Putting knowledge to work *for* Colorado

UNIVERSITY OF COLORADO 2003 ANNUAL REPORT

CU 2010 A Culture of Excellence

University of Colorado Board of Regents

(Back, Left to Right) Jim Martin, Jerry Rutledge (Vice Chair), Paul Schauer, *(Middle)* Tom Lucero, Cindy Carlisle, Dr. Peter Steinhauer (Chair), *(Front)* Gail Schwartz, Susan Kirk, Pat Hayes

The University of Colorado prides itself in providing excellence in teaching, research, professional training, healthcare, and public service to Colorado citizens. Whether through the hundreds of annual cultural events or the transformation of theory into application via technology transfer, we continue to be a critical asset to the state. We are indeed putting knowledge to work for Colorado.

The 2003 fiscal year presented many challenges to the university; however, we persevered and continued to succeed while never forgetting our commitment to our more than 50,000 students. Our achievements, during what many consider one of the worst economic years in Colorado's history, are a testament to what can be accomplished through dedication, innovation, and entrepreneurial partnerships.

With the inspirational support of our donors and volunteers, and the cooperation of the entire campus community, the university has advanced CU Vision 2010 in many significant ways.

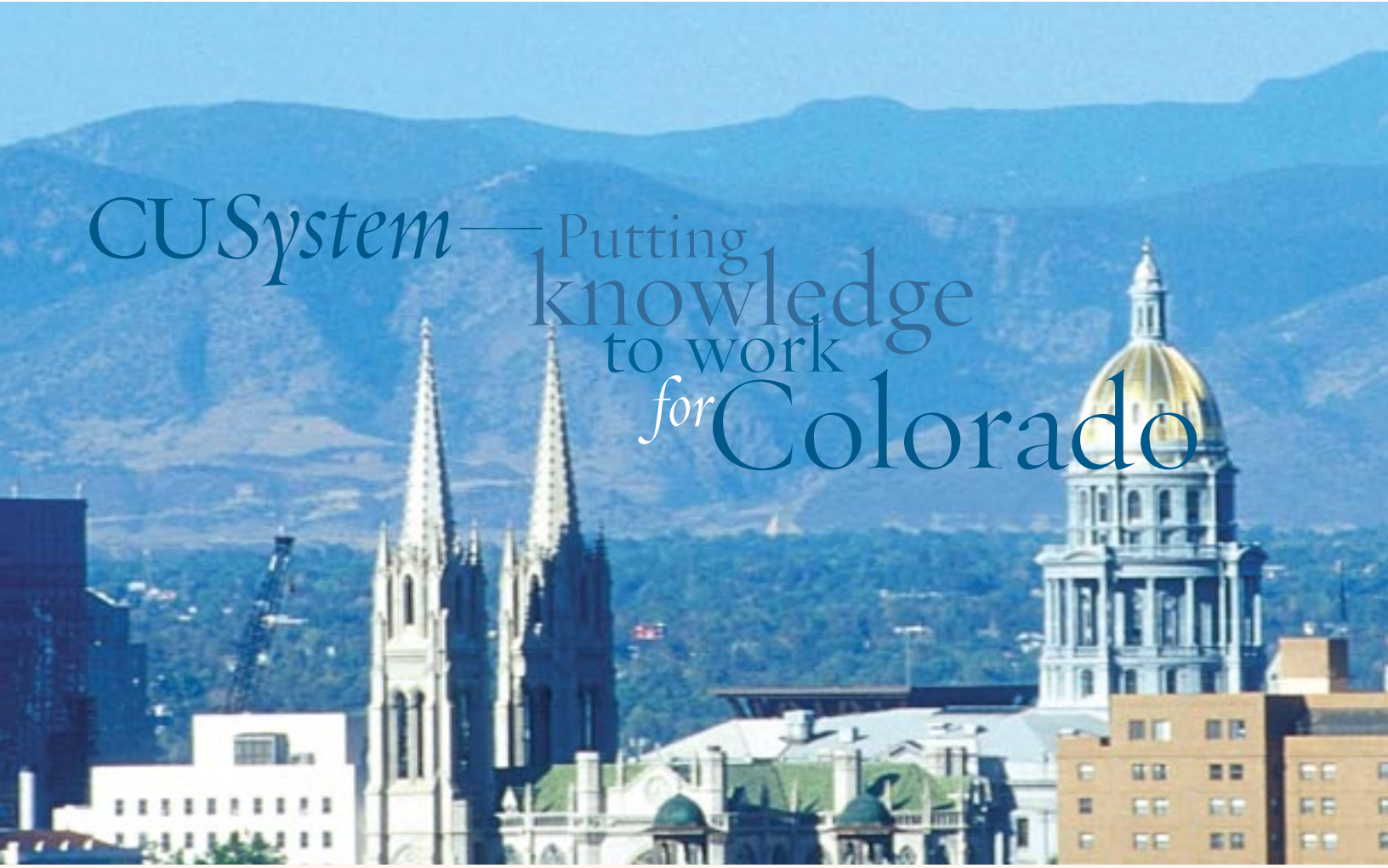
- CU reached a landmark in June with the completion of its unprecedented Beyond Boundaries billion-dollar campaign. The campaign opens doors for students to attend CU through scholarships, transforms faculty ideas into research endeavors, brings leading edge technology to the private sector, and allows CU to continue providing a world-class educational experience.
- That world-class experience has never been more evident than through the ongoing development of the Health Sciences Center Fitzsimons campus in Aurora. Fueled by Governor Bill Owens' signing of the Certificates of Participation legislation to assist with the completion of the Fitzsimons campus by 2007—decades ahead of the original schedule—the state is embracing the future and a world-class research university that will make Colorado a model for the nation.
- We gained approval to implement an ambitious plan for the Boulder campus called Quality for Colorado, which invests in students and faculty, as well as securing approval for new leading edge graduate and professional degree programs designed to be germane to specific industries.
- CU continues to achieve many distinctions of excellence, including its place in the top five among public institutions and the top 10 among all institutions in research expenditures tracked by the National Science Foundation. In fact, we saw a 27 percent increase in FY 2002 federal and nonfederal sponsored research expenditures compared to FY 2001.
- Additional distinctions include recent *U.S. News & World Report*'s annual rankings where several CU programs were among the best in the country.
- Faculty excellence continues to comprise our greatest strength; CU and Harvard University are the only two universities in the country whose faculty have been awarded the MacArthur Fellowship (otherwise known as "the genius award") four years in a row.
- A new CU economic impact study released this year clearly illustrates the key role CU plays as both an anchor and a catalyst. In 2001-02, for example, CU added $16.64 to the Colorado economy for every dollar of unrestricted state general fund support.
- The university has hosted an array of multidisciplinary conferences, including a forum and symposium in genomics and biotechnology that will help CU achieve national prominence in this burgeoning field by exploring research frontiers through the Butcher Fellow Awards.
- We are looking at a tremendous opportunity to create a comprehensive urban research powerhouse in the Denver metropolitan area through the consolidation of our Health Sciences Center and Denver campuses.
- Our strong ties with the University of Colorado Foundation, and its willingness to be more creative about financing the university's priorities, have allowed remarkable capital development progress, particularly on our Boulder and Colorado Springs campuses.

Given the context of this extraordinary year, CU is moving at an incredible yet deliberate pace. This report highlights our progress toward achieving the next phase of CU Vision 2010 goals, including wonderful vignettes from each campus that underscore their achievements and a detailed look at our audited financial statement.

There is no question that our momentum is strong, and I am confident that extraordinary possibilities will continue to evolve into reality at the University of Colorado.

Sincerely,

Elizabeth Hoffman
President, University of Colorado System



CU System — Putting knowledge to work for Colorado

Impact on the Economy

In 2003, the university updated its economic impact study using FY 2002 data, which illustrates the key role CU, as a major teaching and research university, plays as both an anchor and a catalyst for economic activity in Colorado.

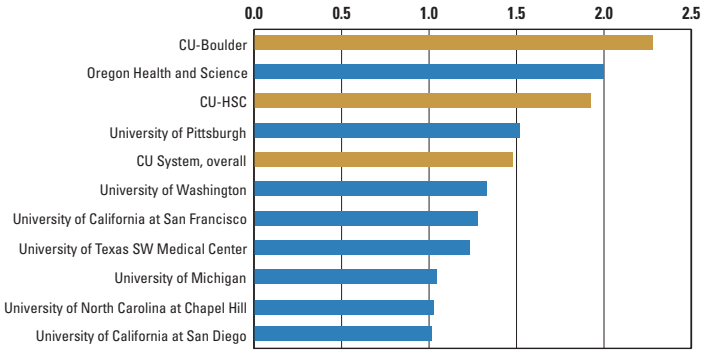
CU contributes significantly to Colorado's gross state product (GSP). For every dollar in unrestricted state general fund support, CU adds $16.64 to Colorado's economy. Additionally, for every dollar of state support provided to the university, 76 cents is returned to the Colorado economy in state taxes. Of the approximately 50,000 students attending the university, almost one-fourth (more than 11,000) are from out of state, contributing new money to Colorado's economy.

Overall, CU **students and their visitors spent more than $742 million in Colorado** in FY 2002. Of those expenditures, more than $438 million was spent by out-of-state students attending CU, in-state students who said they would have left Colorado if CU were not here, and those students' out-of-state visitors.

As the **third largest employer in Colorado** after state and federal governments, CU comprises 1.1 percent of the jobs in Colorado and employs nearly 24,000 people. An additional 18,000 jobs statewide are created because of direct demands of CU employees for goods and services. In total, CU is attributed with providing 42,700 jobs statewide generating more than $169 million in tax revenues.

Further contributing to Colorado's economy, CU had **$465 million in research and development expenditures**, a substantial portion of which came from out of state. By leveraging its state funding, CU spent $2.14 on research and development for every dollar of state general fund support. CU is one of only nine universities nationwide that spent more on research than it received in state funds.

State Return on Investment Federal R&D Expenditure Per Dollar of State Support
Ratio of Federal R&D Funds to State Appropriation FY 2001



System Administration Goals

- → Strategic planning to increase public understanding of and trust in the quality of the University of Colorado
- → Create, protect, and optimize resources from all sources
- → Deliver systemwide administrative support when such support promotes more efficient and effective learning and administration
- → Foster a university community that encourages performance and commitment
- → Support systemwide and campus efforts to obtain, maintain, and use technology in the most efficient and effective manner possible
- → Augment campus efforts to provide high quality teaching/learning, research, and service programs to students and other constituents
- → Create a learning environment and workplace that reflects the diversity of society

With CU-generated research, technology inventions have been used to start 30 companies in the last five years. Currently there are 120 active licenses for CU technology, with one-third being held by Colorado companies.

Beyond the university walls, CU has **many ancillary educational facilities** that serve local, national, and international students. For example, the Colorado Bioscience Park in Aurora is the only academic-affiliated bioscience park in the country. It is administered by the Fitzsimons Redevelopment Authority and formally affiliated with the University of Colorado. This affiliation provides companies at the bioscience park access to the resources of the region's largest academic health center as they pioneer discoveries benefiting healthcare.

CU also has numerous faculty members and professional staff with joint research appointments who co-manage research projects within the scientific community in Colorado. Many of these **major federal scientific installations** in Colorado are due to the presence of the university. Examples of such facilities include the National Institute of Standards and Technology (NIST) and the National Oceanic and Atmospheric Administration (NOAA), accounting for 1,700 employees in the Boulder area.

Finally, the university **improves the lives of Colorado citizens**. Research shows that the proximity of a major university is a key factor in a company's decision to choose a location for starting a company. The Denver-Boulder area is the 11th best place in the country to start a company, according to *Inc.* magazine. The presence of CU campuses is key to this rating.

Technology Transfer Turnaround

One aspect of the CU 2010 University Without Walls initiative is to create systems that introduce CU innovations into the diverse communities, organizations, and publics it serves. Top-notch research does not automatically translate into products, jobs, and wealth without a bridge between the university and commercial adopters of technology. Technology transfer is the system of support and service that forms this bridge.

At CU, the Technology Transfer Office (TTO) is the group at the nexus of this activity. Its mission is to aggressively pursue, protect, package, and license to business the intellectual property (IP) generated from the research enterprise and to serve those in the CU community creating such IP.

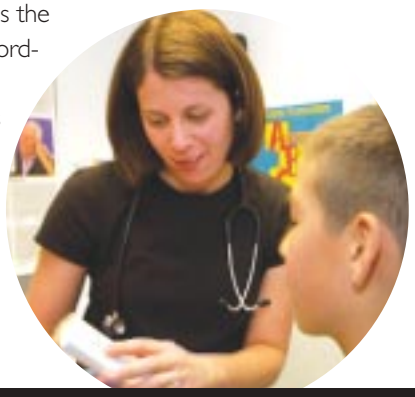
In the past year, TTO has appreciably advanced CU's technology transfer environment. In particular, it executed 33 licenses and options, filed 62 patent applications, and increased licensing royalty to $3.4 million. TTO expects this financial performance to continue and to eventually attain financial self-sufficiency. Furthermore, CU license portfolio companies are flourishing and products and services are increasingly available to the public.

For information about technology transfer opportunities, go to www.cu.edu/techtransfer or contact David Allen at 303-735-1688 or david.allen@cu.edu.

Bear Creek Apartments at Williams Village is a unique project for the Boulder campus in that the buildings are constructed and managed by a private developer, American Campus Communities, a national provider of student housing. The company's management team will work in partnership with the **CU-Boulder** Department of Housing to hire student peer leaders to live in each building and to plan educational, social, and recreational events for the residents.

CU-Denver has been named among the top 10 universities in the nation for disabled access.

The **CU-Health Sciences Center** School of Nursing's Pediatric Nurse Practitioner (PNP) specialty in the master's degree program is the best in the nation, according to the 2003 *U.S. News & World Report*'s annual ranking of graduate schools.

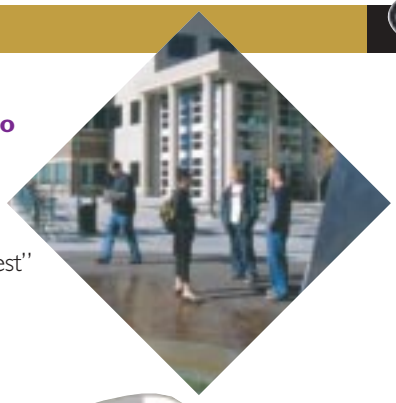


CU-Denver graduates typically have the highest medical school acceptance rate of students from any Colorado public college or university, and double the national acceptance rate.

CU-BOULDER

CU-DENVER

A record 7,600 students are enrolled on the **CU-Colorado Springs** campus, which *U.S. News & World Report* in its 2004 America's Best Colleges edition called a "Best in the West" among master's universities.



CU-Colorado Springs became one of only 14 universities in the nation to offer a PGA-approved Professional Golf Management program in fall 2003.

In January 2003, the first **CU-Colorado Springs** campus institute, CU Institute of Bioenergetics, formed. M. Karen Newell is named Markert professor of biology.

M. Karen Newell

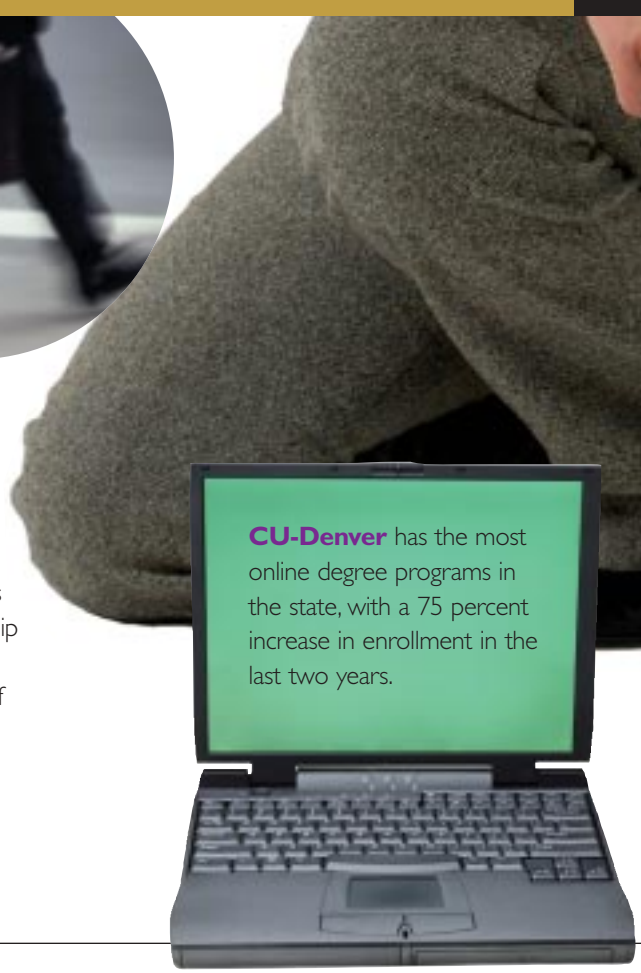
Larry Hunter's laboratory, the Center for Computational Pharmacology at **CU-Health Sciences Center**, focuses on the development and application of advanced computational techniques for drug design. He is passionate about facilitating collaborations across the diverse disciplines within bioinformatics research.

Ceramic fine arts might not be the first discipline that comes to mind when students think of renowned programs at large research universities, but one of the nation's best graduate programs in ceramics is found at **CU-Boulder**. In a *U.S. News & World Report* review of graduate programs in spring 2003, CU-Boulder's ceramics program ranked ninth.

CU-Boulder scholars and students, like Rachel Kahn (right), are uncovering and analyzing a Roman emperor's most ambitious and personal building. The project is part of a five-year excavation and field school in Rome, Italy.

CU-COLORADO SPRINGS

U.S. News & World Report ranks the **CU-Denver** MBA in Health Admininstration in the top 25 percent nationally, and ranks the entrepreneurship program and the Graduate School of Public Affairs in the top 15.



CU-HEALTH SCIENCES CENTER

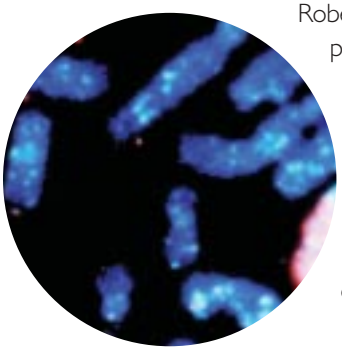
Rich Spritz, director of the Human Medical Genetics Program at **CU-Health Sciences Center**, is collaborating with a research team on two major studies to map and identify the genes that increase the likelihood of developing autoimmune disorders.

Engineering student Andrew Azman led a team of students to design and build a processor that converts vegetable oil into fuel-grade biodiesel for a sustainable engineering design class. The students earned an *A* on the project, but Azman didn't stop there. He formed CU Biodiesel to collect used cooking grease from residence halls and kitchens, converting the oil into biodiesel. With **CU-Boulder's** Environmental Center and Transportation Services, the students launched the first biodiesel bus on campus in April 2003. As a result, the student body approved a 49-cent-per-semester student fee to raise $30,000 annually to purchase biodiesel fuel and fund construction of a larger processor. In fall 2003 Azman joined CU, the city of Boulder, and Blue Sun Biodiesel in announcing conversion of all CU-Boulder's buses and some city buses to biodiesel fuel. Two weeks later Azman was honored with a David Brower Youth Award for his work.

A doctoral degree program specializing in the needs of older Americans will begin in fall 2004. **CU-Colorado Springs'** geropsychology program will be one of only four similar programs in the nation and only the second offered at a public university.

CU-HEALTH SCIENCES CENTER

Curt Freed, director of the Neurotransplantation Center for Parkinson's Disease at **CU-Health Sciences Center**, along with neurosurgical colleague Robert Breeze, MD, pioneered transplantation of dopamine cells into the brains of Parkinson's patients. The team also conducts stem cell transplantation research to help people with a variety of neurological diseases.



CU-COLORADO SPRINGS

A team of CU students won the U.S. Department of Energy's Solar Decathlon contest held on The National Mall in Washington, D.C., in October 2002. The students from **CU-Boulder's** College of Engineering and Applied Science and **CU-Denver's** College of Architecture and Planning beat out 13 other university teams competing to design and build the best solar-powered home.

Faced with a statewide shortage of nurses, two Colorado Springs hospitals announced in July 2003 plans to create nursing scholarships and guaranteed employment programs worth more than $2.6 million at **CU-Colorado Springs**. Chief executive officers for Colorado Springs-based Penrose-St. Francis Health Services and city-owned Memorial Hospital announced their intent to create the new scholarships and employment programs to help ease the local nursing shortage.

In 2002, **CU-Boulder** graduate students worked with Professor James Dixon, curator of the Museum and Field Studies Graduate Program at the University Museum, to excavate the 10,000-year-old skull and tusks of a mammoth at a site south of Denver. As part of the class, students wrote proposals for a museum planned at the site.

Federal monies awarded at the beginning of FY 2003 will partially fund the new Center for Native American TeleHealth and TeleEducation at **CU-Health Sciences Center**. With special emphasis on Native health, the center will offer distance learning, assessment, and consultation in the diagnosis, treatment, and prevention of a variety of health problems among American Indians and Alaska Natives.

CU-BOULDER

John Herrington, a 1983 **CU-Colorado Springs** graduate, received an honorary doctorate in April. In November 2002, he became the country's first Native American astronaut when he joined the space shuttle *Endeavor*'s seven-member crew. Their mission to Space Station Alpha involved transporting three new crew members to the station and returning three of its former occupants, including two Russians, to Earth. Herrington, a 20-year U.S. Navy aviator, performed three space walks and installed a 29,000-pound truss to support various solar arrays.

CU-DENVER

All CU students are exposed to a broad spectrum of political ideology when celebrated leaders such as Sen. Bob Dole (above), former British Prime Minister Margaret Thatcher, and former Secretary of the Interior Bruce Babbitt visit one of the university's campuses to talk about world events from their own unique perspectives.

CU-Boulder Infrastructure and Facilities

At CU-Boulder, partnerships are not limited to academic disciplines. Fall 2003 saw the grand opening of Bear Creek Apartments at Williams Village—a unique public/private partnership that serves CU-Boulder students.

In August, nearly 500 students moved into the new brick structure in Williams Village designed for upper-division and graduate students. The long-awaited housing complex features a mix of private and shared bedrooms, academic support services, and laundry and recreational facilities. American Campus Communities is developing and managing the Bear Creek project. Oz Architecture and Swinerton Construction also played a vital role in its development. Bear Creek I, LLC, a subsidiary of the University of Colorado Foundation, issued revenue bonds for the construction.

A second apartment building in the complex is already under construction and scheduled for occupancy in fall 2004, for a total of nearly 1,000 additional beds in CU-Boulder's housing inventory.

CU-Boulder Programs of Excellence

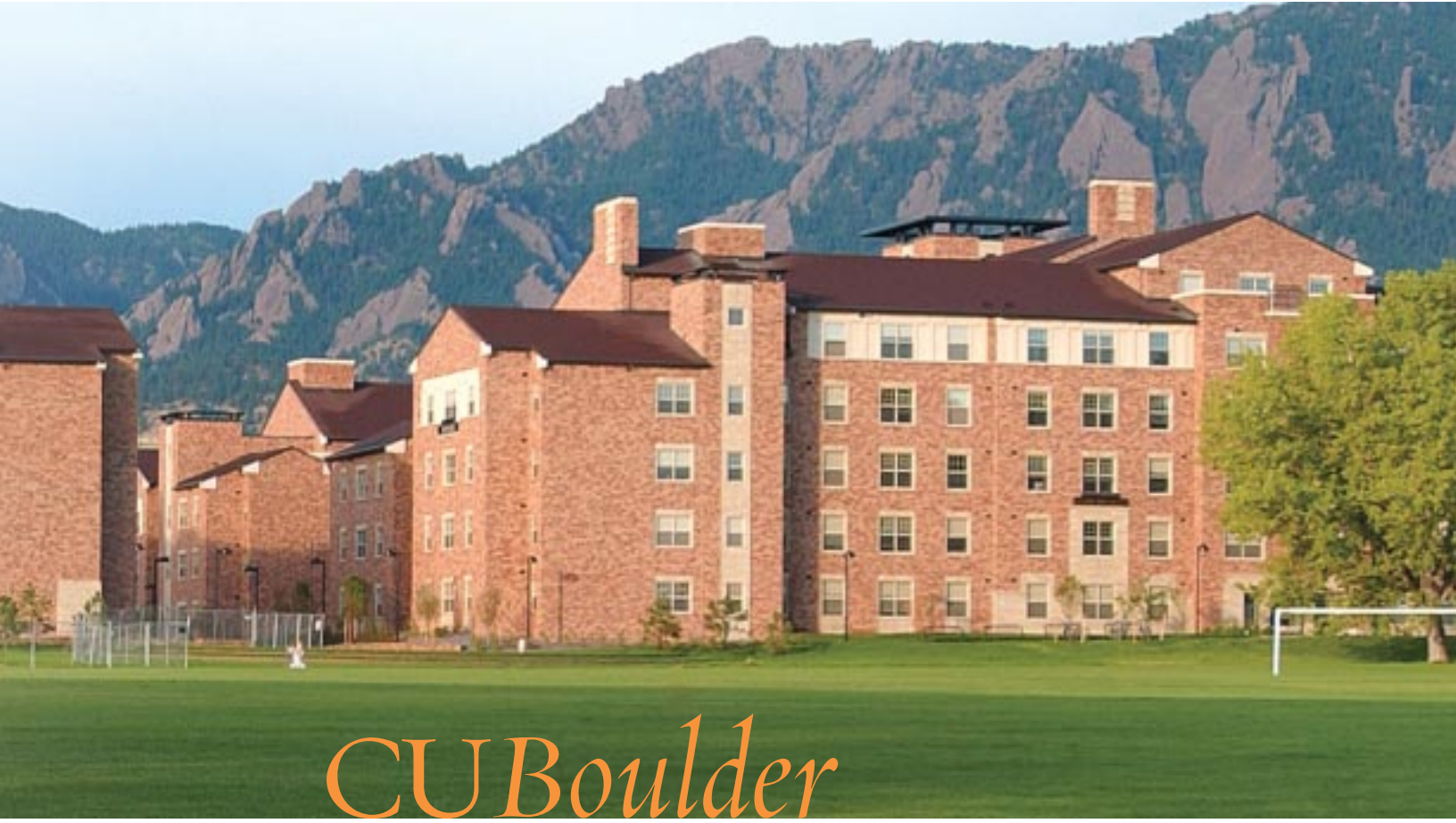
Cutting across academic disciplines to explore complex issues is the norm, not the exception, at the University of Colorado at Boulder. Since the 1950s, a system of institutes has developed on the Boulder campus supporting a dynamic environment for interdisciplinary teaching and research that contributes to the cultural and economic vitality of both CU and the state.

Indeed, scholars and students in a wide variety of disciplines tackle issues ranging from analyzing how the universe was formed to determining the causes of school violence—vital issues that contribute new knowledge, technology, and novel solutions to many of society's most vexing questions. CU-Boulder institutes, which account for about 50 percent of total research dollars on the campus, also provide jobs while contributing to Colorado's educated workforce.

Cross-discipline partnerships at the Boulder campus have set a high standard for the nation's research universities and will likely continue to play a major role in the campus' future. They include: the Cooperative Institute for Research in Environmental Sciences (CIRES); Institute for Behavioral Genetics (IBG); Institute of Behavioral Science (IBS); Institute of Cognitive Science (ICS); Institute of Arctic and Alpine Research (INSTAAR); JILA (formerly Joint Institute for Laboratory Astrophysics); the Laboratory for Atmospheric and Space Physics (LASP); and the Alliance for Technology, Learning, and Society (ATLAS).

Engineering and Biology

Interdisciplinary research by CU-Boulder engineers and biologists may lead to critical advances in **"engineering" a human heart valve**. Engineering Professor Kristi Anseth has teamed with developmental biology Professor Leslie Leinwand to study how tissue—such as that in heart valves—develops neonatally. The team's goal is to create more



CU Boulder

advanced biomaterials that can guide, accelerate, and even act as a template for tissue formation.

Designing tissue replacement techniques for heart valves could greatly diminish the need for mechanical prosthetic devices, which are structurally reliable but require a lifetime of anticoagulation therapy for patients. By working together, CU-Boulder researchers from different disciplines could play a key role in improving healthcare.

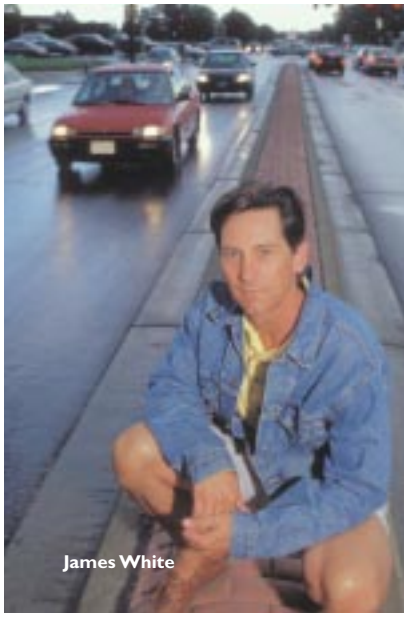
Arts and Humanities

Encouraging dialogue across departmental lines can be a challenge, but that's precisely the goal of CU-Boulder's Center for Humanities and the Arts (CHA). Founded in 1997, the center works to encourage interdepartmental and cross-campus interaction and to raise the profile of the arts and humanities.

Headed by Director Jeffrey Cox, CHA sponsors colloquia, lectures, performances, exhibitions, and research analyzing contemporary issues. Each year, activities are organized around a central theme, such as "Civility and Censorship: Critical Conversations in a Civil Society" and "Beauty and Its Discontents." This year's theme focuses on **an examination of war** through a wide range of human and artistic experiences in different cultures and eras.

The center encourages participation by the community at large, as well as CU-Boulder faculty, staff, and students, in lively discussions of contemporary issues from multiple perspectives. Yearlong CHA activities offer many opportunities to focus on human issues through a diverse prism of history, philosophy, languages, literature, religious studies, theatre, dance, fine arts, and music.

The Environment


James White

Scores of CU-Boulder students from the natural sciences, social sciences, and journalism will join forces to explore novel **solutions to environmental problems**, funded by a $2.6 million National Science Foundation grant.

"The primary focus is to more effectively train a new generation of real-world problem solvers," says the project's co-principal investigator, Associate Professor James White of the Institute of Arctic and Alpine Research. "Scientists trained in this country today are not very effective at communicating their research to policymakers, economists, or the public. We wanted to address this 'failure to communicate' problem among scientists, journalists, and the public in an arena that affects us all, global climate change."

During the program's first year, graduate students from disciplines such as political science, journalism, economics, environmental studies, chemistry, and biology will work side by side on environmental issues. Other participants will include policymakers, professional journalists, and scientists from the United States and abroad.

CU Colorado Springs

CU-Colorado Springs Programs of Excellence

As the University of Colorado's designated growth campus, with a vision to become America's premier comprehensive regional research university, the University of Colorado at Colorado Springs is on the move and putting its expertise to work for the state of Colorado. A record 7,600 students are enrolled on the campus that *U.S. News & World Report* in its 2004 America's Best Colleges edition called a "Best in the West" among master's universities. For its level of engagement with its community, the American Association of State Colleges and Universities awarded CU-Colorado Springs its top ranking. And a statute change enacted by the Colorado General Assembly in 2003 will allow CU-Colorado Springs to expand its influence throughout Colorado, offering new programs to meet the state's and region's needs.

New Programs and Centers

A doctoral degree program specializing in the psychological needs of older Americans will begin in fall 2004. The university's **geropsychology program** will be one of only four similar programs in the nation and only the second offered at a public university.

The program will target students who hold bachelor's or master's degrees in psychology and will provide clinical training to assist older Americans with specialized psychological needs. (By 2020 it is projected that 20 percent of the U.S. population will be more than 65 years old and Colorado will be home to 700,000 older adults.) As a multicampus initiative, students in the program will work closely with the CU Aging Center in Colorado Springs as well as CU-Health Sciences Center and CU's Coleman Institute for Cognitive Disabilities.

CU-Colorado Springs became one of only 14 universities in the nation to offer a PGA-approved **Professional Golf Management program** in fall 2003. In fact, CU-Colorado Springs is the only Colorado university, and one of only five universities west of the Mississippi River, to offer the PGA/PGM program. The program will prepare highly motivated men and women for careers in the golf industry, an important part of Colorado's tourism and recreational sport base.


University Hall

CU-Colorado Springs Infrastructure and Facilities

Several campus construction projects are underway—a 500-space parking garage, apartment-style housing for upper-division undergraduate and graduate students, and a student support office building that will also house a visitors center.

In 2003, the university completed the purchase of an 86,000-square-foot office building adjacent to the campus, renaming it University Hall. The building is home to the Beth-El College of Nursing and Health Sciences, the Network Information and Space Security Center, and several other departments including Theatreworks and Mechanical and Aerospace Engineering.

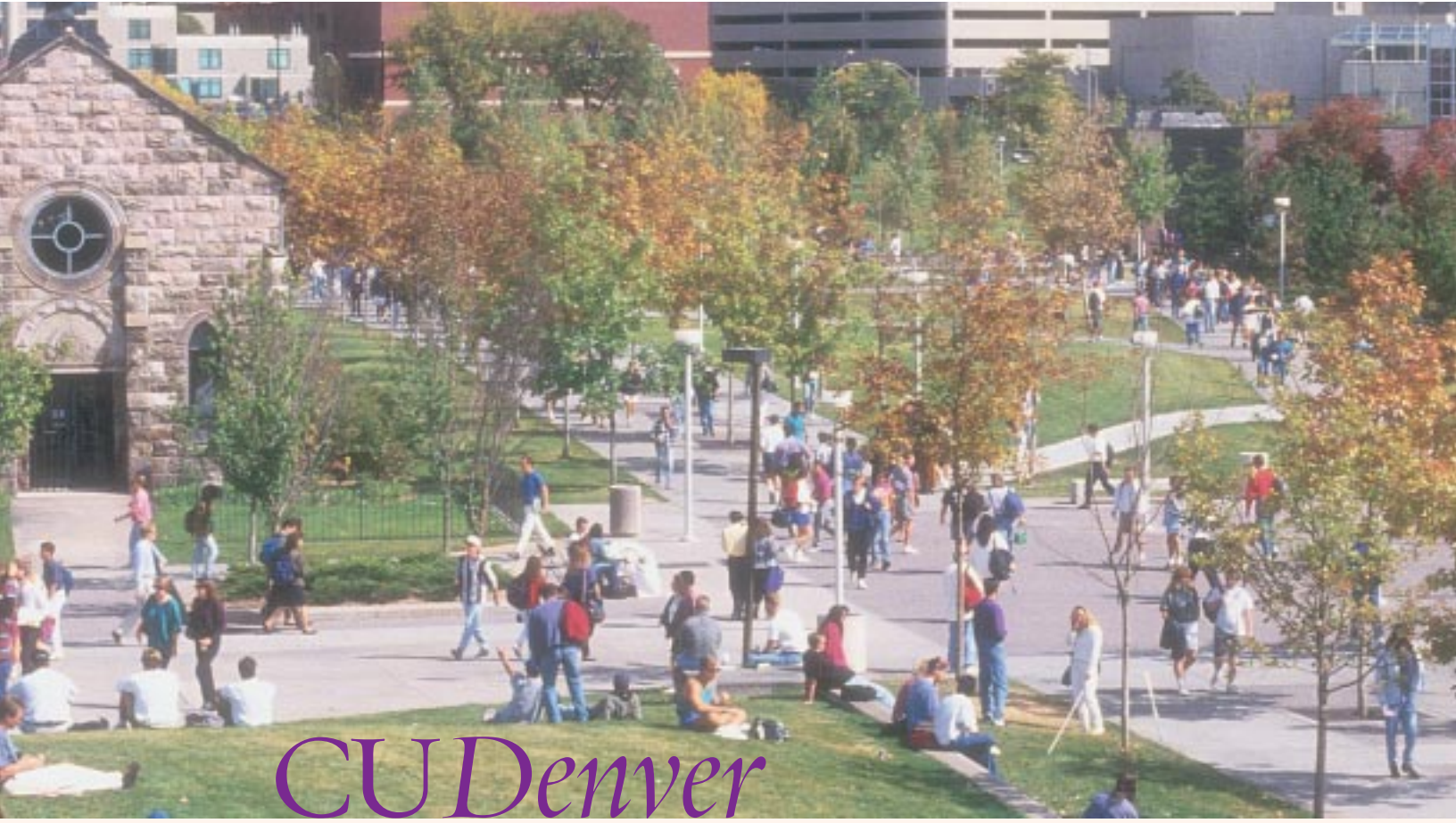

PGA/PGM program

Students who enroll in the program will earn a bachelor of science in business administration with a professional golf management option.

The **Network Information and Space Security Center** (NISSC) was created to address critical computer network security issues facing the U.S. military and e-commerce providers. The center will address future architectures, policies, management strategies, the impact of future technological advances, and related research affecting both ground-based and space-based network and information security. In April 2003, NISSC received a $2 million federal grant to "stand up" its operations. A Memorandum of Understanding between the university and U.S. Northern Command provides high-level military officers advanced training in cyber security techniques as well as faculty opportunities for research and teaching.

University Research

For FY 2003, CU-Colorado Springs faculty received $5.1 million in external funding for research, a $2 million increase since 2001. In addition, the university and the U.S. Air Force Academy signed a cooperative agreement that allows university faculty to use USAFA laboratories and faculty at both institutions to closely collaborate on research projects.



CU Denver

CU-Denver Programs of Excellence

The University of Colorado at Denver's roots trace back to a fledgling city that needed a university to grow along with it as it boomed. Today, the university's newly redefined role and mission as an urban comprehensive undergraduate and graduate research university offering baccalaureate, master's, and doctoral degree programs serves the needs of the entire Denver metropolitan area.

Some of the university's proudest achievements in the past year include the following:

- → Reflecting the diversity of its urban population, CU-Denver's 26 percent minority student undergraduate enrollment is the highest in the CU System, and higher than many of the large public colleges and universities along the Front Range. Minority retention and graduation rates also rank high.
- → The Denver campus has more graduate students than any other school in the state—1,575 in 2002—receiving master's, specialist, and doctoral degrees.
- → More students are taking advantage of the convenience and flexibility of CU Online's web-based course and degree programs, which have seen a 75 percent enrollment jump in the last two years.

These and other achievements advance CU-Denver as it continues its pursuit of CU Vision 2010 and its goal to become one of the nation's top public urban research universities.

Encouraging Leadership

CU-Denver is a member of the **Great Cities' Universities Coalition**, established in the late 1970s as one of the nation's first leadership groups to advocate for the concerns of public urban universities and the cities in which they are located. The coalition is a catalyst for public-private partnerships for innovation in areas such as urban education, revitalization, criminal justice and crime abatement, skilled workforce initiatives, digital government, urban transportation, and biomedical and healthcare delivery.

Housed in the School of Education, the **Colorado Principals' Center** is the only organization in Colorado focused solely on inspiring and developing courageous leadership in school principals while enhancing learning for all students and improving the quality of public schools. The center is a collaboration among CU-Denver's School of Education, the Colorado Association of School Executives, and the Denver Area School Superintendent's Council.

CU-Denver Infrastructure and Facilities

When a tenant of CU-Denver's Lawrence Street Center vacated two floors, the university had a rare opportunity to reassess space needs. As a result, administrative offices moved to the Lawrence Street Center from the CU-Denver Building, where 28,000 square feet were reclaimed for academic use.

Half of that space will be used to expand the College of Arts and Media's sound, video, and digital animation programs, and to create nine faculty studios and a darkroom. CU Online will also move into expanded space, complete with conference facilities and a studio/portrait room. Planning is underway to allocate the remaining 14,000 square feet.

The space reallocation also allowed the university to move several departments from off-campus buildings to the Lawrence Street Center, saving the campus more than $200,000 each year in lease costs.

Offering Outstanding Academics

Capitalizing on its internationally renowned faculty, the Department of Music and Entertainment Industry Studies in the College of Arts and Media launched **a new master of science in recording arts degree** in August 2002. One of only a few recording arts graduate programs in the country, and the only one with a pedagogy track to prepare future educators, the program is also the only one to offer college-level courses in audio forensics.

Department of Music and Entertainment Industry Studies

The Graduate School of Public Affairs offers the **Master of Public Administration Program on Domestic Violence**, the first graduate program of its kind in the country. The program combines nonprofit and public organizational management skills with expertise in domestic violence and services that address this critical issue. The new national format of this unique hybrid program began in August 2003, blending an online component with intensive on-campus sessions featuring renowned guest speakers, group projects, and site visits.

Reaching Out

To help Denver schoolchildren see college as a viable option, CU-Denver partners with the nonprofit **Colorado I Have a Dream Foundation** to adopt potentially at-risk third and fourth graders, supporting them through high school and providing financial assistance to attend college or vocational school. Minority and other high school students benefit from the **CU Succeed Silver program**, which works in the high schools to give students an orientation to college life, help in improving academic skills, and assistance with admission and financial aid applications.

The Department of Civil Engineering works with the City and County of Denver to develop a **comprehensive infrastructure management system** using geographic information system tools to inventory bridges, alleys, street subsystems, sidewalks, cross pans, inlets, and curb ramps. To date, more than 5,000 alleys and nearly one-third of the 3,000 miles of roadway within Denver County have been inspected.

CU Health Sciences Center

CU-Health Sciences Center Programs of Excellence

The University of Colorado Health Sciences Center is poised to grow to new levels of state and national prominence with the development of its Fitzsimons campus—part of the largest economic redevelopment project in the country. Upon its completion, CU will be unrivaled in academic research and medicine. The 578-acre Fitzsimons site will support 34,699 long-term jobs directly and indirectly, more than $3.1 billion in economic annual output across Colorado, and $46.7 million in tax and registration fee revenue to the state of Colorado. Following are just a few of the programs and centers that are contributing to CU's excellence and the economic well-being of the state and region.

Programs and Centers

The School of Dentistry received a $3 million gift and a multiyear $92.7 million commitment to establish a partnership with the Orthodontic Education Company (OEC) that will build the **Lazzara Center for Oral-Facial Health**. This partnership will establish a training program to address an anticipated local and national shortage of orthodontists. Anticipated completion is summer 2005 for the 92,000-square-foot facility, which will house all of the existing educational programs of the School of Dentistry and provide space for dental specialty clinics.

The **School of Nursing's Pediatric Nurse Practitioner (PNP)** specialty in the master's degree program is the best in the nation, according to the 2003 *U.S. News & World Report*'s annual ranking of graduate schools. Pediatric nurse practitioners provide primary care to children and adolescents. In fact, PNP students and faculty participate

Barbara Davis Center for Childhood Diabetes

Certificates of Participation

On April 28, 2003, Governor Bill Owens signed HB 03-1256, which authorized state-issued Certificates of Participation (COPs) for $202 million to fund the first phase of CU's educational facilities at Fitzsimons. The buildings, originally scheduled to be completed by 2011, will now be finished in 2007. Certainly, the physical proximity and integral working relationships between clinicians and scientists at Fitzsimons will foster new levels of collaboration and integration. In addition, expanding partnerships among faculty, students, staff, affiliates, and the community will foster the development of new knowledge, which will be applied to the prevention and treatment of human disease and the improvement of human health. COP funding will be used to complete the new facilities outlined below.

in more than 10,000 pediatric visits each year, totaling more than $200,000 worth of free nursing care to the community.

The **School of Pharmacy's Service Learning Program** is developed and directed by Dr. Catherine Jarvis, the school's nutrition specialist, in collaboration with the Denver Public Schools and the School of Medicine's Department of Pediatrics. This program offers pharmacy students the opportunity to learn while performing community service. The goal is to increase awareness of the importance of nutrition and physical activity in maintaining a healthy lifestyle within a largely underrepresented minority population and to encourage these students to take the message home to their families.

Most diabetic children in Colorado and many from other regions receive care at the **Barbara Davis Center for Childhood Diabetes**. In the past few years, cases of diabetes have increased in an alarming way, making the condition a major public health issue. According to the American Diabetes Association, each year diabetes causes 39,000 new cases of blindness and 54,000 amputations and requires 20,000 people to go on kidney dialysis. The School of Medicine faculty addresses a range of issues relating to diabetes, including how to prevent the disease and how to deliver the best care for those who have been diagnosed.

CU-Health Sciences Center Infrastructure and Facilities

→ The **Fitzsimons Library** will provide space for a learning resource center, reference and resource services, systems databases, education and health informatics, a drug information center, and a history of medicine collection. Building highlights include open, quiet study areas for comfortable reader seating; small group study rooms for collaborative learning; wireless technology for the use of computer laptops and other portable devices throughout the facility; and cutting edge graphic and virtual reality technology. Scheduled completion is June 2006.

→ **Education Facility 1B** (103,338 gsf) will be the first stand-alone education structure at Fitzsimons. The facility will house classrooms, lecture halls, simulated patient care facilities, and the Center for Studies in Clinical Performance, which will serve as an education and evaluation center for students to learn patient care techniques in a simulated clinical setting. Scheduled completion is June 2005.

→ The **Education Facility II** and **Education Bridge** (130,357 gsf) involve the construction of two separate instructional buildings connected via a bridge. The facility will include classrooms of various sizes, lecture halls, computer and instructional laboratories, small group learning rooms, and student community spaces. Education Facility II will be combined with academic office space located on the upper levels of the building. Scheduled completion is June 2006.

→ The **Academic Office Facilities** (250,000 gsf) will include academic program and faculty offices, and conference and office support functions. The Office-East space will be combined with the Education Facility II. The separate Office-West facility will be connected to the new Research Complex 2. Scheduled completion is June 2006.

→ The **Facility Support Building** and the **Environmental Health and Safety Building** (66,000 gsf) will provide space necessary for the operations and maintenance of the new Fitzsimons campus. Scheduled completion is June 2006.

CU Vision 2010

The University of Colorado is an outstanding example of putting new knowledge and ideas to work for Colorado. As brainpower becomes the competitive edge states and industries seek, universities play an ever-increasing role in providing the transformational knowledge and expertise that this nation and the world demand.

CU Vision 2010, the university's long-term road map, focuses our journey to become one of the preeminent teaching and research institutions in the nation.

This fiscal year was a watershed for CU Vision 2010 as each campus fully embraced it and adapted the five strategic areas to its individual campus culture. It has now taken on a life of its own at each campus.

In brief, the five strategic planks include:

1. **A University Without Walls**—fostering multidisciplinary and multicampus efforts that encompass all four CU campuses
2. **A Culture of Excellence**—targeting areas for national prominence on each of the four campuses
3. **Increasing Resources and Using Them Wisely**—developing a wide range of diversified funding sources to ensure the long-term health of the university and stewarding those resources wisely and carefully
4. **Diversity**—bolstering "diversity" through aggressive recruitment and retention strategies for students, faculty, and staff
5. **Integrated Infrastructure**—focusing on integration to lower costs and enhance quality through both technology and better management

1. A University Without Walls

The university has fully embraced a multidisciplinary, multicampus approach to teaching, research, and service. This year CU realized many successes in modeling A University Without Walls.

Genomics-Biotechnology Initiative—Targets key areas central to the future of biomedicine in Colorado: genetics, genomics, proteomics, bioinformatics and computational biology, allied areas of fundamental biology and biomedicine, biophysics and bioengineering, and applications such as micronanotechnology. CU's history of breakthrough discoveries in these areas includes early studies of human chromosomes and cells cultured in the laboratory, recent discoveries of fundamental biological principles, and the advanced treatment of human disease.

The initiative was energized last fall through a generous gift by Jane and Charlie Butcher, which supported the Butcher Forum and Symposium as well as the Butcher Fellow Awards program. The meetings convened luminaries from CU and around the world to design strategies to bring biotechnology and academic research together in Colorado. Butcher Fellowships have been awarded to 30 faculty, totaling $1 million for new collaborative research in the genomics and biotechnology areas.

This fall we continued to nurture the development of Colorado's biotechnology industry with a statewide symposium sponsored by the Rose Community Foundation and Caring for Colorado Foundation. The conference focused on the ethical, societal, and public policy issues salient to this initiative.

The Coleman Institute for Cognitive Disabilities—Hosted its third conference this fall, titled "Technology, Neuroscience, and the Future of Cognitive Disability," attracting more than 200 faculty researchers, disability leaders, federal agency heads, and prominent scientists and engineers from beyond the CU System. The "Coleman Conferences" explore research frontiers and partnerships between cognitive disability and technology.

The institute presently supports 14 research projects led by investigators on CU's four campuses. Several of these exciting projects focus on the application of new computing technologies to cognitive disability in areas such as animated learning tools, memory-aiding prompting systems, smart transportation system development, and web-based support for teachers and parents. Other research initiatives focus on neural stem cell transplantation, fine motor coordination and visual performance in Down's syndrome, the application of neuroinformatics to cognitive disability, and support for undergraduate and graduate research in computer science and cognitive disability.

Network Information and Space Security Center (NISSC)—Addresses needs shared by military and nonmilitary organizations on issues such as how to more effectively communicate across multiple levels of government, obtain and share information among a diverse set of government and nongovernmental entities, and protect against, detect, and respond to terrorist attacks on critical infrastructures.

More than 35 CU faculty are actively working on homeland security-related research projects. Projects span a wide range of homeland security topics: from developing an integrated approach for an organization's security, environmental, health, and safety management, to studying the psychology of terrorists, to designing secure wireless networks for first responders, to constructing models of the spread of infectious diseases and biohazards.

Center for Computational Biology—Focuses on developing new methods of computation to access and organize the vast quantities of raw information resulting from the Human Genome Project. The center facilitates the convergence of three broad disciplines: bioscience, computer and information science, and mathematics in order to advance biomedical research.

Harvey Greenburg, director of CU-Denver's Center for Computational Biology

Institute of Bioenergetics—Launched this year with an international science symposium, which convened a group of leading local and interna-

The Starz FilmCenter is home to the Denver Film Society, the Starz Denver International Film Festival and the University of Colorado at Denver's College of Arts & Media film education program for K-12 and college audiences. During the Film Festival held in October 2003, the Starz FilmCenter was a leading venue for the 188 films presented to 34,000 attendees.

tional scientists to foster interdisciplinary research collaboration throughout CU's four campuses and strengthen the collective knowledge of bioenergetics. The genesis of the institute is a multidisciplinary approach to understanding cellular metabolism and cellular communication with the intention of treating or curing serious diseases, such as cancer, multiple sclerosis, and diabetes through manipulations of bioenergetics and metabolism that affect the immune response.

Gender and Information Technology and Women's Health Research Initiatives—Focus on the real-world issues affecting the shortage of women in technology fields and the lack of focus in women's health research, particularly in heart disease research. CU has taken a leadership role in these respective fields by hosting meetings with legislators and business and civic leaders to raise awareness and support for the issues at both the national and state levels.

CU Outreach—Efforts span across all disciplines and campuses. Giving back to the community is integral to the university's culture. Coloradans rely on quality healthcare from our Health Sciences Center. They enjoy the inspirational and cultural events offered on CU's three general campuses such as the Conference on World Affairs, The Colorado Shakespeare Festival, the Denver International Film Festival, and TheatreWorks performances. CU is also connected to the K-12 community, offering teachers and students access to our highly respected college preparation programs.

Creation of the Health Sciences Center Fitzsimons campus—The largest health sciences-related redevelopment project in the United States. It allows us to create from the ground up a new model for 21st century academic medicine. A hallmark of the new campus is its direct connection to a major research and development park. The access to private biotechnology firms will foster the synergy of discovery and new partnerships, championing medical breakthroughs from the laboratory to the patient's bedside.

Potential Consolidation of the Denver and Health Sciences Center Campuses—Several systemwide teams are currently studying this possibility, evaluating pertinent areas such as administration and finance to assess the feasibility and subsequent impact of consolidation. Consolidating the two campuses has the potential to create a great comprehensive urban research university in Colorado.

2. A Culture of Excellence

The keystone to a preeminent teaching and research university is its quest for excellence. Striking examples of how the university is achieving excellence include:

- → CU celebrated its seventh MacArthur fellow, Deborah Jin, a National Institute of Standards and Technology (NIST) physicist and a JILA (a joint institute of CU-Boulder and NIST) fellow. She was honored for her work on exploring the mysteries of quantum mechanics by cooling atoms to the lowest possible temperatures. CU is proud to boast a new MacArthur award winner in each of the last four years, making us one of only two universities in the country to claim this honor.
- → CU is a formidable research enterprise, ranking among the top nine public and private universities in the United States in federal research expenditures.
- → CU-Boulder continues to rank among the top public institutions in NASA funding.
- → CU-Health Sciences Center ranked 10th among public institutions in total award funding received from the National Institutes of Health in FY 2002.
- → Universitywide, awards to students for academic excellence include five Marshall Scholarships, 79 Fulbright Fellowships, 19 Rhodes Scholars, eight Truman Scholarships, seven Goldwater Scholarships, and three Udall Scholarships.
- → The American Association of State Colleges and Universities ranked CU-Colorado Springs as one of the most highly engaged universities with its surrounding community.
- → CU-Denver leads the state in the number of students receiving master's, specialist, and doctoral degrees—1,575 in 2001-02.

Continued on page 18

2003 MacArthur fellow Deborah Jin (above)

2002 MacArthur fellow Daniel Jurafsky (left)

→ *U.S. News & World Report* ranked CU-Boulder 13th for its undergraduate aerospace engineering sciences, 17th for its undergraduate engineering programs, 21st in peer assessment reputation, and 35th out of 162 public universities that offer doctoral programs. CU-Boulder's Leeds School of Business undergraduate entrepreneurship program ranked 14th.
→ CU-Denver's MBA in Health Administration ranked in the top 25 nationally, as did its entrepreneurship program; its Graduate School of Public Affairs ranked in the top 15 percent (according to *U.S. News & World Report*).
→ University of Colorado Hospital ranked among the top hospitals in the country in nine of the 17 medical specialties (according to *U.S. News & World Report*).

CU Ranks!

Top Five

Boulder, Atomic, Molecular, Optical, and Plasma Physics
Colorado Springs, public university in the western United States
Health Sciences Center, Pediatric Nursing Specialty

Top 10

Boulder, Environmental Law; Ceramics
Health Sciences Center, Physician Assistant/Child Health Associate
Master of Science in Public Health
Nursing Service Administration
Community Public Health for Clinical Nurse Specialists
Family Medicine Specialty
Drug/Alcohol
Pediatrics
Gerontological/Geriatric Specialty

Source: U.S. News & World Report

3. Increasing Resources and Using Them Wisely

State general fund dollars are crucial to public higher education's daily operations. During the downturn in the economy and unavoidable state budget reductions, CU had to be more creative in reaching its goal of providing students and faculty with a margin of excellence. CU's Beyond Boundaries campaign, our faculty's entrepreneurial prowess, the CU Foundation's partnership, and the support of the governor and the legislature all enabled us to create and support outstanding research programs and academic opportunities for CU students.

At the close of this fiscal year, the Beyond Boundaries campaign had reached $1.026 billion—an astounding accomplishment for CU. Only 13 public universities and 10 private universities are currently involved in at least a billion dollar campaign.

The campaign resulted in a number of remarkable gifts, driving transformations across CU's four campuses. The examples below underscore only a few of the generous gifts to the university this last fiscal year.

→ Cancer Center/breast cancer research, $10 million gift.
→ Two Marisco Endowed Chairs in Excellence, $5 million gift.
→ CU-Colorado Springs' University Hall, $5.6 million in total gifts.
→ Lazzara Center for Oral-Facial Health, $3 million gift plus an additional $92.7 million contract for services and facilities.
→ Humanities and Bioethics Building at Health Sciences Center, $3 million in total gifts.
→ Endowed chair in finance at CU-Boulder's Leeds School of Business, $3 million gift.
→ Butcher Forum and Symposium on Genomics and Biotechnology and Butcher Fellow Awards, $1.1 million gift.
→ Student scholarships and faculty fellowships at the Denver campus business school, $600,000 in gifts.

Support from our state and federal government continues to be extremely important. Landmark legislation was passed to issue $202 million in Certificates of Participation to assist with the completion of the Health Sciences Center Fitzsimons campus academic facilities, saving the state millions of dollars in construction inflation and reducing the cost of maintaining two campuses.

In order to sustain CU's educational quality, the state approved an increase in tuition and fees of up to 9 percent to help offset large general fund decreases. The Quality for Colorado plan was also approved, which increases tuition on the Boulder campus an additional 5 percent to invest in academic and research programs, increase scholarships for low-income students, and recruit and retain the highest quality faculty.

In addition to the $561 million in federal and nonfederal grant awards, CU was also successful in garnering nearly $9 million in federal grant awards for special projects such as the Fitzsimons redevelopment, the Colorado Springs campus' Network Information and Space Security Center, and the Health Sciences' Native American TeleHealth Center.

4. Diversity

CU continues to be aggressive in its recruitment and retention of students, faculty, and staff from diverse cultures. Each campus has initiated pilot projects to bolster diversity.

→ Annual systemwide diversity summits focus on critical areas for recruitment and retention.
→ The President's Initiative Fund provided seed money for projects to increase and retain faculty of color.
→ CU's Pre-Collegiate Program has served nearly 2,000 students, 95 percent of whom go on to attend a postsecondary institution.

5. Integrated Infrastructure

Through successful efforts to streamline and reengineer many internal and external processes and services, the university has saved millions of dollars. Some examples include:

→ Negotiating a new health benefits contract with a 4 percent average premium increase when the national trend is averaging a 15 percent increase, saving in excess of $3 million.
→ Consolidating risk management campus operations, resulting in an annual savings of at least $700,000.
→ Implementing a systemwide international student tracking system, as mandated by the Patriot Act. The systemwide approach saved up to $120,000.
→ Complying with the Health Insurance Portability and Accountability Act (HIPAA), CU developed online courses to train staff on the new privacy requirements.
→ Upgrading the university's human resource system, which is now being delivered via the Web.

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