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**Letter from the Editor**

**STARTING LINE:** January brings the start of a new semester on the University of Colorado's campuses and the start of a new legislative session at the state Capitol. That's also where a new governor is setting up shop.

The Faculty and Staff Newsletter again will provide coverage of lawmakers' activity that has ramifications for the CU community, beginning next week with a preview of the 2011 Colorado General Assembly, which opens on Jan. 12.

Next week also brings the long-anticipated launch of new branding for CU, and the Newsletter will report on what these identity standards will mean to faculty and staff throughout the system.

There won't be a shortage of topics for discussion in the weeks ahead, so please take advantage of our electronic forum by weighing in with Letters to the Editor. Please send submissions to [newsletter@cu.edu](mailto:newsletter@cu.edu).

And if you have thoughts on what else you'd like to see in the Newsletter, please send them to [Jay.Dedrick@cu.edu](mailto:Jay.Dedrick@cu.edu).

— Jay Dedrick

# Five questions for Helen Kamens

*Research associate, Institute for Behavioral Genetics, CU-Boulder*

Although progress has been made toward the treatment of substance abuse, there's still plenty of work to be done. Helen Kamens, a research associate at the University of Colorado's [Institute for Behavioral Genetics](#), studies how certain drugs might alter such abuse, and the roles genetics and environment play in certain behaviors.

As a college student, Kamens became interested in genetics. She was fascinated by how genes could influence everything from hair color to behaviors. During a summer fellowship at the National Human Genome Research Institute, she worked as a genetic counselor, and saw patients with connective tissue disorders that cause tremendous pain. Seeing how mindfulness-based meditation helped with patients' pain management gave her some insight into the career path she wanted to follow and she realized how much she enjoyed research.

Over the next few years, she became interested in behavioral genetics (how genes influence complex traits). During graduate studies at Oregon Health and Science University, she took a behavioral genetics approach to try to identify genes that contribute to drug and alcohol behaviors. She spent two years at Yale examining the role of acetylcholine receptors in alcohol consumption; in September 2009, she moved to Colorado, where she works with Marissa Ehringer, Ph.D.



"For many years I had done research on the role of the nicotinic acetylcholine receptors system in animal models and in (Ehringer's) lab I could learn how to explore the role of this system in human populations," says Kamens, who hopes to become a professor so that she can teach and continue her research.

— Cynthia Pasquale

## **1. As a researcher, what have you found out about substance abuse and what project are you currently working on?**

Just over four years ago, a new smoking cessation drug came on the market, varenicline (trade name Chantix). Since alcohol and tobacco are widely co-abused, many people study how this drug might alter alcohol behaviors. While a post-doc at Yale, I published two papers on this, the most recent coming out in December. In the first paper we showed that varenicline reduced alcohol consumption, a finding that has now been replicated in both human populations and animal models. In the second paper I showed that varenicline also altered other behavioral responses to alcohol. At low doses, alcohol can produce motor impairment (ataxia) while higher doses cause sedation, which could be considered negative effects. Varenicline increases both the ataxic and sedative effects of alcohol. Further work will be needed to determine how varenicline decreases alcohol consumption, but it is possible that it may be due to

increasing negative effects of alcohol rather than reducing positive (rewarding) effects of this drug.

At the institute in Colorado, I have been using human genetic strategies to determine if variation at genes that code for the nicotinic acetylcholine receptor subunits (the same receptors that varenicline acts on) influence nicotine and alcohol abuse/dependence. We have recently found some positive results with variation in the CHRNA2 gene (the gene that codes for the alpha 2 subunit of this receptor) and nicotine dependence. So, the project I am working on right now is to try to replicate our findings in an independent population.

## **2. How might your research effect change in people's behaviors when it comes to drugs and alcohol?**

I think that the importance of my research is in affecting people's behavior by informing us of the underlying biology. For example, if we find evidence that certain genes influence alcohol or nicotine abuse/dependence, it helps point to a biological pathway that might be important for this condition. Once we determine which genes influence these behaviors, and how functionally they affect the behavior, we might then be able to develop targeted therapies.

Additionally, if scientists provide the facts on how drugs interact with the body and what long-term effects they can have, it will allow people to make more informed decisions. Usually, the sooner a person starts using drugs the more likely they are to become dependent. For example, 47 percent of people who begin drinking before age 14 become dependent at some point in their lifetime compared to only 9 percent who start drinking after age 21. Research has also shown that one of the biggest influences children have is their parents. For this reason, education is important.

Alcohol is probably the most dangerous drug used on college campuses today. It isn't simply alcohol consumption that is the major problem, but more specifically binge alcohol consumption. Some studies have reported that 44 percent of students attending a four-year college binge drink alcohol. The consequences of binge drinking are serious. From an academic standpoint, students who binge drink are more likely to miss classes and not complete schoolwork. These students also are more likely to engage in risky sexual activity, vandalism, and drive after consuming alcohol.

The good news is that substance abuse can be treated and there have been many drugs recently developed that aid in drug treatment, including varenicline (Chantix). We know that genetics and environment (society, peer pressure, etc.) both play an important role in drug use. With further understanding of these factors, more targeted therapies may be developed.

## **3. You recently spoke to young students concerning alcohol and drugs. What did you tell them?**

I recently spent an afternoon at Ralston Elementary School in Golden. Dr. Holly Stephens, also a research associate in the Institute for Behavioral Genetics, and I talked to fifth- and sixth-grade students as part of the National Institute on Drug Abuse's National Drug Facts Week. Since many of these kids did not have a lot of experience with drugs, we gave an informational talk about how drugs interact with the brain and the types of effects drugs can produce. For my part of the presentation, I made a model of a neuron and showed how cocaine directly interacts with brain cells.

## **4. What is your favorite part of the job and why?**

My favorite part of my job over the past few years has been having the opportunity to work with some great undergraduates. I have been very fortunate to have had a string of very good students who I got to

work with in the lab. It is fun to see students who are excited about science and see them succeed over the years.

## **5. What types of activities do you enjoy outside your work since coming to Colorado?**

Since moving here, I have enjoyed skiing and being outdoors in the wonderful scenery. Whether it be hiking with my golden retriever, Chyo, or just spending time gardening in the backyard, it is nice to have so many sun-filled days to spend time outside.

*Want to suggest a faculty or staff member for Five Questions? Please e-mail [Jay.Dedrick@cu.edu](mailto:Jay.Dedrick@cu.edu)*

## **First quarter begins with optimism from state business leaders**

### ***CU Leeds School Index shows pre-recession confidence, though hiring still lags***

Colorado business leaders' confidence bounced back to pre-recession levels going into the first quarter of 2011, according to the most recent quarterly Leeds Business Confidence Index (LBCI), released by the University of Colorado at Boulder's Leeds School of Business.

For the first quarter of 2011, the LBCI posted a reading of 54.8 – just shy of the 54.9 registered in the second quarter of 2007 – up from 48.6 last quarter. Business leaders are optimistic about industry sales, profits, employment, capital expenditures and state economic growth.

While the index overall is quite strong, certain components are much stronger than others, according to Leeds School economist and Business Research Division Director Richard Wobbekind, who conducts the quarterly survey. In particular, he said the expectations were extremely positive for sales and profits, but not as rosy for capital expenditures and hiring.

"I think the index suggests that business leaders are telling us that they think their business is back, but they are not telling us that they are planning on hiring," Wobbekind said.

An index of 50 is neutral. An index greater than 50 indicates positive expectations, while an index lower than 50 indicates negative expectations, according to Leeds School researcher Brian Lewandowski, who compiles the survey results for the index.

Overall, business leaders in Colorado believe the state's economy is in better shape than the national economy.

"Our business leaders think we are doing better than the rest of the nation, and I think that really comes down to the fact that they aren't focused so much on employment growth as they are on sales growth and profitability, and they see their businesses doing well in those areas," Wobbekind said.

The first quarter index measuring the prospects for the state economy rose to 56.4 from 49.0 in the fourth quarter, while the national economy index rose from 42.6 to 53.3.

Hiring and capital expenditures had indexes of 52.5 and 53.6 respectively, up from 48.7 and 49.0 last quarter, according to Lewandowski. Business leaders' sales expectations for the first quarter increased to 58.3 from 52.8 in the fourth quarter, and their profit expectations increased to 54.9 from 49.8 last quarter.

"I think the overall reading is a pleasant surprise in terms of the total number being as strong as it is," Wobbekind said. "I see this as a sign that the survey respondents believe the economy is on track."

To access the complete report visit <http://leeds.colorado.edu/lbci>.

## **Warm to online teaching with Winter Web Camp**

### ***Forecast for fifth annual event includes basic training, advanced sessions***

Teaching online may not seem like a lot of fun. But the faculty support staffers at CU Online have a fun time getting instructors ready for teaching using technology.

For the fifth year, the annual CU Online Winter Web Camp rolls out the week prior to the downtown Denver semester's start, offering basic training and advanced seminars related to teaching online. This year's event features sessions covering top technologies, the explosion of web video, the use of wikis and other collaborative document creation, the importance of professorial authority in the online classroom and surveys of social networks and mobile technologies.

Attendees may join the event live on the downtown campus, or log in remotely and participate via the web.

And the fun? CU Online works hard to deliver the best in content. But that never stops them from keeping things light. This year, the Web Camp was promoted with [a series of mock TV weather spots](#), with weatherman Brian Yuhnke looking over a Doppler map while trying to guess the next big thing in online learning.

The event is designed to serve the faculty and staff of the downtown Denver and Anschutz Medical Campus, but a limited number of spaces are available to non-UC Denver faculty.

For more information and to see the entire [Winter Web Camp Schedule](#)

For information about attending as a non-UC Denver faculty or staff member, please contact David Thomas, [david.thomas@ucdenver.edu](mailto:david.thomas@ucdenver.edu)

# Meeting summary: Boulder Faculty Assembly

**Editor's note:** In addition to news coverage of meetings of the systemwide Faculty Council and Staff Council, the Faculty and Staff Newsletter posts meeting summaries or minutes as provided by councils and assemblies at the campus level. To submit material, please e-mail [Jay.Dedrick@cu.edu](mailto:Jay.Dedrick@cu.edu).

## BFA Meeting - Dec. 9, 2010

Here are highlights from the Boulder Faculty Assembly's Dec. 9 meeting. For more detailed information, please visit [www.colorado.edu/BFA](http://www.colorado.edu/BFA) to read the most recent minutes, reports, current motions before the assembly and other items of interest to the faculty.

### I. Chair's Report:

- **Football coach search committee.** The BFA's rep Liz Bradley commended the BFA's resolution (BFA-X-R-111510), reported the selection of Jon Embree, and that the committee was composed of herself, Ric Porreca, David Clough, V.C. for Diversity Bob Boswell, and three community members.
- **Faculty Council ad hoc communications committee.** The committee plans to develop recommendations for improved communication at CU both internally and externally.
- **Regents' relationship with faculty governance.** Faculty Council has expressed concern that the relationship has become too adversarial. Regent Joe Neguse will attend the BFA meeting March 3.
- **ISIS.** Some issues have been resolved but several serious challenges remain. Engineering Assistant Dean JoAnn Zelasko has been charged with finding solutions, especially for graduate admissions.

**II. New BFA ad hoc committee on university outreach.** The BFA approved a resolution creating the ad hoc BFA committee to help the university create an outreach program for influential members of the public, including political, industrial and business leaders, to help advocate for CU (BFA-R-120910).

### III. Special Report: University Counsel Dan Wilkerson.

Highlights included the following:

- The BFA's two program discontinuance motions do not take the correct procedural position to achieve their goals. The resolutions should have sought to amend either regent laws (in the case of severance pay) or Colorado statutes (in the case of notice rights).
- Wilkerson agreed to meet with an ad hoc committee of BFA members to discuss John Sleeman's interpretation of the Post Employment Compensation Act with regard to instructors.

### IV. Special Report: Senior Associate Vice President Jill Pollock.

Highlights included the following:

- Payroll & Benefit Services is moving to Denver, but International Support Services will stay in Boulder.
- Pollock gave a history of self-funded health insurance at CU, and reported that the university is trying it again beginning this year with stronger controls. Benefits include saving money and added flexibility to offer plans tailored to CU's population. For example, plans that acknowledge the community's commitment to healthy lifestyle choices. The plans themselves have not changed very much. Anthem has been retained to provide administrative services.

### V. Special Report: Provost Russell Moore.

Highlights included the following:

- CU continues to examine several funding scenarios in anticipation of more information on Colorado's final higher ed budget and potential tuition increases. Merit pay increases remain a possibility.
- The Research Diamond is a consortium of Colorado State University, the School of Mines and two of CU's campuses to take advantage of the unique strengths of each institution and use economies of scale to be more efficient, such as common procurement and/or health care systems.

- The new CU Guaranteed admission program for transfer students from Colorado community colleges is not significantly different from what has been done in the past.

## **VI. The next BFA meeting is 4-5:30 p.m. Feb. 3 in Wolf Law room 204.**

Speakers include AVC Michael Grant on the voluntary system of accountability, and Provost Russell Moore and CFO Ric Porreca on the Boulder campus budget. All faculty are welcome to attend.

## **People**

### **New award honors memory of research assistant**

The first Steven Fadul Award recently was given to three professional research assistants at the University of Colorado Denver School of Medicine: Jim Dover, Andrea Lewellyn and Mary Wellish.

Fadul was a research assistant in the department of physiology for 30 years; after his death last year, the department started a fund to establish an annual award in his name.

- **Mary Wellish** is a member of Don Gilden's lab, where any time you have a question, scientific or not, the answer is: "Ask Mary." Wellish, said her nominator, takes "initiative in designing of experiments and interpretation of results. Your superb technical skills, generous spirit, and long experience have made you indispensable to all in the lab."
- **Jim Dover's** contributions go well beyond the 12 papers he has co-authored, said his nominator. "You have played a major role in training the students and postdocs ... In fact, it was rare to attend a student or postdoc research presentation or read a student thesis that did not acknowledge Jim Dover's assistance and support."
- **Andrea Lewellyn** has trained a generation of scientists with "your adept touch in manipulating both *Xenopus* oocytes and graduate students. Generous with your time, stern when you need to be, you have kept Jim's Howard Hughes lab operating in a coherent and efficient manner. And for the really heroic experiments, such as injecting 600 oocytes at a rate of 12 per minute, you pulled it off with grace and style, as you did everything else."

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## Hospital departments rally to support families in need

Employees at the University of Colorado Hospital (UCH) pitched in to make the holidays a little brighter this year for people in need.

Hundreds of pounds of clothing were collected by the human resources department at UCH. Employees from the hospital, outlying clinics and business services offices at Lowry, as well as university staff, made donations, said **Mary Jo Pesch**, human resources training/organizational development specialist.

In organizing the drive, and collecting and packaging the items, Pesch joined six others: **Joshua Anderson**, **Michael Booth**, **Joanne Dunn**, **Jennie Heineman**, **Angela Vasilatos** and **Pam Venegas**.



Hospital employees this month also donated thousands of items to families of students at Aurora's Park Lane Elementary School as part of UCH's Adopt-a-Family program. The donated items – including clothing, games, books and toys – went to families in need whose kids attend Park Lane.

The emergency department stepped up to sponsor 13 families who had not been adopted. **Bruce Evans**, M.D., the department's medical director, said several hospital departments and individuals donated money to help his department reach the goal.

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## Mentors to nurses recognized

Four participants in the University of Colorado Hospital's (UCH) preceptor program recently were recognized for their work to help orient and mentor nurses who are newly arrived from nursing schools or other institutions. Those receiving recognition for the fourth quarter of the year are:

- **Kim Kirk**, R.N., medicine/geriatrics. In nominating Kirk, Clinical Nurse Educator **Deborah Ford**, R.N., wrote, "It is unusual for Kim not to have either a student nurse or a graduate nurse resident by her side. Feedback from orientees is that Kim is helpful and yet allows enough freedom for the orientee to develop time-management skills... (She) is a kind and exceptional nurse and she expects that of her orientees as well."
- **Cheryl Spangler**, R.N., cardiovascular intermediate care unit. "Cheryl has been an active and dedicated preceptor for the (unit) for the last eight years," wrote nominators **Shannon Barone**, R.N., and Clinical Nurse Educator **Stephanie Cradick**, R.N. "She has taken the lead in precepting three to five new R.N.s to the unit each year and has been an active member of the unit's preceptor council. She continues to mentor



and support R.N.s well after their orientation has ended."

- **Sarah Wandland**, R.N., oncology and BMT unit. Wandland completed the UCH graduate nurse residency program in 2005, wrote her nominator, Clinical Nurse Specialist and Educator **Barbara Wenger**, R.N. "Approximately one year after her graduation, she started precepting students on the unit and later became one of the primary preceptors for new graduate R.N.s," Wenger noted. "It is evident when Sarah is precepting that she enjoys explaining not only the procedure but the concept behind it. She embodies the preceptor role with her ability to critique and give feedback along with encouragement for the next time."
- **Kimberlee LaMothe**, R.N., burn/trauma intensive care unit. LaMothe, a longtime preceptor at UCH, "always provides a safe and supportive learning environment for student nurses, new graduate nurses, as well as nurses new to (the hospital)," wrote nominator **Camy Boyle**, R.N., a clinical nurse educator for the unit. "Kimberlee consistently sets the student or new nurse up with a strong clinical foundation that is based on the best evidence."

## Dropping names...

**Rick VanDeWeghe**, professor of English at the University of Colorado Denver, is spotlighted for his book "Engaged Learning" on the [National Writing Project's website](#); he also is featured in an [accompanying video](#). ... The NWP has created a series of one-minute videos in which NWP-related authors discuss their books on teaching or on writing. ... **Min S. Wang**, a chemistry postdoctoral research associate, received a \$90,772 postdoctoral fellowship from the American Heart Association. Her research grant is titled "The role of nanoscale membrane structure in CRP binding, isoform conversion, and complement activation." This grant will fund her research on C-reactive protein interactions with apoptotic cell surfaces in Assistant Professor **Scott Reed's** laboratory in the department of chemistry at UC Denver. ... **Christopher Schooler**, lecturer in landscape architecture at UC Denver, recently gave a presentation at the University of Oregon on "Learning Landscapes: Design Process Through Civic Engagement." The lecture was a direct response to University of Oregon's design studio that is researching the viability of a schoolyard renovation project in the city of Eugene. ... UC Denver Professor **J.J. Cohen**, M.D., Ph.D., immunology and medicine, [was awarded an honorary Doctor of Science degree](#) by his alma mater, McGill University in Montreal. The founder of the CU Mini Med School, Cohen has helped many other universities, including McGill, start similar programs. The university praised him as "a renowned researcher and educator." ... **Meredith Lopez** and **Marlinda Hines**, UC Denver School of Education and Human Development academic advisers and graduates of the counseling master's program, earlier in the year became trainers for the [Mentors in Violence Prevention \(MVP\) program](#). The leadership training program motivates student leaders to play a central role in solving problems that historically have been considered "women's issues," such as rape, battering and sexual harassment. This new tri-institutional program for UC Denver, Community College of Denver and Metro State College was provided a federal grant through the [Phoenix Center at Auraria](#) to inform at least 750 students campus-wide about the issues of gender violence and the bystander approach to prevention for

undergraduates and graduate students. ... **Joern Langhorst**, assistant professor of landscape architecture at UC Denver, published a paper – "Between a Rock and a Hard Place: On the Dialectics of Landscape and Representation" – in the 2009-2010 edition of *Representation: Journal of the Design Communication Association*, a peer-reviewed international journal addressing issues around media, representation and critical thinking in the design and planning fields. The paper, according to the reviewers, "provides a much needed critical discussion of the actual abilities of new media to represent important qualities within the spatial design and planning fields, and offers a counterpoint to the rampant uncritical application of new technologies." For a digital copy of the paper, e-mail him at [Joern.langhorst@ucdenver.edu](mailto:Joern.langhorst@ucdenver.edu). ... **Jeremy Németh**, assistant professor of



Langhorst

planning and design and director of the master of urban design program at UC Denver, recently contributed to the book "Quality of Life Community Indicators for Parks, Recreation and Tourism Management" (Springer Press), co-edited by Megha Budruk and Rhonda Phillips. He teamed with Cornell University's Stephan Schmidt on the chapter "Publicly Accessible Space and Quality of Life: A Tool for Measuring the Openness of Urban Spaces." The article is available [here](#) or in the planning publication binder located at the CAP front desk in the UC Denver Building.

*Want to suggest a colleague — or yourself — for People? Please e-mail information to [Jay.Dedrick@cu.edu](mailto:Jay.Dedrick@cu.edu)*

## **Did you know...**

### **Books24X7 can travel with you**

SkillSoft's **Books24x7 On the Go** is available for your Internet-accessible mobile device with an online library of more than 17,000 titles. After the initial setup of **On the Go**, you'll find the Books24x7 site is preserved with search, browse and book navigation capabilities. All of your personal Books24x7 folders are accessible, including the ability to add books, bookmark, and annotate previously created personal folders – creating a fully integrated experience when you are away from your computer.

To get started with On the Go, visit the Employee Learning and Development website's SkillSoft Resources at <https://www.cu.edu/content/skillportresources> and look for:

- Books24x7 On the Go - For Mobile Devices
- Adding Books24x7 App Icon to your iPhone
- Accessing Pooks24x7 on the iPad

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### **Boulder Faculty Assembly to grant faculty excellence awards**

The Boulder Faculty Assembly (BFA) has announced it will grant up to 12 BFA Excellence Awards to Boulder campus faculty in spring 2011. Each award is accompanied by a cash prize of \$3,000.

Excellence Award categories are:

- teaching
- service
- research, scholarly and creative work

More information about the awards, including nomination instructions, is [available online](#).

The deadline for receipt of all nomination materials is **Feb. 15**.

# Forum

## **Powerless over PERA?**

Last April, the *Faculty and Staff Newsletter* published a letter I submitted on the topic of the 2.5 percent pay cut PERA employees received for FY11. At the time, I wrote, "(B)oth PERA and the state have proven that they can reach into our pockets and change the rules anytime things don't go their way." When the new proposed state budget is passed, PERA employees will enjoy an extension of the "temporary" 2.5 percent pay cut for an additional year.

Meanwhile, non-PERA employees face no similar cut. In fact, non-PERA Social Security contributing employees will enjoy a 2 percent pay raise in CY11 on the first \$106,800 of salary. I don't begrudge them but this strikes me as an inequitable set of circumstances. I will have lived through four years of stagnant salary, two of them in retrograde, and a reduced PERA pension to look forward to.

What irks me most is knowing that the rules of the PERA-defined benefit game can change at any time; this leaves me with a sense of powerlessness. Personally, I'd rather be the rule-maker in a defined contribution plan and have only myself to hold accountable.

***Barry Northrop***

Assistant Director of Policies and Procedures, Accounting and Business Support  
CU-Boulder

**[Forum Archive](#)**

## **Letter Submission Guidelines**

The *Faculty and Staff Newsletter* welcomes letter submissions from current or retired University of Colorado faculty and staff about issues of interest to the university community. Submissions may be edited for length, style and clarity. Anonymous submissions will be neither considered nor published. Please send submissions to [newsletter@cu.edu](mailto:newsletter@cu.edu).

Please indicate whether or not you would like to see your comment published in the newsletter as a letter to the editor. Thank you.

# News from the CU system - CU-Boulder

## Researchers determine metabolic cost of sleep deprivation

In the first-ever quantification of energy expended by humans during sleep, a University of Colorado team has found that the metabolic cost of an adult missing one night of sleep is the equivalent of walking slightly less than two miles.

The new findings will help researchers further understand one of the important functions of sleep in humans, said CU-Boulder Associate Professor Kenneth Wright. The leader of the study said the goal was to measure and quantify energy expenditure during both sleep and wakeful periods.

"We found that people do expend more energy when they are awake in bed than when they are asleep," Wright said. The findings showed the eight hours of sleep saved roughly 135 calories over eight hours of wakefulness.

"While the amount of energy savings for humans during sleep may seem relatively small, it actually was a little more than we expected," said Wright, a faculty member in CU-Boulder's integrative physiology department and director of CU-Boulder's Sleep and Chronobiology Laboratory.

A paper on the subject was published in the January issue of the *Journal of Physiology*. Co-authors included CU-Boulder's Christopher Jung and Emily Frydenall, as well as Assistant Professor Edward Melanson, Dr. Leigh Perreault and Dr. Robert Eckel of the University of Colorado School of Medicine. Jung, first author on the paper, earned his doctorate from CU-Boulder in 2009 and is now at the University of Alaska.

The study showed that, compared to a typical night of sleep, the amount of energy expended by study subjects during 24 hours of sleep deprivation was up about 7 percent. In contrast, energy expenditure decreased by about 5 percent during the recovery episode, which included 16 hours of wakefulness following the sleep deprivation night, then eight hours of recovery sleep, Wright said.

"Understanding the function of sleep, especially in humans, is considered one of the most important scientific enigmas," said Wright, who also is an adjunct faculty member at the University of Colorado School of Medicine.

The study, which included seven young adult subjects, was tightly controlled. All participants were required to stay in bed for the entire three-day study. Their diets met individual daily energy requirements, and the content and timing of each meal was exactly at the same time each day during the lab study. The subjects spent the sleep deprivation night in bed watching movies, reading and talking, Wright said.

The first day of the study consisted of a typical 16 hours of wakefulness followed by eight hours of sleep. Days two and three included 40 hours of total sleep deprivation followed by eight hours of recovery sleep.



Kenneth Wright

As part of the study, the researchers studied the effects of sleep stages ranging from light sleep to rapid-eye movement sleep to deep, "slow wave" sleep and awakenings from sleep on whole body energy expenditure, Wright said. The study indicated the most energy was expended during natural arousals from sleep, which occurred less often during the eight-hour sleep episodes following sleep deprivation.

The amount of energy saved during sleep by the study subjects likely would have been higher if they were allowed to continue sleeping after the eight hours of recovery sleep rather than being awakened, which was the final step in the study, Wright said.

The study may have implications for those with sleep disorders such as insomnia or sleep apnea. Insomnia, marked by difficulty going to and staying asleep, and sleep apnea, marked by frequent arousals from sleep, may mean such people "are burning the furnace at a higher rate at night because their sleep is disturbed," Wright said. He noted that more research is needed to address this issue in patients with sleep disorders.

It's likely that the metabolic costs of sleep deprivation would have been higher if the subjects had not been restricted to bed rest and had opportunities to walk around and perform various tasks, said Wright. Other studies have shown that sleep deprivation reduces the levels of leptin – a hormone responsible for telling the brain that the body is satiated – which could mean late-night snacking by "free-ranging" humans, he said.

"One question we have is why humans don't conserve more energy during sleep," he said. "We think there are multiple functions of sleep, and that some energy conserved during sleep may be redistributed to support other important physiological processes." Some energy conserved by sleep might be used for nighttime physiological activities like immune-system function, the strengthening of connections between neurons in the brain as a result of daily learning and experience, and hormone synthesis and release.

One of the health areas scientists are very interested in is how sleep loss may contribute to weight gain and obesity, Wright said. He stressed that energy expenditure during sleep deprivation is neither a safe or effective strategy for weight loss, and that other studies have shown chronic sleep deprivation is associated with impaired cognition. He said more research is needed to understand how short nighttime sleep schedules, typically six hours or less a night across many days, contribute to weight gain and obesity.

Wright said about a half-dozen undergraduate research assistants helped in the study. The Sleep Research Society Foundation, the National Institutes of Health, CU-Boulder's Undergraduate Research Opportunities Program and the Bioscience Undergraduate Research Skills and Training programs of the Biological Sciences Initiative at CU-Boulder funded the study.

A 2006 study by Wright and his colleagues showed that people awakened after eight hours of sound sleep have more impaired thinking and memory skills than they do after being deprived of 24 hours of sleep.

# UCCS

## **Weekend warriors have new avenue: classes**

By Tom Hutton

Registration is under way for a new concept at the University of Colorado at Colorado Springs: weekend-only classes.

Carley Ries, director of Campus Wide Extended Studies, said classes will begin Feb. 12 and continue through April 30. Classes will meet from 8:30 a.m. to 12:30 p.m. or 1 p.m. to 5 p.m. on Saturdays with breaks on March 19 and 26.

"This is another option for students," Ries said. "Nontraditional students who work during the week may find Saturday classes better fit their schedules or this could be a way to introduce new members of the greater Colorado Springs community to the campus."

The classes, which range from American Sign Language to Understanding Terrorism, are part of a new-to-UCCS "Weekend University" concept. The courses will be offered in a condensed 10-week time frame and completion will count toward degree requirements and financial aid. Administered by Campus Wide Extended Studies, the courses are main campus classes.

For more information, contact, [weekends@uccs.edu](mailto:weekends@uccs.edu) or visit <http://www.uccs.edu/~weekends>.

# UC Denver

## Giving back: Administrators encourage Weill Class to dream on

Several University of Colorado Denver administrators shared the dream with 33 youngsters in the Weill Class on Dec. 10 as part of UC Denver's second annual Giving Back Campaign.

Part of the 'I Have a Dream' project, the Weill Dreamers range from second to seventh grade and come from inmore than 10 different elementary and middle schools in the Denver area. The after-school program is held at North Lincoln on Mondays through Thursdays and includes a range of activities: homework help, computer skills, life skills, community service, fitness and nutrition, as well as recreational and enrichment activities.

UC Denver volunteers included: Chancellor Jerry Wartgow; Lilly Marks, vice president for health affairs and executive vice chancellor for Anschutz Medical Campus; Andy Jhanji, vice chancellor for university advancement and chief of staff; and Samantha Ortiz, associate vice chancellor of university life and dean of students.

"I was impressed by how extremely bright the students are," Ortiz said. "These students have bright futures and, thanks to the Weills, the students are getting the extra support and inspiration they need to have amazing futures!"

Administrators read with students, helped with homework and listened to the children's hopes and concerns.

"Perhaps the strongest impression I have of the afternoon came from a group discussion with the older children about college opportunities," Marks said. "It was striking how many of the children's questions centered around their concerns about failure – not meeting program requirements, failing classes, etc. It was an important reminder of how much baggage these kids must carry on their journey and how important community support is to provide students the tools for success and to build their confidence and expectation of success."

The Weill Class was initiated when Dick and Judy Weill responded to a challenge grant from the Morrison and Foerster Foundation to start a new class during the 20th anniversary year. The couple chose to work with a group of youth from a local housing community run by the Denver Housing Authority, specifically the North Lincoln Homes. The housing site is near the Auraria Campus, offering potential partnerships and programs.

"I found the afternoon to be both inspirational and very moving," Marks said. "The program benefactors, leaders and volunteers have made a profound commitment to bettering the lives of children who have so many societal and economic barriers to overcome."



CLAS Dean Dan Howard with a student



Chancellor Jerry Wartgow listens to a student in the Weill Class.

# Anschutz Medical Campus

## New data from Cancer Center could change how drugs are evaluated

A class of drugs thought to kill cancer cells may in fact block "cross talk" between the cancer cell and normal immune cells, resulting in reduced cancer growth and spread – a discovery that could significantly alter the way cancer drugs are evaluated in the future.

Researchers at the University of Colorado Cancer Center demonstrated the discovery in bladder cancer, the fifth most common cancer in the United States. Bladder cancer will kill about 14,000 Americans this year, most of whom will die as a result of the disease's spread to other organs in a process called metastasis.

The scientists showed that endothelin-A receptor antagonist drugs are only effective at blocking the start of cancer spread to other organs, not treating large, established primary- or distant-site tumors. The study was published online Dec. 22 in the [\*Journal of Clinical Investigation\*](#).

"We discovered that these drugs block the 'tumor host interactions' found at sites of metastasis, which is what reduces tumor growth at these sites," said lead author Dan Theodorescu, M.D., Ph.D., director of the University of Colorado Cancer Center and professor of surgery and pharmacology at the University of Colorado School of Medicine. "However, unless the drugs are used early, they have minimal or no effect."

Endothelin-A receptor antagonist drugs block the action of a protein called endothelin 1 (ET-1), thought to be involved in stimulating cancer cell growth and spread. Theodorescu's lab discovered that ET-1 attracts immune cells called macrophages to cancer cells lodged in the lungs. The macrophages start making factors that stimulate the cancer cells in the lungs to grow – called metastatic colonization – which significantly decreases the patient's chance of survival.

In the past decade, two endothelin-A receptor antagonist drugs – Abbott's atrasentan and AstraZeneca's zibotentan – have had difficulties in large phase 3 clinical trials. Both drugs were tested in a large number of patients with advanced cancer, and neither drug attained its desired effects. Most likely, Theodorescu said, the drugs were given after the window of opportunity for them to work had closed.

"Had we known this before the trials, we wouldn't have used them to try to reduce large, established tumors," he said. "We would have used them to try to suppress the appearance of metastasis. This new information has important implications for how we test drugs for effectiveness before human use and then on how we select patients in clinical trials with these agents, especially since many types of cancer secrete ET-1."



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