From auto engines to genes, Biofrontiers scientist on a roll[1]

Biofrontiers scientist Robin Dowell has a vision of understanding how genes affect disease susceptibility. Photo: Glenn Asakawa/University of Colorado

Robin Dowell understands machines of all kinds. The CU-Boulder assistant professor of molecular, cellular and developmental biology (MCDB) and Biofrontiers[3] faculty member has been restoring old cars since she was 14 years old.

She rebuilt her first engine with her dad, who is a petroleum engineer. It was a 1977 Mercury Monarch and she drove it throughout high school. After high school she rebuilt a 1976 Ford F150 truck and drove it to college, earning a double bachelor's degree in the unlikely combination of computer engineering and genetics. She then went on to earn a master's degree in computer science and a doctorate in biomedical engineering. She still owns the truck.

"Cars are simple machines. If you have a really good mechanic, you can go from a single noise in the engine to a diagnosis," she says. "For example, a bad mechanic will see electrical problems and just replace the battery or maybe the whole alternator. You'll be back in two months or less with more electrical problems. Good mechanics can tell when it is the alternator failing and just replace the brushes or if the problem is actually due to some faulty wiring somewhere in the system. We need that ability to look at a symptom and follow it to the core problem."

Dowell believes that part of the solution is in the genotype and phenotype of each person. Your genotype is the catalog of genes that build everything about you. Your phenotype is how you look, how you are put together and, to some degree, the kind of behaviors you exhibit.

In 2001, the Human Genome Project was completed after more than 1,000 scientists worldwide sifted through 3 billion bits of data in each human cell to map the ordering of all human genes. You have about 20,000 genes in a unique combination that makes you you. Every time a baby is born, a new genome is created.

With all our newfound knowledge of the genes and how they influence our phenotype, scientists are eager to apply this to predicting disease in humans: If you have a specific gene combination, you are likely to get a specific disease. It turned out that it wasn't that easy.

In 2009, Dowell and a team of scientists got up close and personal with Saccharomyces cerevisiae — a type of yeast best known for its starring role in the fermentation process of bread and beer. They sequenced the genome of a new individual strain of the famed fungus and narrowed their focus on only the genes required to keep the organism alive. As they were getting closer to narrowing down what kept the yeast alive, they also were getting further away.

Dowell and her team discovered that genetic sequencing made up only part of the roadmap to understanding each individual. It was also very complex genetic interactions across the entire network of genes that influenced phenotype: The same mutation in different individuals created different phenotypes because of unique interactions across the network.

"The genome gave us a parts list," Dowell says. "Now we've realized that there is much more to understanding a genome than a simple parts list."

It seems like not such a big deal when you are talking about yeast, but when you apply this to how drugs interact in individual humans, it becomes a bigger issue. The human condition becomes a moving target with constant mutations at a genetic level that affect the phenotype of each individual. Designing drugs that work effectively for all people, without killing any of them, becomes nearly impossible.

Dowell's vision is to one day understand how genes influence disease susceptibility — a likely insurmountable goal for anyone but someone with her background in computer science and genetics. Like the Mercury Monarch engine she restored in her teens, she wants to be able to listen to the engine and know that it is not just the alternator that is going bad.

"That is what we're missing in medicine right now," she says. "We want to get to a mechanistic understanding of human beings. And to get there we have to know that it is all connected."

Read Dowell's paper Genotype to Phenotype: A Complex Problem by clicking here[4].

Faculty at College of Nursing leads creation of new standards for child care[5]

New and updated standards to keep children healthy and safe in early care and education are available from the University of Colorado College of Nursing, National Resource Center for Health and Safety in Child Care & Early Education (NRC). NRC recently published "Caring for Our Children: National Health and Safety Performance Standards; Guidelines for Early Care and Education Programs, 3d Ed. (CFOC3)." The book is considered the benchmark document on children's health and safety in out-of-home care and education.

CFOC3 was developed under the direction of CU Denver's **Marilyn Krajicek**, working with more than 300 volunteer experts: 10 technical panels and panel chairs, a steering committee, and close to 200 stakeholder reviewers. Families, child-care providers, educators, and health professionals look to the University of Colorado NRC for the CFOC3 guidelines on children's healthy development in a safe environment, whether in family child care homes or in early care and education centers. Available in print and in searchable, downloadable formats on the NRC website, www.nrckids.org[6], CFOC3 contains 686 early care and education health and safety standards.

CU Advocates program to build network of educated supporters[7]

www.cu.edu/cuadvocates[9]

CU Advocates, a new University of Colorado program aimed at invigorating grassroots support for the institution across the state and beyond, officially launched this week with the debut of its website[9].

The foundation of the program, an initiative of the Office of the President, will be a network of educated, engaged people who care about CU and are willing to promote the university's educational, research and economic contributions. The site invites visitors to sign up in order to be connected to advocacy tools and information for use in communicating CU's value, opportunities and challenges. Click here to sign up now.[10]

"We need to be deliberate about creating a network of supporters, educating them about our value, contributions and challenges, and asking them to work on our behalf," said CU President Bruce Benson.

Advocates will draw on university supporters from many communities, including CU students and alumni, parents, faculty, staff, donors, and business and community leaders. They will be asked to promote the university, but also will have the opportunity to become more engaged with CU through volunteering, hosting events, mentoring, career planning and touring the campuses.

"It is imperative for our advocates to help the university spread the word about its many contributions to society and industry, the value a CU degree has brought to their lives, and the funding environment facing the university," said Michele McKinney, external affairs and advocacy director. "CU Advocates will be encouraged to share their CU story. Perhaps a professor enlightened a student to discover a career path, or sons and daughters enrolled at a CU campus are becoming intelligent young adults before their parents' eyes. Maybe a CU physician saved a loved one's life. These are the stories that define CU. By sharing these stories, we bring to life the value of our campuses."

CU Advocates will absorb CU Ambassadors, a program within the Office of Government Relations. Through grassroots and leadership advocacy, CU Advocates also will help to raise awareness about legislative and policy issues affecting CU and other institutions of higher education.

The program will focus primarily on advocacy activities related to image and reputation, fundraising, student recruitment and policy. McKinney works closely with CU's operations in alumni relations, fundraising, government relations, admissions and campus outreach to connect more people with activities at the four campuses.

iPad among items filling new time capsule at Macky[11]

Colorado Gov. Bill Ritter, left, and CU-Boulder Chancellor Philip DiStefano examine the contents of the Macky Auditorium time capsule at the University of Colorado at Boulder on Oct. 8, 2010. (Photo by Casey A. Cass/University of Colorado)

A year after Colorado Gov. Bill Ritter and University of Colorado Boulder Chancellor Philip P. DiStefano revealed the contents of the 1910 Macky Auditorium time capsule, the contents of a new memo to posterity are being finalized.

At 3:30 p.m. Tuesday, Oct. 11, campus officials will gather at CU-Boulder's Macky Auditorium for the ceremonial placement of the building's new time capsule. The event will feature remarks from campus officials and a performance by Artist Series favorite Yamato, a Japanese Taiko drumming ensemble. The dedication ceremony is free and open to the public.

Transcripts of speeches from campus leaders, copies of the day's newspapers, CDs of campus performances and copies of campus magazines such as The Coloradan, Colorado Engineer and Bylines are among items planned for inclusion in the time capsule. A decidedly modern touch will be an iPad loaded with contemporary digital content.

"It is a wonderful opportunity to take a snapshot of our world," said Rudy Betancourt, director of the Macky Auditorium Concert Hall. "After the thrill of discovering what was left for us by our campus colleagues in 1910, I feel challenged to provide compelling artifacts from our era."

Macky Auditorium is a fitting home for a time capsule. The facility has played a central role in campus life, with its 2,000-seat auditorium serving as a gathering point for the campus community. Over the years, it has housed the offices of the CU president, the dean of students, journalism, the registrar, the book store and admissions. The auditorium has hosted the popular Artist Series since 1937.

Dropping names … [13]

Tyler

Schrier

Cordova

Tolderlund

Hartnett

Ken Tyler will chair the new Center for NeuroScience (CNS), which will be housed administratively in the Department of Neurology at the School of Medicine at the University of Colorado Denver. **Diego Restrepo**, professor of cell and developmental biology, will serve as the inaugural CNS Director. The Center will bring together basic scientists and physicians with common interests in the neurosciences with a goal toward enhancing interactions and fostering translational research. Part of the Center's role will be to educate the community about projects and clinical trials within the medical school. … **Robert Schrier**, professor of medicine at the School of Medicine, recently discussed his book "Profiles of American Presidents in the Twentieth Century: Merits and Maladies" at the Health Sciences Library. Schrier explores how illnesses may have affected the personalities and therefore the decisions of modern American presidents. Woodrow Wilson, for example, was a heavy smoker whose first stroke occurred at age 40 and influenced his presidency. … **Caitlin Green** was recently selected as the development director for Theatreworks at the University of Colorado Colorado Springs. Theatreworks is a professional, regional theater dedicated to creating challenging and innovative productions of classic and contemporary theater for the enjoyment, education and stimulation of the community. Green previously served as director and co-director of the Gallery of Contemporary Art. … **Rachel Gibson**, program assistant, Office of Disability Services and University Testing at the University of Colorado Colorado Springs, and **Tyson Randall**, audiovisual program manager, UCCS University Center, were featured in a video promoting a new CU health and wellness program, Be Colorado. In the video, Gibson and Randall – both wearing UCCS Mountain Lion apparel – extoll the health benefits of exercise and being outdoors. The video is all part of an effort to encourage faculty and staff to actively work to improve their physical, mental and financial health. … **Anthony Cordova**, director of the Multicultural Office for Student Access, Inclusiveness, and Community (MOSAIC) at UCCS, will receive the 2011 Freedom Fund Education Award from the NAACP during an Oct. 15 award gala at the Crowne Plaza Hotel, Colorado Springs. The award is given to a professor, administrator or university professional who has made significant contributions in promoting excellence, diversity and inclusion in higher education in the Pikes Peak region. … **Leila Tolderlund**, instructor of landscape architecture at the University of Colorado Denver, recently presented "Green Roof Design and Maintenance in the Semi-Arid West," a session at the American Public Works Association International Conference in Denver. Tolderlund also co-authored an article, "Green Roofs in the Semi-Arid and Arid West," in the September issue of the national magazine APWA Reporter. … The fall Issue of Architect Colorado features an article, "Growing Together," about Greensburg Green Neighborhoods, a project that proposes sustainable community housing for Greensburg, Kan., that meets the needs of seniors and non-nuclear families. It was designed by a collaborative University of Colorado Denver team led by Senior Instructor of Architecture Studies **Michael Tavel**. Other team members include **David Kahn**, senior instructor of landscape architecture studies, and College of Architecture and Planning graduates Owen Beard, Eric Watson, Daniel Benjamin, and Ida Chou. The project also won a 2010 Colorado AIA Honor Award. … University of Colorado Denver Communication Department Chair **Stephen Hartnett** in the College of Liberal Arts and Sciences has been honored with a Golden Anniversary Monograph Award from the National Communication Association (NCA). The award is for Hartnett's work: "Communication, Social Justice, and Joyful Commitment" (Western Journal of Communication, Vol. 74, No. 1, January–February 2010, pp. 68–93). The award timing coincides with the NCA's 50th anniversary. NCA's mission advances communication as the discipline that studies all forms, modes, media and consequences of communication through humanistic, social scientific and aesthetic inquiry.

Five questions for Tien Vu[19]

Tien Vu with a child at the Nyumbani HIV/AIDS orphanage in Kenya.

On April 30, 1975, the People's Army of Vietnam and the National Liberation Front captured Saigon, the capital of South Vietnam. The fall of Saigon marked the end of the Vietnam War and began a time of change for the country. The upheaval affected the lives of many people, including one toddler whose family escaped the country that day.

Tien Vu, M.D., is an assistant professor at the University of Colorado School of Medicine and practices at Children's Hospital Colorado. She was too young to remember the event, but stories of the courage, hardship and fear that surrounded her family, and all of the other so-called "boat people," have become part of the collective history of the first Vietnamese refugees.

"My family was lucky," she says. "As we drifted in the South China Sea on fishing boats, we were rescued by a French naval ship that took us to a refugee camp in Guam. After that, we were flown to another refugee camp at Fort Chaffee, Ark., and there began our lives in the U.S. We were poor, living on welfare in the 'projects' or government subsidized housing for a number of years. These were lean times. We learned that hard work, frugality and education could eventually make us successful, and it did."

She earned an undergraduate degree in English literature from Johns Hopkins University, then went to medical school at the University of Pennsylvania and completed her pediatrics residency training at the Children's National Medical Center in Washington, D.C. She came to Children's Hospital Colorado for a fellowship program in pediatric emergency medicine and later became a member of the faculty.

She spends some of her time volunteering overseas, where she helps train and teach physicians, along with other providers, in pediatric emergency medicine and disaster preparedness topics in developing countries such as Vietnam and other parts of Asia. She is supported by various organizations, including Global Health Initiatives, Project Vietnam and the Academy of Pediatrics; she recently was recognized for her work by a local nonprofit.

"Although I'm not a true Colorado native, I grew up in Colorado and my family is here," she says. "It's nice to be home."

1. Who or what influenced you to choose this career path?

A variety of people and events have led me to this career path. We all have formative life experiences and meet people who affect us in lasting ways. For me and my family, our history as war refugees and immigrants to the United States built a foundation of hard work, perseverance and hope. My parents were huge advocates of education. Despite working multiple jobs and long hours, my parents always had time to drill us on multiplication tables and Vietnamese language lessons, much to our dismay at times. My respect for the medical profession not only came from the usual, overt brainwashing from Asian parents, but from my own experiences as a child. I had suffered accidental childhood injuries that required multiple hospitalizations and surgeries. It was my hope to be able to help other children in a similar way one day, and I'm happy that has come to fruition.

Tien Vu with her mother in 1975, the same year they and their family left their native Vietnam with other refugees to come to the United States.

2. You have returned to Vietnam and other countries to provide medical help. Please tell me about those journeys and why you have chosen to go there.

Helping children and families in developing countries is one of the most rewarding things I have done. I dare say they've helped me more than I have helped them. I have had opportunities to do medical missions in Kenya at an HIV/AIDS orphanage and at a remote clinic in Belize. More recently, I have been teaching pediatricians and other physicians in various settings in Vietnam and the Philippines. Educating doctors in countries where access to current medical advances and management strategies are limited gives a bigger bang for your buck, so to speak. It propagates knowledge, thus ensuring that better medical care is provided to multitudes of children across the country, much more than any one physician alone can provide. It is a great pleasure to be able to return to Vietnam on occasion and give back to my homeland.

3. Last week, you were honored by Bridging Hope as a local hero. What is your affiliation with the group and why do you support it?

Bridging Hope is a Colorado nonprofit organization whose mission is to provide assistance to indigent, ill and disabled children, women and elderly in Vietnam. The wonderful thing about Bridging Hope is that it not only provides direct assistance through many of its programs, but it also educates and trains women to help themselves and their children. It creates jobs for them. They learn to make handicrafts, sell them, and manage their resources – sustainable assistance that has lasting impact. The executive director of Bridging Hope, Sister Sen Nguyen, is an old family friend of mine and someone who has been doing great work all her life.

4. Who are your heroes and why?

[22]
There are so many heroes in my life; it's hard to just pick a few. My parents are, first and foremost, the biggest heroes of all. Without their immense courage and years of hard, hard work to lift their family out of poverty in a country that was completely foreign to them, I would not have the opportunities I have today. When I return to Vietnam on occasion, I often see young women not unlike myself, selling fruit or cigarettes on the side of the road to support their family, and am grateful that I had been given the opportunity of a very good life and great education. I am not really a hero, but I definitely have been lifted up on the shoulders of many.

5. What types of activities do you enjoy in your leisure time?

I enjoy spending time with my husband and look forward to spending time with our new daughter, Emma Linh, whom we hope to adopt from China this month. I also enjoy playing the piano, tennis and oil painting in my free time. I have a feeling we'll be doing more camping and traveling around Colorado in the upcoming year as we recently bought a small camper. Perhaps I should brush up on wilderness survival skills.

Photos courtesy of Tien Vu

Unknown Heller art discovered as restoration begins[23]

[24]
A cache of undiscovered works created by local artist Larry Heller turned up as work began on the restoration of the guest house at the Heller Center for Arts and Humanities in September.

A surprise donation made it possible to move up the timetable on the Heller guest house renovation project and a second surprise awaited the construction crew. They opened an attic crawl space to find over a dozen pieces created in the 1930s and 1940s, most likely hidden for over 50 years. A diary and a small wooden toolbox accompanied the sculptures, ceramic pieces and photograph negatives Heller had stored away.

Always ready to try something new, Heller painted then became interested in making bronze sculptures. Later, he worked with tile art, pottery, photography and metal, with subjects ranging from American Indians to Valkyries to wild mustangs.

Photo by Perrin Cunningham

The 36-acre property of Larry and Dorothy Heller was deeded to the CU Board of Regents in May 1997, with stipulations that open space be preserved, and the property be used for activities in the fields of humanities and fine

arts. University administrators envisioned using the property for an art studio, classes, retreats, conferences and exhibits showcasing the art of Larry Heller. UCCS received a grant from the State Historic Fund, allowing the buildings to be restored in a historically sensitive manner, preserving the original features of the structures. Since then, plans call for meticulous deconstruction and restoration of each building, funded through private donations.

The property, once known as Yawn Valley, is north of the 4 Diamonds Sports Complex. The new address is 1250 North Campus Heights.

The Heller Center for Arts and Humanities initially opened in 2004 with the main house upgraded to contemporary building codes, yet maintaining its original design and historical spirit. Other structures on the property include the guest house, a barn and a small gallery, with the guest house next in line for restoration.

Perrin Cunningham, director of the Heller Center, said workmen for Gerald H. Phipps Construction were carefully removing a roof when they made the discovery.

“It’s very exciting,” she said. “They found a cache of sculptures, and ceramics we knew existed from pictures but had never seen the actual pieces. There were also original negatives from Larry Heller’s art photography projects, remarkably well-preserved.”

She said the find is a great opportunity for three Heller Center interns who are gaining experience in cleaning and preserving the artifacts. Then they will catalog each piece of art and incorporate them into the greater Heller Art Collection.

Cunningham supplied some history regarding the guest house. It was actually the first structure built on the property, before Larry Heller married and built what was later to be the main house. He and his friend Larry Field built the small house as living quarters with an artists’ studio. It was a rammed or packed earth form of adobe construction in which clay and mud walls are made within a frame that is later removed. Over the years additional rooms were added, along with other buildings on the property, and it became a house for guests.

Now that the artistic treasures have been removed, workmen will continue carefully dismantling the old structure, preserving what they can, and replacing parts of it with more structurally viable materials. The revitalized guest house will have foundation, plumbing, electrical and lighting upgrades to comply with modern standards.

Work on the guest house should be completed before the end of the year, Cunningham said. Afterward, it will be ready to house visiting artists and scholars and will be available for classes and meetings. Once this phase of the construction is completed, the Heller Center will be open to the public at least one day each week. The center is currently open for events and by appointment.

“I am profoundly grateful to the anonymous donor for allowing us to move much sooner on the guest house project,” Cunningham said. “It is a wonderful addition to the property and the lost art is a special treasure.”

For more information contact Perrin Cunningham at pcunning@uccs.edu[26] or 719-330-3463. Visit the Heller Center web site at http://www.uccs.edu/~heller/index.html[27].

Campus leaders challenge faculty, staff to join in wellness effort[28]

The four University of Colorado campus leaders are inviting faculty and staff across the system to join them in embarking on the Be Colorado wellness journey – and each is hoping for bragging rights.

A competition will determine which campus has the greatest participation, by percentage of eligible participants, in the SUCCEED health assessment. The confidential, online health assessment tool launched Monday and will remain available through Oct. 28.

Video of iHpHsF_r8go

Once the winning campus is determined, anyone from that campus who completed a health assessment will be entered in a drawing for one of 25 REI gift cards, each worth $50.

A new video (see below) features campus leaders Phil DiStefano (Boulder), Pam Shockley-Zalabak (Colorado Springs), Jerry Wartgow (Denver) and Lilly Marks (Anschutz Medical Campus) talking about their own view of healthy Colorado lifestyles. Each finishes with a friendly bit of cheerleading aimed at inspiring their respective communities.

Participants may go to www.BeColorado.org[29] and take the confidential SUCCEED health assessment and sign up for a free biometric screening. When you complete the health assessment you will be automatically entered to win one of 12 iPads. If you also take the free biometric screening, you will receive an additional entry into the iPad drawing.

The SUCCEED health assessment and health screenings are absolutely private and confidential. Your employer will never see your private health information; to do so would violate the federal HIPAA law. As an employer, CU only will receive de-identified, aggregate reports. The purpose of the reports will be to provide information that can help inform future health benefit design changes that better meet the health needs of our employees.

In this initial phase, the SUCCEED health assessment tool and onsite health screenings will be available to health trust-enrolled employees and retirees of the University of Colorado, University of Colorado Hospital and University Physicians Inc., i.e., those who are the primary members of UA Net, UA Net Colorado Springs, HMO Colorado, Lumenos, CU Kaiser and Medicare Primary plans.

University employees who are on the Kaiser and United Health Care plans offered by the state of Colorado are not eligible because this program is funded by the university medical plans.

Veterans' Training Institute wins $12.2 million contract[30]

The National Veterans' Training Institute (NVTI) at the University of Colorado Denver has received a five-year, $12.2 million dollar award from the Office of the Assistant Secretary for Veterans' Employment and Training (OASVET). The institute trains service providers to assist veterans and military personnel worldwide with finding employment and transitioning out of the military.

The NVTI is within CU Denver's National Learning Center (NLC), which has held the award for 25 years.

"CU Denver's National Veterans' Training Institute is a cornerstone in the effort nationwide to employ veterans and military service members returning to civilian life," said Vaune Shelbourn, Director of the NLC. "NVTI is recognized nationally as the preeminent training facility for these specialized employment topics as they relate to veterans and military staff. "

The OASVET gives approximately $160 million dollars to veterans programs every year to train service providers like those at the NVTI.

"In order to maximize impact in their job assistance efforts, these veterans representatives require instruction in several key areas, including intensive services, employer outreach, accessing labor market information and job search skills," said Shelbourn.

As part of the NLC team that wrote the proposal, Shelbourn was pleased to hear that the center would be able to build upon the 50,000 direct service providers it has trained since it was created in 1896.

"We are proud of the work that is done each year to make this contract successful and to serve those who have served, or are serving, this country," she said, "It was mainly a relief to know the quality of work that we are doing is

key to our successful bid and we all truly want to keep contributing to the mission of serving veterans."

Bob Tolsma, assistant vice chancellor for academic technology and extended learning, oversees the NLC and said that the award is the largest federal contract at CU Denver outside of Health Sciences.

Brown bag series begins with Halloween history [31]

[32]

System Staff Council is presenting a series of brown bag lunches featuring presentations from members of the University of Colorado community.

The series begins Oct. 18 with "When the Veil is Thin: The History of Halloween." Rebecca Hunt, Ph.D., a senior instructor in the College of Liberal Arts and Sciences at CU Denver, will talk about Celtic and neo-pagan traditions, Dia de los Muertos and other modern Halloween celebrations.

The sessions will run from noon to 1 p.m. the third Tuesday of each month through June 2012 at 1800 Grant St. in the first floor conference room. Attendance is free; bring your own lunch.

The rest of the schedule:
Nov. 15Preparing for the Upcoming Legislative Session and CU Advocacy
Presented by Tanya Kelly-Bowry, vice president, Office of Government Relations, and Michele McKinney, director, external affairs and advocacy **Dec. 20History of Juggling**
Presented by Ken McConnellogue, vice president of communication **Jan. 17, 2012No-Sweat Yoga: Techniques to use at your desk to de-stress**
Presented by Beth Mullin Rotach, instructor at Anschutz Medical Campus **Feb. 21, 2012The History of Mardi Gras in New Orleans**
Presented by Richelle Munkhoff, Ph.D., assistant professor at CU-Boulder **March 20, 2012A Ditch in Time: Denver, the West and Water**
Presented by Patricia Limerick, Ph.D., professor at CU-Boulder **April 17, 2012Identity Theft**
Presented by Debbie Chapman and Karen O'Dell, internal audit department **May 15, 2012Shakespeare Presentation**
TBD **June 19, 2012Unusual Identifications**
Presented by John McDowell, D.D.S., associate professor at Anschutz Medical Campus

CU-Boulder wins bid to host National Solar Observatory headquarters [33]

[34]
The University of Colorado Boulder has been selected to host the headquarters for the National Solar Observatory (NSO), the nation's leading scientific research program in ground-based solar astronomy.

The NSO provides scientists access to the world's largest collection of optical and infrared solar telescopes and auxiliary instruments to observe the sun in detail. NSO scientists conduct theoretical and observational research focused on understanding the underlying causes of solar variability and its impact on the Earth and the Earth's space environment.

NSO is operated under the auspices of the Association of Universities for Research in Astronomy (AURA) on behalf of the National Science Foundation, with key observing facilities in New Mexico and Arizona, and is currently leading the effort to build the 4-meter Advanced Technology Solar Telescope, a technological innovation scheduled to begin observations from Haleakala on Hawaii's Maui island in 2016.

In April 2011, CU-Boulder was selected as one of two finalists along with the University of Alabama in Huntsville. CU-Boulder partnered with the New Jersey Institute of Technology and the University of Hawaii on the winning bid and will implement a collaborative graduate education program that will enhance the role of NSO in research and education on a national level.

“We are delighted to be named host of the National Solar Observatory, which is of great importance to the nation and world in terms of better understanding solar physics and space weather,” said CU-Boulder Provost Russell Moore, who submitted the proposal on behalf of the university. “Landing this vital research center is a testimony to the strength of CU-Boulder’s world-class faculty in space science and solar research, the support of the city of Boulder’s leadership, and the vital assistance and support of Congressmen Ed Perlmutter and Jared Polis and U.S. Senators Mark Udall and Michael Bennett.”

Stein Sture, vice chancellor for research at CU-Boulder, echoed Moore, saying that the NSO’s presence will benefit CU’s research and teaching mission in dynamic ways.

“As one of the world’s leading institutions in solar research, we now will have even greater access to ground-based observing facilities and will be able to continue to provide unrivaled opportunities for our students and research scientists alike,” Sture said.

The NSO’s mission is to advance knowledge of the sun both as an astronomical object and as the dominant external influence on Earth by providing forefront observational opportunities to the research community. The mission includes the operation of cutting-edge facilities and the continued development of advanced instrumentation both in-house and through partnerships, as well as conducting solar research and educational and public outreach, said Moore.

NSO has offices and ground-based observing facilities at Kitt Peak, Ariz., and Sacramento Peak, N.M., which will cease operations when the new Advanced Technology Solar Telescope is completed. The new CU-Boulder headquarters for NSO will be the primary science, instrument development and data analysis site for the new solar telescope.

“The educational and collaborative opportunities that will be enabled by the relocation of the NSO headquarters in Boulder are exceptional,” said Associate Professor Mark Rast of CU-Boulder’s Department of Astrophysical and Planetary Sciences and leader of the team that wrote the proposal to AURA. “The sun is the only star close enough to allow detailed observations of magnetic and dynamical processes central to many phenomena in the universe. The NSO’s unique capabilities will add to and augment ongoing efforts in Boulder, ranging from stellar astrophysics and the space environments of extra-solar planets to space weather prediction here on Earth. We are very excited by the possibilities, and thrilled that Boulder was chosen as host.”

Several CU-Boulder departments were involved in the NSO headquarters bid: the Department of Astrophysical and Planetary Sciences, the Department of Physics and the Department of Aerospace Engineering Sciences. The quality of students in these departments was likely a significant consideration in the decision to bring the NSO headquarters to Boulder, and major research opportunities for both graduate and undergraduate students will accompany the NSO move, particularly once the Advanced Technology Solar Telescope comes on line, Rast said.

“Students will have the opportunity to participate in discovery science using a telescope with about 10 times better spatial resolution than the best current space-borne solar imagers,” Rast said.

In addition to the university, Colorado and Boulder offer a host of national laboratories as potential collaborators with the NSO. Other laboratories and centers in Colorado expected to participate and benefit include the National Oceanic and Atmospheric Administration, the National Center for Atmospheric Research and the National Institute for Standards and Technology.

“This is extremely exciting for the university, the state of Colorado and solar scientists around the world,” said LASP Director Dan Baker, an internationally known expert in space physics and space weather. “CU-Boulder researchers have been studying the sun for more than 50 years. Our continued leadership in this area is a tremendous asset for our

students. Solar research represents a branch of science that is crucial for our nation's future. The sun is a driver of Earth's weather and climate and its extreme behavior can have immense economic and societal consequences through its impact on the space environment."

The consolidation of NSO into a single site on CU-Boulder's East Campus is expected to result in jobs for up to 70 scientists, engineers and staff with an annual payroll of roughly $20 million. The new facility will bolster an already formidable high-tech and aerospace industry in the state. Colorado is third behind California and Washington, D.C., in aerospace industry presence.

"The NSO is an excellent addition to the dynamic research and entrepreneurial activity in Boulder," said Boulder City Manager Jane Brautigam. "The federal labs and nationally recognized CU-Boulder, combined with an aggressive environment for financing high-tech startups, have made Boulder a hot spot nationally for its intellectual capital and business environment. We are delighted to welcome the NSO to our vibrant community."

Health and Wellness Center offers sneak preview via yoga[35]

Monday was a picture perfect day for yoga on the east lawn of Building 500 on the University of Colorado Anschutz Medical Campus. Everyone was invited to participate in the free session hosted by the Health and Wellness Center now under construction[36].

Coming in the spring of 2012, the Anschutz Health and Wellness Center will be an innovative, state-of-the art research, education and patient care facility [37]located on the Anschutz Medical Campus.

The center's mission[38] is to empower individuals, communities and organizations to make sustainable changes to achieve healthier lifestyles so that high obesity rates and chronic disease no longer reflect the way we live as a society.

Today's session serves as a sneak preview of just one of the various types of group exercise classes that Center users will be offered.

Angela Ewari, owner and director of Running Yogini, lead the session using easy techniques that can be done practically anywhere to help eliminate daily stress. Yoga is not only a great workout – it is also one of the best exercises you can do to help reduce your stress levels.

Accessing Higher Ground conference set for November[39]

Accessing Higher Ground[40], to be presented by CU-Boulder Nov. 14-18 at the Westin Hotel in Westminster, draws experts from around the country and internationally in the area of accessible media, universal design and best practices for Web and media design. The CU campuses and CU system are eligible for a 50 percent discount on main conference registration fees. Click on the registration link[41] to receive the campus discount and for other information.

Highlights from the program of over 60 sessions:

Don't Ask, Do Tell: Making Third Party Web Sites Accessible Without the Owners' Help and Educating Owners on How to Make Better Sites

Accessibility Testing in the Real World

Evaluating Web Content Accessibility: Using WAVE to Facilitate Human Evaluation

Moodle 2 Accessibility: Results from NC State University's Accessibility Evaluation

Rolling Craps on Canvas - Accessible Forms and Graphics with HTML5

Integrating Accessibility into the Design of Online Learning Management systems: Theories and Practice

Bring your own computer (or not) session: Nuts & Bolts of Captioning Digital Multimedia

Implementation of a Multimedia Accessibility & Captioning Policy: a case study from the University of Illinois

Lab: ARIA and HTML5 Accessibility, Jared Smith, WebAIM

Lab: Working with Accessible PDF Documents

Creating Futures reaches $1 billion mark[42]

[43]
Individual, corporate and foundation gifts and grants toward Creating Futures, CU's most ambitious fundraising campaign ever, have now exceeded $1 billion, a major step toward the $1.5 billion goal.

"We are energized by the generosity of the individuals, foundations and corporations who have invested in excellence at the University of Colorado," said CU President Bruce D. Benson, who chairs the Creating Futures campaign along with his wife, Marcy. "Our faculty, students and campuses are the direct beneficiaries of that investment, but the people of Colorado also benefit through CU's contributions to our state's economic, social and cultural health."

Since the campaign began in July 2006, more than $530 million in private gifts and grants have come through the CU Foundation, the university's fundraising and investment-management partner. Most of the remaining private support has been faculty-generated grants and private gifts that are channeled directly to the university.

"Reaching the $1 billion mark is a significant milestone that is testament to the confidence donors have in CU and the great work of its faculty, staff and students," said Marcy Benson. "We're thrilled with the progress we have made which provides inspiration to help us continue to work to meet our goal."

Despite a difficult economy, CU donors have responded in record numbers and with record amounts these past five years to support initiatives in CU's primary areas of focus:
Learning and Teaching, including UCCS scholarship gifts by hundreds of individuals (and $5.5 million, UCCS's largest cash gift to date, given anonymously), and by foundations such as the Kane Family Foundation and the Daniels Foundation **Discovery and Innovation**, including $5 million from Pinnacol Assurance to establish a new Risk Management and Insurance program at CU Denver **Culture and Community**, including $5 million from Mort and Alice Mortenson and builder M.A. Mortenson Company to establish an Engineering for Developing Communities program at CU-Boulder — supporting sustainable development in marginalized communities worldwide **Health and Wellness**, including more than $100 million in gifts ($44 million this campaign) from the Anschutz Foundation toward CU's new health sciences campus, and new donor-driven centers working toward Down syndrome and stem cell discoveries President Benson reinforces that while private philanthropy can provide relief to CU's budget in targeted areas, it does not replace the need for operational funds squeezed by declining public funding, as 98 percent of gifts are earmarked by donors for specific purposes. Given CU's diminished state support (from more than 30 percent of CU's budget 30 years ago to approximately 5 percent today), private support will continue to take on added importance.

Gifts to Creating Futures will expand access to higher education, provide needed health services, generate groundbreaking research and ideas, and drive the region's economy. CU's annual economic impact exceeds $7 billion, and CU researchers annually garner more than $800 million in public grant awards for research (not included in the campaign, which is oriented toward private support).

Priority fundraising areas for the remainder of Creating Futures include scholarships, endowed chairs and professorships; research programs; buildings and infrastructure; and academic support on all four CU campuses.

In chairing the Creating Futures campaign for the CU system, the Bensons work closely with volunteer leaders for each campus including Jean ('64) and Jack ('64,'70) Thompson at CU-Boulder, Nan ('87) and Carl ('67, '71) Eklund at the Anschutz Medical Campus, Laura ('94) and Dave ('82) Baker at CU Denver, and Mary and Ed Osborne at UCCS.

Links
[1] https://connections.cu.edu/people/auto-engines-genes-biofrontiers-scientist-roll[2] https://connections.cu.edu/people/from-auto-engines-to-genes-biofrontiers-scientist-on-a-roll/people_dowell[3] http://biofrontiers.colorado.edu/[4] http://www.sciencemag.org/content/328/5977/469.abstract[5] https://connections.cu.edu/people/faculty-college-nursing-leads-creation-new-standards-child-care[6] http://www.nrckids.org/[7] https://connections.cu.edu/stories/cu-advocates-program-build-network-educated-supporters[8] https://connections.cu.edu/news/cu-advocates-program-to-build-network-of-educated-supporters/cuadv[9] http://www.cu.edu/cuadvocates[10] https://www.cusys.edu/cuadvocates/signup.html[11] https://connections.cu.edu/stories/ipad-among-items-filling-new-time-capsule-macky[12] https://connections.cu.edu/file/dykcapsulejpg[13] https://connections.cu.edu/people/dropping-names-119[14] https://connections.cu.edu/file/people-dntylerjpg[15] https://connections.cu.edu/file/people-dnschrierjpg[16] https://connections.cu.edu/file/people-dncordovajpg[17] https://connections.cu.edu/file/people-dntolderlundjpg[18] https://connections.cu.edu/file/people-dnhartnettjpg[19] https://connections.cu.edu/stories/five-questions-tien-vu[20] https://connections.cu.edu/file/5q-vu1jpg[21] https://connections.cu.edu/file/5q-vu2jpg[22] https://connections.cu.edu/file/5q-vu3jpg[23] https://connections.cu.edu/stories/unknown-heller-art-discovered-restoration-begins[24] https://connections.cu.edu/across-cu/unknown-heller-art-discovered-as-restoration-begins/uccs_discovery[25] https://connections.cu.edu/across-cu/unknown-heller-art-discovered-as-restoration-begins/uccs_discovery2[26] mailto:pcunning@uccs.edu[27] http://www.uccs.edu/%7Eheller/index.html[28] https://connections.cu.edu/stories/campus-leaders-challenge-faculty-staff-join-wellness-effort[29] http://www.becolorado.org/[30] https://connections.cu.edu/stories/veterans%E2%80%99-training-institute-wins-122-million-contract[31] https://connections.cu.edu/stories/brown-bag-series-begins-halloween-history[32] https://connections.cu.edu/file/dykhalloween-brownbagjpg[33] https://connections.cu.edu/stories/cu-boulder-wins-bid-host-national-solar-observatory-headquarters[34] https://connections.cu.edu/file/ucb-nsojpg[35] https://connections.cu.edu/stories/health-and-wellness-center-offers-sneak-preview-yoga[36] http://www.ucdenver.edu/academics/colleges/medicalschool/centers/HealthandWellnessCenter/Pages/Home.aspx[37] h
ttp
://www.ucdenver.edu/academics/colleges/medicalschool/centers/HealthandWellnessCenter/Pages/ourfacility.aspx[38]

[39] https://connections.cu.edu/stories/accessing-higher-ground-conference-set-november[40] http://www.colorado.edu/ATconference/campus2011.html[41] https://www.cvent.com/events/accessing-higher-ground-2011/registration-e359a4faf5c442d49ba5bd95b861caff.aspx?r=570f2946-1aeb-4e81-9e18-3a8fe17c68e1[42] https://connections.cu.edu/stories/creating-futures-reaches-1-billion-mark[43] http://www.cufund.org/campaign/