Energy Source... continued from page 1

remote observing so that without traveling at all and only by sending instructions to telescopes far away, we can obtain and download imaging data to our computers here on campus for analysis."

John Apodaca, a physics and mathematics major, notes students and instructors are able to use robotics and remote internet technology to command telescopes across the globe to target their areas of research.

"With robotics, you put in the coordinates, and they get to it in turn," he says. "With remote, each and every little instruction is in real time." With the help of a faculty development grant facilitated by the Center for Faculty Development, Sadun and his students have been able to access telescopes in Arizona, the Canary Islands and Israel.

"The robotic and remote observing is made, for the most part, on commercial telescopes," Sadun says. "These telescopes rent by the hour, but the rates are reasonable."

The team usually is researching two or three AGN from September through May and is alerted to possible activity or deviations from normal activity by collaborative investigators across the country. After the information has been collected and analyzed, it is forwarded to the multi-frequency database at Very Energetic Radiation Imaging Telescope Array System (VERITAS), Whole Earth Blazar Telescope (WEBT) and Gamma-ray Large Area Space Telescope (GLAST).

"Because the nature of this project is essentially one of international collaboration, there is no doubt that within a year there will be publications, and quite possibly also opportunities for funding," Sadun stresses. "This cutting-edge research explores the extreme energy regime of high energy astrophysics."

Spice of Life... continued from page 1

College of Denver faculty in a Title V program that creates a pipeline from CCD, a two-year institution, to more than 100 degree programs offered at UCDHSC.

"When you look at the incredible and rewarding research and activities being undertaken by our faculty, our hope is to share the educational experience with current and future students," Stevens stressed. "This Title V initiative creates a bridge between CCD students, many of whom are from under-represented populations, and the exciting educational opportunities available at UCDHSC."

Enabling Women on Their Own Terms

The best way to teach female students may be to figure out how best to reach them. With the help of a faculty development grant, Roxanne Byrne, professor of mathematics in the College of Liberal Arts and Sciences, is determining what approaches are most successful for teaching and for reaching females.

"The results of this work will be important to understanding learning effectiveness and addressing gender issues along with methodological issues in regular, online and blended modes of instruction," Byrne says. "Whether gender and other differences in learning approaches are statistically significant will be determined."

The research grew out of a survey conducted by Byrne and Associate Professor Michael Tang on the perceived effectiveness of various learning vehicles. "Although not an objective of the original survey, the preliminary studies showed there were differences between instructor and student perceptions, as well as gender differences in what learning method is most effective," she explains.

In that survey, students and instructors were asked to rate 21 different education vehicles, including chat room, in-class discussions, essay exams, exams in class, online exams, homework, classroom lectures, lectures online, multiple choice and more. The original study indicated varied differences between women and men as well as what instructors thought worked for their students versus what students felt worked best.

The faculty development grant has enabled Byrne to hire an undergraduate student as research assistant to promote the project's gender analysis "so that we can pursue funding to broaden the scope of the study on a national level," she says.

The research will be helpful in designing teaching methods to create a more positive learning environment for women in general and those in disciplines where they are under-represented, Byrne stresses. In addition, the analysis now being undertaken is potentially a stepping stone for further research on the national level. "We'd like to expand the study to include enough numbers from different types of institutions, possibly differentiating between majors, gender, community colleges and four-year colleges," she says.

Contact the Center for Faculty Development at
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Understanding Astronomical Energy Source

Astronomers believe the secret of the universe may be found in active galactic nuclei (AGN), or quasars. These compact, starlike celestial bodies create a power output greater than our entire galaxy, explains UCDHSC Physics Professor Alberto Sadun. "AGN harbor super massive black holes from which may emanate high-energy jets directed to our line of sight that seem to be responsible for highly variable activity," he says.

Although the detailed nature of the phenomenon is still a mystery, Sadun and his students are tapping into technology to observe and track changes in active AGN, which are billions of miles away, by using telescopes based hundreds or thousands of miles away.

"Obviously, the sky is much too bright to observe in the middle of a major metropolitan area," Sadun explains. "We've been engaging in robotic and

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The Spice of Life

Come adventuring! Open your mind to psychic tales of objects from the past; dance in the heavens among the chaos and turmoil of black holes; search the Far Eastern skyline for towering growth; explore the life of a young paraplegic diving fearlessly into history.

In this edition of *Latitude* we follow a variety of faculty members from four schools and colleges into areas as far and elusive as the cosmos and as near and mysterious as achieving effective ways to teach women and under-represented students.

Faculty development grants, facilitated by the Center for Faculty Development, are enabling downtown Denver campus researchers to continue to solve the perplexing riddles of the universe. "We celebrate a variety of scholarly activities our faculty are engaged in," cites center director Ellen Stevens. "The broad scope of research is a testament to the diverse nature of our faculty and the outstanding students they serve."

The Center for Faculty Development continues not only to thrive but to foster programs that lead to faculty professional growth, research and satisfaction. Established in 2004, the center has awarded $228,000 in Faculty Development grants and $90,000 in YUMPS grants since its inception. Last year the Faculty Research and Scholarship Completion Fund was initiated in cooperation with the Office of Research Services and the Provost's Office. This year the ORS and CFD launched University Scholarship Team Grants, an inter-/intra-disciplinary opportunity with a focus developing student researchers.

"While we have continued to build research and growth opportunities for faculty, we have also established greater connectivity between tenured and tenure-track faculty and cross disciplinary opportunities between disciplines, schools, colleges and campuses," Stevens explains.

One recent initiative undertaken by the center is collaboration between UCDHSC and Community

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Latitude: The University of Colorado Denver's downtown Denver campus faculty consistently reach for and attain new heights. The expanse of faculty and staff contributions to research and teaching enhancement go beyond the campus, encompassing, influencing and improving the globe. The Center for Faculty Development is a catalyst for inspiring and attaining this elevated level.

Jenson Examines the

Rise of Western Architecture in China

The phenomenal economic, political and military growth in China has a structural impact as building upon building intrudes upon the far eastern sunset. Michael Jenson, assistant professor of architecture, is studying how western modern architecture is being assimilated and transformed in the wake of rising economic cultural powers of the East.

"There is growing curiosity among architects concerning China and the need for measured, scholarly analysis of trends affecting the architecture profession as a whole," Jenson explains. "This research will clarify many of the myths surrounding architecture in China by analyzing events in the context of their connection to Western architectural traditions and trends."

Jenson will travel to China with the help of faculty development and other grants to interview prominent Chinese architects and educators. He also will produce photographic documentation of paradigmatic examples of Chinese Modernism. "These will serve as a basis for a 'contemporary' analysis of the state of the transformation of Modernism and Western influences such as the Bauhaus," he explains.

"This grant and its funding toward the first trip to China is forming the basis for other grant proposals that will fund a return trip to study modern Chinese urban development trends and their relationship to issues and circumstances found in Europe and the United States," says Jenson, a UCDHSC professor for 10 years.

American architects and architecture students will be able to use information produced by this study for insight into the contemporary state of the architectural profession in China, he says. UCDHSC students will particularly benefit from an interdisciplinary course on international infrastructure construction with engineering, architecture and international business.

The research aims to broaden the purview of the sustainable urbanism center at the College of Architecture and Planning; to include issues of sustainability on a global scale. In addition to curricular additions to CAP, Jenson plans to publish two papers, create an exhibit and eventually write a book detailing his findings.

"The book, exhibition, and articles could potentially open dialogue with other institutions," Jenson notes. "The travel would open dialogue with faculty and students at Shanghai University and Beijing University."

CAM Professor Immersed in

'Deep Water'

Assistant Professor Hans Rosenwinkel understands a challenge. He's come face to face with mountain lions, evaded menacing snakes and dangled out of helicopters to film for National Geographic's *Mission* programs and the PBS *Wild Chronicles* series. Now Rosenwinkel is focusing his lens on another person's challenge.

In one of his latest films the assistant professor in the Department of Theatre, Film and Video Production, is detailing Denver native and paraplegic Jason Pipoly's quest to swim the Catalina Channel double—a feat attained by only a few and never by a disabled person.

"This project, *Hiking in Deep Water*, is important to my creative activities," he says. "This subject matter will gain international media exposure, not only for the story that details the life of Jason Pipoly but for the record-breaking feat that he is able to complete."

Before age 11, Pipoly was the youngest person to swim the English Channel. Exactly 20 years later, he swam it again, but this time as a paraplegic. Pipoly lost the use of his legs in 1998 in a car accident near Aspen.

The first half of *Hiking in Deep Water*—interviews and re-enactments filmed locally—is complete. With the help of a faculty development grant, Rosenwinkel is now able to travel out of state to collect the final data: to San Antonio, Texas, where Pipoly's family now resides, and finally to Long Beach, Calif., to film the record-breaking swim back and forth across the coast to Catalina Island.

Pipoly's passion is invested in *Hiking in Deep Water*—and Rosenwinkel's as well . . .

a passion he is eager to share in the classroom.

"I want students to have big ideas, grand plans. But I also know they have to pay the bills," says Rosenwinkel, who started in commercial and corporate video production. He earned an MFA at the American Film Institute and, while in California, developed his career as a writer, producer, director, videographer, editor and digital media artist working for a company that produced all forms of nationally broadcast television. He now runs his own independent production company, Evolution Media.

PBS has indicated an interest in airing the one-hour documentary. "Obtaining the faculty development grant will allow me to complete this very important storyline to complement my creative activities and service to my department," he says. "It will also benefit my teaching in the classroom based upon the experience gained from being in the field."

More than a

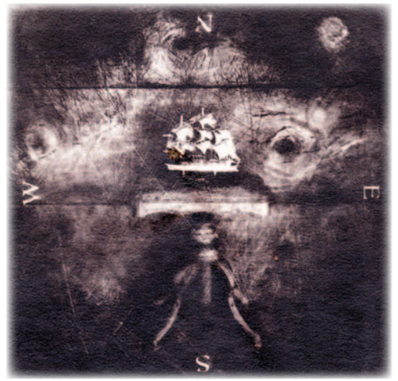
Pretty Picture, a Story

Carol Golemboski's photographs go beyond the visual, reaching into the emotions, the struggles and the very essence of their subjects. Golemboski, assistant professor in the College of Arts & Media, inspires viewers to use a sixth sense to envision the simple, sweet or sordid stories of the objects she photographs. In her upcoming exhibition, Golemboski references psychometry, the psychic ability to divine the history of objects through physical contact. "It's sort of like the pseudo science of object reading," she explains. "Kind of like fortune telling in reverse."

Golemboski shoots objects as metaphors for various psychological and emotional states. "I photograph an old object in a way that could suggest something about its past," she says. "The viewer is actually reading the object in a way similar to the way a psychic, say, found a key in the street and is able to tell the history of that object."

Processing her images using photomontage and historic printing methods makes the photos themselves look dated, giving the feel that they're from the time of the objects themselves. "I've been working on the broader *Psychometry* project for the past 10 years," Golemboski explains. "I've been exploring different photographic techniques—some processes that are 100 years old."

A faculty development grant facilitated by the Center for Faculty Development is helping Golemboski continue creating



new work for her ongoing series, which is to slated to debut in March at the Sandy Carson Gallery in Denver. The exhibit coincides with the 2008 National Conference of the Society for Photographic Education.

"This conference brings together photographic educators, curators, publishers, gallery directors and students in one location on an annual basis," she says. "The faculty development grant will enable me to advance my creative research, enhance my work's visibility in the local community and highlight the work as part of this important national conference."

Golemboski also plans to exhibit *Psychometry* in Los Angeles, Santa Fe, Houston and Richmond, Va. Much of the benefit, however, comes closer to home. "This creative work relates directly to techniques that I teach as part of the photography curriculum," she says. "Sharing my research sets an example to students of the kind of intense exploration one must undertake to develop a unique and personal style."

A Step Closer to

Linguistically Diverse Education

By developing an examination that demonstrates knowledge of the history and linguistics of English, language development and the role of culture in learning, Honorine Nocon and her School of Education and Human Development (SEHD) colleagues will help prepare undergraduate students to earn their Colorado endorsement in Linguistically Diverse Education (LDE).

"If you were to teach a class of children who knew little or no English, where would you begin?" asks Nocon, associate professor in the School of Ed. "We need to be sure our students are proficient within the standards set by the state."

To attain the LDE endorsement, along with earning a Colorado teaching certification, students from the College of Liberal Arts and Sciences, must meet Colorado Department of Education performance standards for teaching children who are linguistically diverse. Among the eight required courses are Foundations of Language and Literacy, Linguistic Analysis of English, Techniques of Teaching English as a Second Language, Culture in the Classroom, and Linking Assessment and Instruction.

Nocon has joined forces with colleagues in SEHD and CLAS to streamline the process of earning a bachelor's degree, a teaching license and the endorsement in Linguistically Diverse Education. "There is a significant and growing need to prepare Colorado's teachers to better serve an increasing number of students for whom English is a second language," she explains. "The new integrated program will do that in four years and a summer." CLAS students will be able to use courses in English to satisfy some of the requirements for the LDE endorsement.

The entrance exam, which CLAS students will take before moving on to field-based courses in SEHD's LDE program, will enable students to respond to scenarios in which they, as teachers, would interact with children who are learners of English as a second language. "In terms of the endorsement, students taking these courses will be acquiring knowledge about the history and structure of English as well as the role of culture in human development and learning," Nocon says.

Joining Nocon in this effort are School of Ed LDE faculty Mark Clarke, Maria Thomas-Ruzic, Sheila Shannon and Rene Galindo. A grant facilitated by the Center for Faculty Development is enabling the faculty meet with an assessment consultant to develop the pilot exam in addition to conducting a reliable and valid study.

The pilot will be tested on LDE graduates and MA students. The results will be analyzed and the test refined and implemented in fall 2008.

"Students also will benefit from having experience with the type of questions they will encounter on the state LDE licensure exam," Nocon says. "My LDE colleagues and I will benefit from having data about our students' knowledge of language and culture. This data will inform our instruction and the continuing design of our program."