindsay O’Connell, co-chairs of the Faculty Council GLBTI Committee, said this marks the first year the committee has pursued fundraising to support the event.

“We collected nearly $12,000,” Gentile said. “We received donations from deans, chancellors, vice chancellors, academic departments – and the support was overwhelming. I think that speaks volumes.”

Because contributions exceed the event’s cost, the committee will put the surplus funds toward scholarships, “which we’ve never been able to do in the past,” Gentile said.

Health Equity at CU is the theme of the event, which is set for 1 p.m. to 5 p.m. Nov. 7 in the Trivisible Room, Research Center 2, at the CU Anschutz Medical Campus.

The symposium is free and open to all CU faculty, staff and students; space constraints will limit registration to about 150. It’s described as a forum for exchanging ideas and learning new strategies for inclusiveness throughout the university. Click here to register.

Feedback from participants last year led organizers to hold this year’s symposium at CU Anschutz as a way of boosting attendance from faculty, staff and students on the campus. Early registration indicates that has worked, Gentile said. The event also has been shortened from a daylong schedule, partly in response to those who attended in the past.

Gentile said the theme of this year’s event “definitely ties into the location, given the medical focus. It’s really aimed at all of the health disparities for the LGBT population.” CU benefits including health plans and tuition waivers, and how those function for the LGBT population, will be specific topics of conversation, she said.

“This is on people’s minds,” Gentile said. “With same-gender marriage in Colorado and the court decisions nationally, there are a lot of implications. So the symposium is coming at a really neat time. It’s an opportunity for people to come and get an idea of what’s going on at CU.”

Highlights from the schedule:
Free Safe Zone Training for all interested faculty and staff from 11 a.m. to 1 p.m., includes lunch.
Keynote Speaker: Angela Sauaia, M.D., associate professor of Public Health, Medicine and Surgery, University of Colorado, and author of “The Quest for Health Equity.” Other speakers include One Colorado and Brenda Allen, Ph.D., associate vice chancellor, diversity and inclusion.

Formation of search committee precedes search for CU Denver chancellor
CU President Bruce Benson later this month plans to launch a national search for a permanent, full-time chancellor of CU Denver, a process that includes the formation of a search committee.

Benson is inviting nominations from the CU Denver campus for membership on theCU Denver Chancellor Search Committee.

He also has asked CU-Boulder Chancellor Phil DiStefano to chair the search committee. CU will engage a national search firm to assist in the process.

The goal is to have the new chancellor hired by next summer. Benson recently announced that Chancellor Emeritus Jerry Wartgow would return to lead the campus during the interim.

The appointment of a search committee is called for by Board of Regents policy, which also specifies that the committee consist of at least four faculty members (including one dean), one student, one staff member and one alumnus/a or Colorado resident.

Faculty and staff are invited to nominate their colleagues or themselves to serve on the committee. Governance group leaders at CU Denver also have been asked to submit names of nominees.

Nomination deadline is Friday, Oct. 24.

Nominators are asked to send nominations to chancellorsearch@cu.edu. Be sure to include the nominee’s name, phone number and e-mail address.

Stein Sture to retire as CU-Boulder’s vice chancellor for research

University of Colorado Boulder Provost Russell Moore announced Wednesday that Stein Sture will retire in June 2015 after 35 years of service to the campus, including his role as vice chancellor for research during the past nine years.

During Sture’s tenure as vice chancellor for research, CU-Boulder's sponsored research awards to the university rose from $257 million to $412 million. He has overseen a number of successful initiatives and collaborations in a wide variety of research ranging from planetary sciences and environmental engineering to climate change and biomedical exploration.

“Stein has been the university’s chief research advocate, and his success has manifested itself in many arenas,” Moore said. He noted that CU-Boulder currently is the No. 1 ranked public university for NASA funding and is leading NASA’s $671 million MAVEN mission that just arrived at Mars.

Sture was pivotal in the establishment of the BioFrontiers Institute, a revolutionary $160 million research and teaching facility that opened its doors on CU-Boulder’s East Campus in 2012. Under the leadership of Nobel laureate and Distinguished Professor Tom Cech and professor Leslie Leinwand, the 336,800-square-foot institute facilitates work on a wide swath of pressing societal challenges ranging from cancer and heart disease to tissue engineering research and studies of how the human microbiome influences health and disease.

Sture is playing a prominent role in the university’s new Sustainability, Energy and Environment Complex (SEEC), which is currently under construction on the East Campus and will bring together
faculty and students from a variety of departments, facilities and institutes.

He also was influential in the selection of the United States as one of five international hubs for Future Earth, an ambitious 10-year research initiative to address global environmental change solutions and actions. Future Earth will be headquartered in Colorado and managed jointly by CU-Boulder and Colorado State University.

“Stein has been at the forefront in helping to make CU-Boulder one of the world’s leaders in environmental sciences including climate change research and the potential impacts of such change on natural ecosystems and society,” Moore said.

In recent years Sture has served as both interim provost and executive vice chancellor for academic affairs. He also served as dean of the Graduate School from 2005 to 2009. Sture, the Huber and Helen Croft Endowed Professor in the Department of Civil, Environmental and Architectural Engineering in the College of Engineering and Applied Science, will retain his appointment there.

Sture previously served as associate dean for research in the engineering college and chaired the civil, environmental and architectural engineering department for six years. He has advised 35 doctoral students and 47 master’s students and authored or co-authored more than 300 peer-reviewed publications.

Moore also announced that he is appointing James Williams, dean of University Libraries, to chair the committee in charge of a national search for Sture’s successor.

In addition to Williams, faculty members on the search committee include Waleed Abdalati, director of the Cooperative Institute for Research in Environmental Sciences and professor of geography; Marie Banich, director of the Institute of Cognitive Science and professor of psychology and neuroscience; Katherine Eggert, associate professor of English; Theresa Hernandez, professor and chair of psychology and neuroscience; Keith Maskus, distinguished professor of economics; Kurt Maute, professor of aerospace engineering sciences; and Zoya Popovic, distinguished professor of electrical, computer and energy engineering.

Additional members include Caroline Himes, director of the Office of Industry Collaboration; Cynthia Husek, assistant vice chancellor of research operations; Greg Jones, senior director of development for the Leeds School of Business; and Larry Levine, associate vice chancellor for information technology and chief information officer.

**Philanthropy at Work: Carol Hammond**

Carol Hammond has been an executive assistant for the top fundraising executives for CU’s health sciences campus since 1988. Today, she supports Scott Arthur, CU Anschutz Medical Campus vice chancellor for advancement, serving in almost the exact same capacity for which she was hired 26 years ago.

Since 1998, Hammond has been donating $10 a month to the CU Cancer Center through payroll deduction.

“I got angry at cancer when my mother, a nonsmoker, was diagnosed with lung cancer and then died 14 months later,” Hammond says. “I live with hope that there will be a cure in my lifetime.”

She makes her donations to a fund directed by pioneering lung cancer expert Paul Bunn, M.D. Though he didn’t treat Hammond’s mother, who lived in Wisconsin, he consulted with her doctors and provided
wise counsel and support to Hammond during a very difficult time in her life.

Hammond says that fighting cancer is a passion because of the ubiquitous nature of the disease. Many of her friends are cancer survivors. In addition to her mother, Hammond has lost several good friends and family members to lung and pancreatic cancer.

“You can’t live to be 65 and not know a lot of people who have been touched by cancer,” she says.

She also gives $10 a month to the Edelman Green Endowed Chair in Family Medicine. Hammond first met Joel Edelman when he was a consultant and volunteer for the School of Medicine. Later she worked for Edelman when he was interim vice president for the Foundation when CU Denver merged with CU Anschutz. The two have been good friends for many years. Larry Green is a professor in Family Medicine and was Hammond’s primary care physician until he retired from clinical practice.

“I believe in the work we are doing at the Anschutz Medical Campus, and the Edelman Green Endowment supports family medicine and the education of our students,” she says. “I also give to honor two very good friends of mine.”

Though she doesn’t talk about her philanthropy with her colleagues or peers, she does have an opinion on payroll deduction: It’s easy and you don’t notice it missing when it is only $10 a month. Monthly donations do add up, and Hammond acknowledges that she would likely not have been able to give the total amount she has all at one time.

She thinks the best way to encourage other faculty or staff members to give is to ask them what they care about and to think about something that has impacted them in one way or another.

“It goes back to living with hope in your life. I live with hope in my life that eventually there will be a cure for cancer. I live with hope in my life that our students will be educated to become excellent and caring researchers and doctors,” Hammond says.

“I believe in this campus.”

To support the program of your choice at CU Denver or CU Anschutz, contact development@ucdenver.edu or go to cufund.org/payroll.

Election season brings reminder of guidelines on campaign activity

With ballots already in the mail and Election Day 2014 less than three weeks away, the University of Colorado reminds employees of guidelines regarding political campaign-related activity and expression.

A variety of state and federal laws and regulations govern political expression and conduct in the university workplace. Application of the law depends on the particular facts of the situation, and legal counsel should be consulted when questions arise. However, the following guidelines may be used when trying to determine whether particular conduct is appropriate in the University setting.

General principles:
Employees have the right as private citizens to freedom of expression and participation in the political process. When expressing their political views, University employees should endeavor to prevent the appearance of University partiality in political campaigns. Private political activities must be conducted on personal time and without using University resources.
Employees should **refrain** from the following activities while at work:
Sending emails from University-hosted email accounts in support of or in opposition to candidates or ballot initiatives; Using University office supplies (including computers, copiers and fax machines) to create campaign materials; Making calls on University phones in support of or opposition to a political candidate or ballot initiatives; Using University computers to make monetary contributions to political campaigns; Placing campaign materials in locations not designated for general signage.

**In general, employees may engage in the following activities while at work:**
Discussing political issues and political campaigns with one another while on break; Wearing buttons or clothing promoting a particular candidate or issue, provided that the employee does not regularly interact with the public as part of her job duties; Placing a bumper sticker on a personal vehicle. Because university email addresses are generally public and published on various websites, employees may receive electronic mail messages on their university-hosted email accounts from candidates and campaigns. Such emails are not illegal. The university cannot know or block every campaign- or candidate-related email account. Installing restrictive “spam” filters would have limited success with such messages, which originate from many different sources. It is important to remember, however, that the transmission of such emails to you does not constitute University of Colorado endorsement of any candidate or campaign. Employees should refrain from using university email accounts to forward candidate or campaign-related messages for the purpose of expressing opposition to or support for the relevant candidate or campaign issue.

University employees should always be aware that, as public employees, their activities may be subject to heightened scrutiny by the media and members of the public. Accordingly, they should take care to ensure that their private activities do not compromise their ability to carry out their official duties.

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**Higher education funding discussion draws crowd in Colorado Springs**

A standing-room-only crowd of community supporters shared views about a new formula for funding higher education during a Colorado Department of Higher Education-sponsored meeting Oct. 9 at the Penrose Conference Center.

Brenda Morrison, partner, Engaged Public, a firm hired by CDHE to gather public input, led the crowd of 100 in a discussion about HB-1319, a bill passed last year that will change the way Colorado public higher education is financed.

Morrison explained the legislation requires the CDHE to develop a new base funding formula to allocate state general fund dollars among the state’s public institutions of higher education. This new funding model will be implemented in the 2015-16 fiscal year and will include allocation of Colorado Opportunity Fund stipends, which reflect enrollment, and new Fee-for-Service contracts that will reflect state higher education priorities.

Components of the new funding model will include the role and mission of the institutions, admissions selectivity, number of campuses, location, enrollment, programs and performance. Following the explanation, she polled the audience for its views on which components should bear the most weight in making funding decisions.

Morrison explained that the model for funding public colleges and universities is shifting from a post-World War II era of enrollment or access to new, outcomes-based measures. The challenge, she said, is finding the right combination of measures. She also traced the history of funding for higher education in Colorado that shifted from the majority of funding for higher education being provided by the state to a model where students are expected to pay the bulk of the cost. Currently, state support for higher
education consumes about 7 percent of the state general fund budget and a student is expected to pay about two-thirds of the cost of his or her education. A decade ago, a student paid about one-third of the cost with state funding providing the balance.

Sen. Kent Lambert, R-Colorado Springs, attended the meeting and spoke of the conflicting objectives of higher education institutions across Colorado and the game of “Pac-Man” the Legislature faces as spiraling costs of programs such as Medicaid consume available funds.

Using clicker technology to quickly tabulate individual votes, the group ranked degree completion, contributions to economic development, whether an institution conducts research, the number of Pell-eligible, first-generation and underserved undergraduate students, and affordability. Fully 69 percent of those in the room agreed that state funding for Colorado higher education is insufficient.

Morrison also engaged the group in broad-based discussions about topics that ranged from whether higher education is a public or private good as well as the strengths of higher education in Colorado Springs.

“Higher education is the only thing right that’s happening in Colorado Springs,” said Mary Ellen McNally, a former Colorado Springs City Council member.

For more information about HB-1319 and efforts to restructure higher education funding, visit http://highered.colorado.gov/Publications/General/1319/default.html

MAVEN spacecraft’s first look at Mars holds surprises, says CU-Boulder mission leader

NASA’s MAVEN spacecraft has provided scientists their first look at a storm of energetic solar particles at Mars and produced unprecedented ultraviolet images of the tenuous oxygen, hydrogen and carbon coronas surrounding the Red Planet, said University of Colorado Boulder Professor Bruce Jakosky, the mission’s principal investigator.

In addition, the new observations allowed scientists to make a comprehensive map of highly variable ozone in the Martian atmosphere underlying the coronas, he said. The spacecraft entered Mars’ orbit Sept. 21 and is in the process of lowering its orbit and testing its instruments. The $671 million Mars Atmosphere and Volatile EvolutioN mission, or MAVEN, was launched toward Mars on Nov. 18, 2013, to help solve the mystery of how the Red Planet lost most of its atmosphere.

“Everything is performing well so far,” said Jakosky of CU-Boulder’s Laboratory for Atmospheric and Space Physics. “All of the instruments have now been turned on, and although they are not yet fully checked out, they are functioning nominally.

“All the instruments are showing data quality that is better than anticipated at this early stage of the mission,” said Jakosky, also a professor in CU-Boulder’s geological sciences department. “The spacecraft is performing beautifully. It’s turning out to be an easy and straightforward spacecraft to fly, at least so far. It really looks as if we’re headed for an exciting science mission.”

Solar Energetic Particles (SEPs) are streams of high-speed particles blasted from the sun during explosive solar activity like flares or Coronal Mass Ejections (CMEs). Around Earth, SEP storms can
A solar flare on Sept. 26 produced a CME that was observed by NASA satellites on both sides of the sun. Computer models of the CME propagation successfully predicted the disturbance and the accompanying SEPs would reach Mars on Sept. 29.

“After traveling through interplanetary space, these energetic particles, mostly protons, deposit their energy in the upper atmosphere of Mars,” said SEP instrument lead Davin Larson of the Space Sciences Laboratory at the University of California, Berkeley. “A SEP event like this typically occurs every couple of weeks. Once all the instruments are turned on, we expect to also be able to track the response of the upper atmosphere to them.”

The hydrogen and oxygen coronas of Mars are the tenuous outer fringe of the planet’s upper atmosphere, where the edge of the atmosphere meets space. In this region, atoms that were once a part of carbon dioxide or water molecules near the surface can escape to space, according to MAVEN scientists.

Water and carbon dioxide control the climate, so following them allows scientists to understand the history of Mars over the last 4 billion years and to track the change from a warm and wet climate to the cold, dry climate present today. MAVEN observed the edges of the Martian atmosphere using the CU-Boulder-built Imaging Ultraviolet Spectrograph (IUVS), which is sensitive to the sunlight reflected by the atoms.

“With these observations, MAVEN’s IUVS has obtained the most complete picture of the extended Martian upper atmosphere ever made,” said IUVS team member and CU-Boulder doctoral student Mike Chaffin of the Department of Astrophysical and Planetary Sciences. “By measuring the extended upper atmosphere of the planet, MAVEN directly probes how these atoms escape to space. The observations support our current understanding that the upper atmosphere of Mars, when compared to Venus and Earth, is only tenuously bound by the planet’s weak gravity.”

IUVS also helped scientists create a map of the atmospheric ozone on Mars by detecting the absorption of ultraviolet sunlight by the molecule. “With these maps we have the kind of complete and simultaneous coverage of Mars that is usually only possible for Earth,” said CU-Boulder Research Associate Justin Deighan, an IUVS team member from LASP. “On Earth, ozone destruction by refrigerator CFCs is the cause of the polar ozone hole. On Mars, ozone is just as easily destroyed by the byproducts of water vapor broken down by ultraviolet sunlight.

“Tracking the ozone lets us track the photochemical processes taking place in the Martian atmosphere,” said Deighan. “We’ll be exploring this in more complete detail during MAVEN’s primary science mission.”

There will be about two weeks of additional instrument calibration and testing before MAVEN starts its primary science mission. This includes an end-to-end test of relaying data between NASA’s Curiosity rover on the surface of Mars and Earth using the MAVEN mission’s Electra telecommunications relay. The mission is aiming to start science in early to mid-November.

CU-Boulder provided two science instruments and leads science operations, as well as education and public outreach, for the MAVEN mission, which has contributed roughly $300 million to Colorado’s economy. UC Berkeley’s Space Sciences Laboratory also provided four science instruments for the mission.

NASA’s Goddard Space Flight Center in Greenbelt, Maryland, manages the MAVEN project and provided two science instruments for the mission. Lockheed Martin of Littleton built the spacecraft and is responsible for mission operations. NASA’s Jet Propulsion Laboratory in Pasadena, California, provides
navigation and Deep Space Network support, as well as the Electra telecommunications relay hardware and operations.

**State leaders discuss prescription drug abuse epidemic**

The growing threat of prescription drug addiction and the best ways to confront the epidemic was the focus of a daylong meeting Oct. 3 of the Colorado Consortium for Prescription Drug Abuse Prevention.

“We consider prescription drug abuse a major public health threat,” said Larry Wolk, M.D., the executive director and chief medical officer at the Colorado Department of Public Health and Environment. “It now claims more lives than motor vehicle accidents each year.”

Wolk was speaking to about 100 health care providers and state officials gathered inside the University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences.

Joining him was Colorado Attorney General John Suthers, who said over the last eight years the state had recovered 64 tons of prescription drugs in various take-backs.

“The amount of prescription drugs out there is mind-boggling,” he said.

At the same time, Suthers said, Colorado is seeing record numbers of heroin deaths as those dependent on opioid pain relievers often turn to heroin for relief.

Still, it wasn’t all bad news.

In 2009-2010, Colorado ranked second in the nation in the abuse of prescription pain medication among those 12 and older. That ranking dropped to 16 in 2011-2012. And the incidence of abuse by teenagers also dropped below the national average in 2013. The consortium is working together with the Legislature and the governor’s office to continue making strides to lower these numbers.

In the year since the consortium was founded, it has accomplished a great deal. One of the main achievements discussed was the Prescription Drug Monitoring Program, or PDMP.

The PDMP is a secure, statewide database of controlled substances that has been dispensed to an individual by registered Colorado medical professionals. The database, which has many benefits, can alert providers to potential drug abuse, facilitate and encourage the identification, intervention and treatment of those addicted to prescription drugs, and inform public health initiatives by outlining use and abuse trends.

However, one major drawback of the PDMP, according to state Sen. Irene Aguilar, M.D., who participated in one panel discussion, was getting doctors to take the extra step of entering the information into the database.

The event also focused on individual work groups, their accomplishments and plans for the coming year. The groups, which consist of professionals volunteering their own time, are working to not only help the public gain a better understanding of this epidemic, but also gather and decipher data on the subject. They hope to educate providers and prescribers, work toward better treatment plans for opioid abusers as well as safer disposal options for the drugs once they are no longer needed.

The consortium wants to convey the message of Safe Use, Safe Storage, Safe Disposal. And safe disposal does not mean flushing down the toilet. For years, doctors and pharmacist told patients that flushing was an acceptable way to dispose of the unused prescriptions. Yet new research has shown
that this could pose a threat to our drinking water and aquatic life.

The nagging question of who will pay for disposal continues. A range of ideas was discussed, including user fees on disposal similar to those imposed for getting rid of motor oil and paint or having pharmaceutical companies picking up the fee.

The conference ended with a panel of three elected state officials – Aguilar, Sen. John Kefalas and Rep. Beth McCann – who have been champions for this campaign, followed by a breakout session of the work groups. All three officials had a collective “thank you” for the consortium in its continued efforts and progress being made in the area of prescription abuse and misuse.

Gala raises over $170,000 for combat veterans at CU Denver, CU Anschutz

Gregory Stube, a retired Green Beret and featured speaker at Combat to Classroom: A Salute to Service, politely encouraged attendees to "throw your wallets at this auction" with the goal of transforming today's soldiers into tomorrow's leaders. They did just that, raising over $170,000 to fund scholarships for combat veterans at CU Denver and CU Anschutz.

The event was jointly held by the University of Colorado and The Wildlife Experience on Oct. 10 at The Liniger Building at CU South Denver. Nearly 500 people attended the silent auction and dinner, including over 20 veteran students and their guests who received gratis tickets from a generous donor.

Two of those servicemen, Army veterans Joel Martinez and Brian Shreve, enjoyed dinner with their wives. Martinez is majoring in public health at CU Denver while Shreve is a first-year student in the School of Medicine at CU Anschutz.

"I wasn't even aware that CU Denver had such a deep commitment to veterans," said Martinez, who served as an Army medic and plans to become a physician. "It's awesome. I've never seen anything like it. It's just not something a lot of other people pay attention to."

Both Martinez and Shreve said they would likely apply for the scholarships that the annual gala funds. "Having some financial assistance and being able to maybe not work and just concentrate on studies would definitely be a great help," said Shreve, who plans to specialize in emergency medicine.

Shreve said he was impressed by the assistance he received in the Veteran Student Services Office at CU Denver. "All of my experiences with the veterans offices at CU Denver and CU-Boulder (where he earned his bachelor's degree) have been great."

CU Anschutz Chancellor Don Elliman pointed out that the CU Denver has the largest student veteran organization in Colorado and highlighted the university's innovative Boots to Suits program, which helps student veterans transition from school to careers. He also noted that the CU School of Dental Medicine, thanks to a gift from Delta Dental of Colorado, recently opened the CU Heroes Clinic, which provides free dental care for the university's student veterans.

"This clinic gives them one less thing to worry about so they can focus on their education," Elliman said. "As, of course, do scholarships, which is why we're all here tonight. We're so very grateful for the Linigers and everyone here for supporting scholarships for combat veterans."

Dave and Gail Liniger recently donated The Wildlife Experience museum building and land to the University of Colorado, the largest real estate gift in the university's history. CU Denver and CU
Anschutz have already launched high-demand academic programs at CU South Denver.

"The Wildlife Experience has been a cultural touchstone in this community," Elliman said. "By adding higher education to the program, we believe we can build on that for many, many years to come."

The chancellor noted that when it comes to student veterans, they deserve far more than a "thank you" when they come home. "They deserve a stellar education and a great career, and that's what CU Denver and CU Anschutz try to help them achieve," he said.

Elliman presented a challenge coin bearing the Boots to Suits insignia to Dave Liniger. A challenge coin is a small medallion that is often presented by a unit commander in recognition of a special achievement. "I'm honored to present this tonight to Dave in recognition of his vision, his generosity to the university and his generosity to our student veterans," Elliman said.

Liniger, a Vietnam veteran who served in the Air Force, pointed out that the expenses of college after returning from service can be a "pretty tough road" for many veterans. "We owe a debt of gratitude to veterans," he said. "We've got to help those that want to come back (to school) become educated and do something with their education. There's not enough public awareness."

Stube talked about his lengthy 23-year military career, which saw him rise from infantryman to a rank of Sergeant First Class serving in the Army Special Forces. He directed his closing remarks to veterans, telling them to aspire, like America's first president, George Washington, to "answer that call to service beyond the uniform."

Stube said the greatest gift an American warrior can get is to be "reintegrated back into the society that they swore was worth fighting and dying for. ... I think you've done something right here (at the fundraising gala). I firmly believe that instead of creating (memorials) for people who have served the country, why don't we recognize them for the leadership potential they have? Why don't we harness that?"

Stube, who received a Purple Heart for injuries sustained in battle, praised the generosity of the attendees, telling them, "You're not giving someone this sympathy (for being a combat veteran). No, instead you're offering a springboard into the future, and a nice kick in the pants... Go get your education. We will help you. I think that's where our truest strength as a nation lies tonight."

Other dignitaries included CU Denver Chancellor Jerry Wartgow, CU Regent Sue Sharkey, Lisa Douglas, vice chancellor for CU South Denver, and Kathy Daly, CEO of The Wildlife Experience. Jake Jabs, who last year donated $10 million to expand entrepreneurship education and establish the Jake Jabs Center for Entrepreneurship at the CU Denver Business School, served as guest auctioneer during the live auction.

President’s Teaching Scholars talk collaboration, meet with president

The President’s Teaching Scholars Program recently presented two special events where member scholars from across the CU system gathered.

The program’s annual fall retreat took place at CU-Boulder. Meeting under the theme of “Collaboration and the Forces of Change,” the scholars discussed their own projects and spoke with CU-Boulder Provost and Executive Vice Chancellor Russell Moore. Speakers included Raphael Sassower, UCCS professor of philosophy and one of this year’s new President’s Teaching Scholars.
Another of this year’s class – Lisa Keränen, associate professor and director of Graduate Studies in the Department of Communication, College of Liberal Arts and Sciences, CU Denver – was among the scholars at 1800 Grant St. earlier this month for a get-together with President Bruce Benson. Sassower and the third of this year’s new scholars, CU-Boulder’s Helen Norton – associate professor and associate dean for Academic Affairs, University of Colorado School of Law – had conflicts and were unable to attend.

Read more about this year’s President’s Teaching Scholars.

Heinz to retire as CU-Boulder dean of Continuing Education

Anne Heinz, dean of Continuing Education and Professional Studies and associate vice chancellor for Summer Session and Outreach and Engagement at CU-Boulder, will retire June 20, 2015, after 26 years at the university.

“Throughout her time at the university, Anne has been a champion for exploring ways to improve services to not only nontraditional students, but all students, and to demonstrate the value of the university to the state of Colorado,” Provost Russell Moore said. “Her passion and dedication will be greatly missed when she retires in June.”

Heinz began her career at CU-Boulder in 1989 as director of professional development and then was appointed dean of Continuing Education and associate vice chancellor for Summer Session in July 1996. Her duties were expanded to cover Outreach and Engagement in October 2009. In addition, she has held a faculty appointment in the School of Education since 1989.

Moore said that under her leadership, CU-Boulder has expanded summer offerings, introduced two new academic sessions to campus -- Maymester and Augmester -- and established the Faculty in Residence Summer Term (FIRST) program, which brings faculty from national and international universities to teach for the summer.

Heinz has received several honors for her service, including the CU-Boulder Women Who Make a Difference award and a Leeds School of Business service award, both given in 2005.

Heinz holds a bachelor’s degree in journalism from Southern Illinois University, Carbondale, and master’s and doctoral degrees specializing in administration and higher and continuing education from the University of Illinois at Urbana-Champaign.

Working in partnership with CU-Boulder schools and colleges, the dean of Continuing Education and associate vice chancellor for Summer Session and Outreach and Engagement serves degree and non-degree students and community members through a variety of credit and non-credit programs that are offered on and off campus using traditional classroom and technology-enhanced delivery systems. The division generates about 22,000 enrollments annually and Summer Session principally serves about 8,000 degree students. This past year, CU-Boulder Outreach and Engagement activities reached more than 346,000 community members, 72 school districts and 46 Colorado counties.
Everson awarded new patents for testing liver function

Gregory Everson, professor in the Division of Gastroenterology and Hepatology, School of Medicine, recently received two patents for a less-invasive measurement of liver function. The patents are part of a new system to test liver function that has not been possible with tests that have been in use. Previously, tests only could detect disease in late stages.

“We needed a reliable test to start identifying problems in early stages and to continue providing reliable results as the disease advances,” Everson said.

This new test is in an investigational phase and not yet FDA-approved. But Everson said work is underway with research centers and industry to bring this test into clinical trials. Such trials potentially can provide information about the progression of liver disease.

Several more patents on this are pending in the United States, Europe, Canada and Australia. Everson, in conjunction with a group of angel investors, formed the company HepQuant LLC in 2007 with the goal of bringing this testing to the clinic.

Bosick analyzes odds of victims reporting crimes

Stacey J. Bosick, assistant professor of sociology at CU Denver, presented "Gender Differences in the Relationship between Victimization Reporting and Adult Role Statuses" at the Annual Conference of the European Society of Criminology in Prague, Czech Republic, last month.

In the United States, at least half of all stranger victimization, that is, incidents in which the perpetrator is unknown to the victim, goes unreported to police.

Without victims' reports to law enforcement, Bosick said, victims are unlikely to receive appropriate recovery services, and offenders stand little chance of being apprehended.

“In the paper we presented, we investigate how occupying adult roles influences reporting. We find that female victims who have children living in their homes experience higher odds of reporting, compared to female victims who do not have children living in their homes. Male victims who are married, own their own homes, and/or are employed experience higher odds of reporting, compared to male victims who are not in these roles,” Bosick explained.

“These patterns suggest that women may be driven to report in order to protect their children from future victimization,” Bosick said, "while men may be pressured to report by spouses, neighbors and co-workers.”

Dodge publishes on discussions in Chinese classrooms

In his chapter, Dodge explores the question, “What is ‘the line’ you cannot cross in the Chinese classroom?”

Starting from recent challenges to academic freedom in China and the challenge of self-censorship by international professors and instructors, Dodge conceptualizes his classroom in Beijing as “liminal space” being between systems, structures and cultures where possibilities to explore and engage sensitive topics might otherwise be avoided for fear of crossing “the line.”

Dodge, who currently is teaching in China, explains that his classrooms comprise a “double-structure, double-buffer zone” that confuses and tangles attempts to locate “the line,” yet also safeguards discussions and engagements about sensitive topics that may otherwise be thought of as off-limit and avoided.

Ultimately, Dodge argues that international classroom provides leeway for the shifting trajectories of academic freedom in China.

**Foster honored as Champion of Vestibular Medicine**

**Carol Foster**, an associate professor at the School of Medicine and director of the Balance Laboratory at the University of Colorado Hospital, has been recognized by the Vestibular Disorders Association (VEDA) as a 2014 Champion of Vestibular Medicine.

Foster specializes in the non-surgical treatment of dizziness and imbalance caused by inner ear, brain or sensory disorders. She has been treating patients for benign paroxysmal positional vertigo and working with dizzy patients at CU since 1994.

A vestibular patient herself, Foster has Meniere’s disease. This disorder of the inner ear causes bouts of vertigo that can last for hours, and benign paroxysmal positional vertigo (BPPV) caused when gravity-sensing particles in the inner ear accidentally enter the ear’s spinning-motion sensors. The symptoms of BPPV can be relieved by maneuvers that relocate the particles, generally done by a specially trained medical professional.

With the room spinning around her, Foster said she developed a maneuver to get the particles out of her horizontal canal and back where they belonged. This half somersault maneuver followed by a head turn and another quick move of the head gives BPPV patients a way to manage the symptoms at home.

**Dropping names ...**

**David P. Tracer**, professor and chair of Health & Behavioral Sciences, College of Liberal Arts and Sciences at CU Denver, co-published a chapter titled “Cruel to be Kind?: Effects of Sanctions and Third Party Enforcement on Generosity in Papua New Guinea” (pdf) in the 2014 Sage Foundation volume “Experimenting with Social Norms: Fairness and Punishment in Cross-Cultural Perspective.” In the chapter, he and his co-authors use experimental economic methods to demonstrate that, contrary to expectations, the threat of punishment by an outside authority for non-cooperative or stingy behavior actually reduces people’s propensity to cooperate and act generously. ... **Jeffrey Kieft**, associate professor of biochemistry and molecular genetics at CU Denver and an early career scientist with the Howard Hughes Medical Institute, is featured in the fall issue of “HHMI Bulletin” magazine. The feature offers insight into his lab’s research into viral RNAs and describes his approach to research: “Perseverance and attention to detail matter.”
Joining the UCCS faculty this semester are 11 instructors from the colleges of Business, Education, Letters, Arts and Sciences and the Beth-El College of Nursing and Health Sciences. They are: **Allison Postell**, Department of Philosophy, College of Letters, Arts and Sciences -- Postell previously was a lecturer in the Department of Philosophy, a lecturer at St. John Vianney Theological Seminary, Denver, and both a lecturer and graduate assistant at the University of Dallas. **Leslie Rapparlie**, Department of English, College of Letters, Arts and Sciences -- Rapparlie previously was a writing coach in the communication program at the Wharton Business School at the University of Pennsylvania, a lecturer at Montclair (N.J.) State University and a lecturer and staff member at Rutgers University. **Anthony Santella**, Department of Marketing, College of Business -- Santella previously was a visiting lecturer and interim director of student engagement for the Spiro Institute of Entrepreneurial Leadership at Clemson University and an assistant professor at Lander University, Greenwood, S.C. **Roy Jo Sartin**, Department of History, College of Letters, Arts and Sciences -- Sartin previously was a lecturer at UCCS and an adjunct faculty member at Colorado State University, Pueblo, and Pikes Peak Community College. He earned a master’s from UCCS. **Morgen Thomas**, Department of Sociology, College of Letters, Arts and Sciences -- Thomas previously was an adjunct instructor at UCCS and Pikes Peak Community College in addition to holding positions in private industry. She earned bachelor’s and master’s degrees from UCCS. **Sarah Treschl**, Department of English, College of Letters, Arts and Sciences -- Treschl previously served as an instructor in the Department of English and as an adjunct instructor at Pikes Peak Community College. **Scott Van Ness**, Department of Management, College of Business -- Van Ness previously ran his own financial services agency, was an adjunct faculty member at UCCS, and is a retired United States Air Force officer. He earned his bachelor’s degree from CU Denver. **Kevin Van Winkle**, Department of English, College of Letters, Arts and Sciences -- Van Winkle previously was an adjunct instructor and graduate teaching assistant at Colorado State University, Pueblo. He earned a bachelor's degree from UCCS. **James T. Vivian**, Department of Chemistry and Biochemistry, College of Letters, Arts and Sciences -- Vivian previously was an instructor at IntelligTec College, a lecturer at UCCS and a research associate at Montana State University, Bozeman. **Patricia Witkowsky**, Department of Leadership, Research and Foundations, College of Education -- Witkowsky previously held positions at Colorado State University, Pueblo. **Kathryn Woods**, Beth-El College of Nursing and Health Sciences -- Woods previously was a staff nurse, a faculty instructor for the Tarrant County (Texas) College District, a school nurse and both a staff nurse and paramedic.

### University Libraries launches open-access repository

University of Colorado Boulder Libraries is celebrating the launch of the open access repository CU Scholar, housed online at scholar.colorado.edu. This new institutional repository will aggregate and disseminate the wealth of scholarly knowledge created under the auspices of the University of Colorado Boulder and its research units. CU Scholar welcomes materials of scholarly focus, including published journal articles, working papers, technical reports, multimedia content and datasets. CU Scholar will serve as an important destination for researchers across the globe.

“CU Scholar will highlight and expand access to the intellectual assets of the Boulder campus – in direct support of the chancellor’s goal to enhance and publicize the reputation of our faculty,” said James F. Williams, II, Dean of the University Libraries.

The tools built into CU Scholar improve the speed and efficiency of sharing the results of scholarly efforts beyond the confines of the Boulder campus. For participating scholars, departments, centers and research institutes, increasing accessibility to research and publications is greatly streamlined. The submission, processing and dissemination of scholarship are managed through a simple Web interface that integrates the campus IdentiKey login system, removing the need to create additional login accounts and passwords. Submissions are vetted for conformance to CU Scholar policies and then released online. Posted submissions receive a permanent, shareable URL that helps researchers leverage the Internet and social media to further increase the reach of their scholarship.
In addition to simplifying the depositing of papers CU Scholar allows readers, at no charge, to discover and view relevant research by topic, author or sponsoring research department with the repository’s straightforward organization and search tools. The system also allows users to sign up for a service alerting them to new content tailored to their unique interests.

University Libraries presents CU Scholar as the first stop for papers from the University of Colorado Boulder. The repository represents the continuing commitment of the University Libraries to support open access to academic research and further supports the academic mission of the University of Colorado Boulder. CU Scholar follows in a line of such commitments from the Libraries, including the Libraries-supported open access publishing fund and the annual celebration of Open Access Week, taking place this year Oct. 20-26.

University Libraries expects the CU Scholar collection to grow quickly in size and diversity, with the addition of content from all disciplines represented at the University of Colorado Boulder campus.

**Stories of Survival examines interpersonal violence**

Breaking Silence: Stories of Survival, an interactive exhibit that allows individual participants to hear the voices of those who have been affected by interpersonal violence, is on display at the Auraria Campus Oct. 21-23.

A flier for the event is linked here.

This is a powerful experience for survivors, support persons, and anyone who wants to learn more about how to stop interpersonal violence. Participants are each given a headset and allowed to walk through at their own pace; for most folks it takes about 30 minutes. Resources for support or getting more involved are available at the end of the exhibit.

Hours at 320s of the Tivoli Student Union, 900 Auraria Parkway, are 10 a.m.-6 p.m. Oct 21 and 22, 10 a.m.-4 p.m. Oct. 23. Questions: Sarah Berg at the Phoenix Center at Auraria, sarah.j.berg@ucdenver.edu.

**Fall Financial Expos coming to campuses starting Monday**

Online registration for Employee Services’ 2014 Fall Financial Expos has closed, but faculty and staff may still register the day of each event by visiting the registration booths.

The expos are coming to each CU campus Oct. 21-27. For a full schedule of events, visit www.cu.edu/expo-schedule.

All are welcome to attend the Expo’s Dollars & Sense Market, open 10 a.m.-2 p.m., to connect you to CU and financial professionals.

Open talks will be filled on a first-come, first-served basis. The following events still have a few available seats:
Oct. 20 - CU Anschutz:

Preparing to Retire:
CU’s Process for Retiring: PERA Participants (9-10:15 a.m.) Preparing for Retirement with PERA
(10:30-11:45 a.m.) CU’s Process for Retiring: 401(a) Participants (1:30-3 p.m.)

Oct. 21 - UCCS:

Money Talks:
Fundamentals of CU’s 401(a) Retirement Plan For Employees: Understanding and Managing your
Student Loans PERA Fundamentals Max Out Your Credit (Knowledge)
Preparing to Retire:
CU’s Process for Retiring: PERA Participants Preparing for Retirement with PERA Retirement Strategies
and Information for 401(a) CU’s Process for Retiring: 401(a) Participants

Oct. 22 - UCD:

Preparing to Retire:
CU’s Process for Retiring: PERA Participants Preparing for Retirement with PERA Retirement Strategies
and Information for 401(a) Participants

Oct. 23 - System:

Money Talks:
For Employees: Understanding and Managing Your Student Loan
Preparing to Retire:
CU’s Process for Retiring: PERA Participants Preparing for Retirement with PERA Retirement Strategies
and Information for 401(a) Participants CU’s Process for Retiring: 401(a) Participants

Oct. 27 - CU-Boulder

Preparing to Retire:
CU’s Process for Retiring: 401(a) Participants