

# ECONOMIC IMPACT

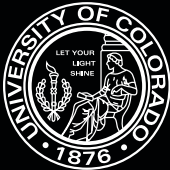


# ADVANCING COLORADO

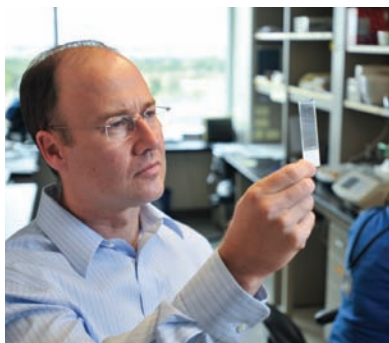
2 0 1 0 - 1 1

## University of Colorado

*Boulder • Colorado Springs • Denver • Anschutz Medical Campus*



# Shaping Lives, Creating Jobs



Education is a **HIGH-YIELD INVESTMENT** that pays lifelong dividends to individuals and society.

CU educates, trains and inspires thousands who become innovators, creators, teachers, health care providers, community leaders and decision-makers. Additionally, CU drives job creation and the state's economic well-being through business startups, partnerships with local, state and federal agencies, construction and essential services for students and campuses.

- **CU contributes \$6.3 billion to the state's economy annually through its demand for goods and services.**



- CU is Colorado's fourth-largest employer, with some 26,000 employees, and is responsible for another 30,000 jobs related to the university's endeavors.

- For every \$1 of unrestricted state general fund support, CU returns \$40 to the Colorado economy.

- Students who study on all four CU campuses and their out-of-state guests spend \$707 million on meals, rent, entertainment, clothing and utilities each year.

- Spending by CU, the university's students and their visitors generates \$300 million annually in local and state taxes for the Colorado economy.

**COLORADO'S UNIQUE ENTREPRENEURIAL SPIRIT AND INNOVATIVE THINKING HAVE OFTEN COME FROM THE NEXT GENERATION OF GREAT MINDS. WE RELY ON OUR UNIVERSITY SYSTEM TO GROW OUR FUTURE WORK FORCE. THEY ARE THE LIFEBLOOD OF COLORADO'S KNOWLEDGE-BASED ECONOMY.**

*—Kelly Brough, President and CEO  
of the Denver Metro Chamber of Commerce*



# Developing a Knowledge-Based Work Force

CU provides Colorado with the knowledge-based WORK FORCE it needs to compete in an increasingly GLOBAL ECONOMY.

CU has an alumni base that is 340,000 strong and growing. Many alumni remain in Colorado, which translates into high-quality human capital and more productive, healthier residents. Studies show that college-educated citizens are more informed, involved and happier people.

- CU confers 46 percent of all college degrees among Colorado's public four-year colleges. That includes:
  - o 41 percent of bachelor's degrees
  - o 60 percent of master's degrees
  - o 54 percent of doctoral degrees
  - o 82 percent of first professional degrees (medicine, dental medicine, nursing practice, pharmacy, law and physical therapy)

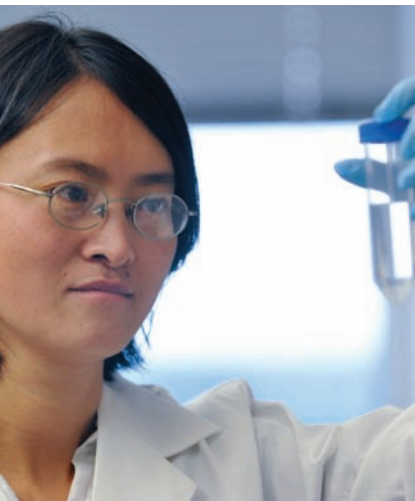
• **CU researchers secured \$847 million in research funding in fiscal year 2009-10.**

- The National Science Foundation ranks CU eighth among public universities for federally financed research and development in science and engineering.

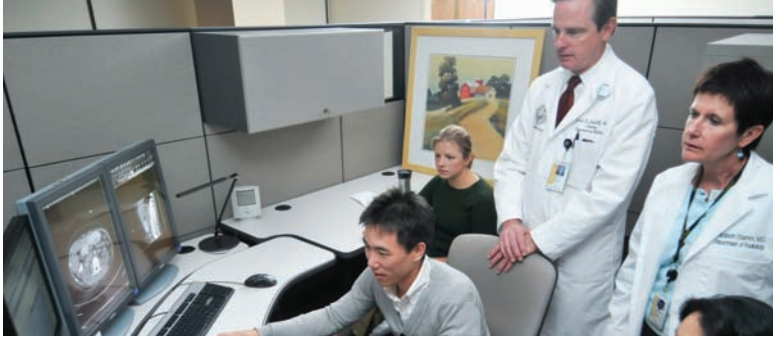


IN AN INCREASINGLY SMALLER WORLD, WE NEED AN EDUCATIONAL ENVIRONMENT WITH A GLOBAL OUTLOOK, WHERE STUDENTS ARE PREPARED TO WORK AND COMPETE ON AN INTERNATIONAL STAGE.

*—Bruce D. Benson, CU President, CU Alumnus, Founder of the Benson Mineral Group, Colorado Philanthropist and Longtime Education Advocate*

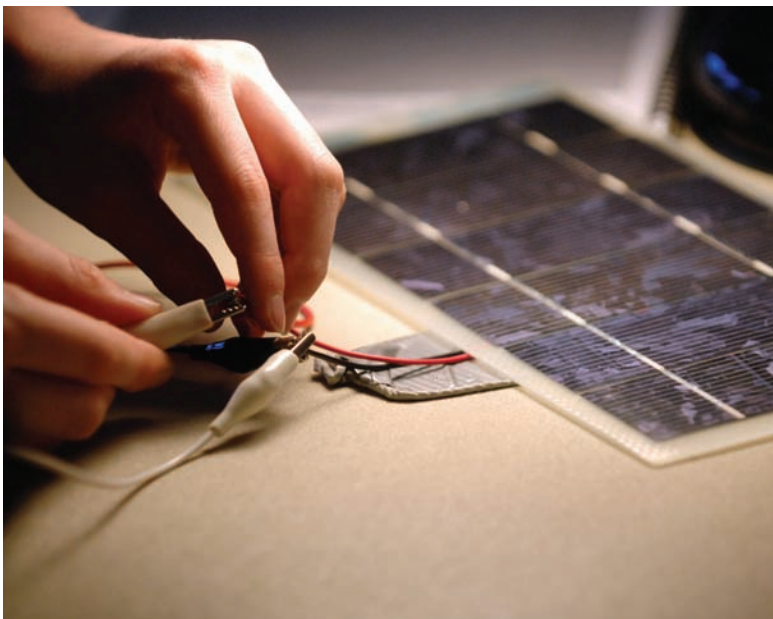


# Fostering Technology Revolutions



CU is a force in developing **LEADING-EDGE TECHNOLOGY** that has powered the creation of new companies and scores of new jobs.

Over the past five years, 51 startup companies based on CU technology and research have emerged. In fiscal year 2008, CU tied for 10th nationally with other major universities for its 11 startups. Startups based on CU innovations include QGenta, which is developing therapeutic solutions for the treatment of solid-tumor cancers, and Phobos Energy, which is working on a power conversion method that will enable more efficient grid connections.



- **Since 2002, efforts to promote and market technology created at CU have generated \$121.2 million in revenue.**
- A fourth of royalties from technology created at CU have gone to discoverers; a fourth to their CU labs; a fourth to the CU Technology Transfer Office; and a fourth to the discoverer's campus.
- CU inventions related to the biosciences make up nearly two-thirds of the university's technology portfolio. The rest comprises cleantech, 10 percent; physical sciences and engineering, 13 percent; and software, 14 percent.

**NOW AND IN THE FUTURE, COLORADO'S ECONOMY WILL INCREASINGLY RELY ON CITIZENS WHO HAVE THE EDUCATIONAL BACKGROUND NEEDED TO MATCH THE DEMANDS OF GLOBAL COMPETITION. ATTRACTING STARTUPS, GREEN ENERGY BUSINESSES AND INFORMATION TECHNOLOGY WHILE SUSTAINING AND GROWING EXISTING INDUSTRY AND BUSINESSES MEAN COLORADO MUST PROVIDE OPPORTUNITIES IN HIGHER EDUCATION. HIGHER EDUCATION PROVIDES A STRONG FOUNDATION THAT MAKES COLORADO MORE COMPETITIVE, EVEN IN A DOWN ECONOMY.**

*– Don Marostica, Executive Director of the Colorado Office of Economic Development and International Trade*

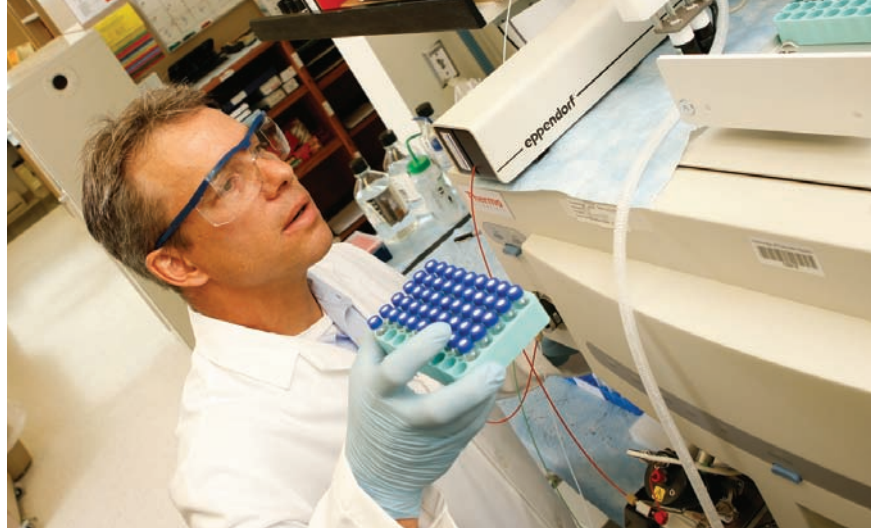
# Building a Biotechnology Economy

- **The Metro Denver Economic Development Corp. reports there are more than 15,090 bioscience workers at 520 companies in the nine-county Denver region.**

- The Denver region ranks sixth among the nation's top 50 metropolitan areas for 2009 employment concentration in medical devices, and 18th for pharmaceuticals and biotechnology employment.

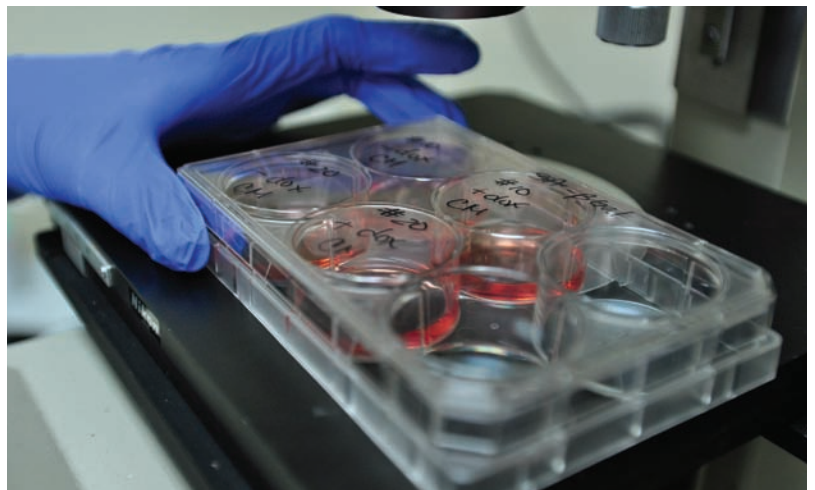
- A major new bioscience initiative at AMC, led by CU stem cell researcher Dennis Roop, is the new Charles C. Gates Center for Regenerative Medicine and Stem Cell Biology, which promises to expand stem cell research and treatment.

- CU researchers working in chemistry, genetics, engineering and the medical sciences are developing new diagnostic tools and better drug therapies. Their work could have far-reaching implications for patients who are facing cancer, joint replacements, heart disease and other health challenges.



Colorado is poised to become a **BIOSCIENCE POWERHOUSE** with the development of several high-profile projects affiliated with CU.

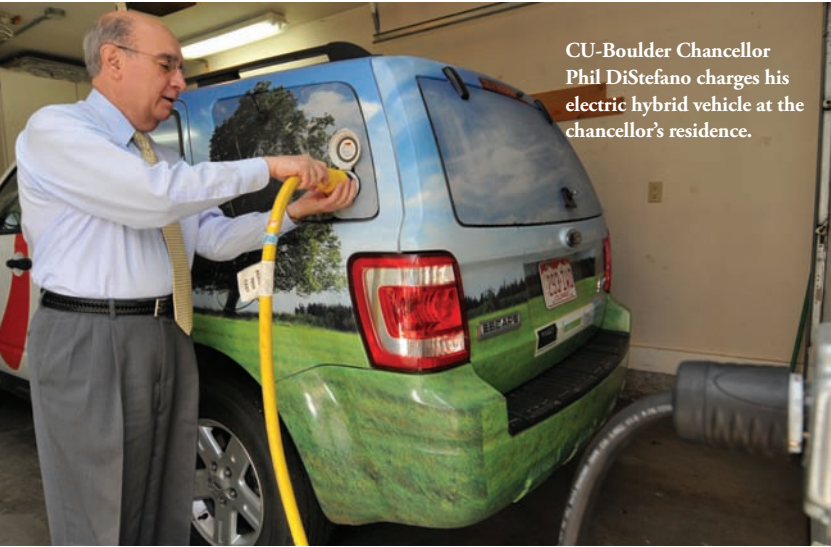
When it opens next year at CU-Boulder, the Jennie Smoly Caruthers Biotechnology Building will be a jewel in the crown of Colorado's burgeoning bioscience sector. The building will be home to the Colorado Initiative in Molecular Biotechnology, or CIMB, led by Nobel laureate and CU Distinguished Professor Tom Cech. Upon completion, the CU Anschutz Medical Campus and the adjacent Fitzsimons Life Science District are expected to support more than 30,000 professionals working in the biosciences.



**CIMB WILL STIMULATE THE COLORADO BIOTECH INDUSTRY BY COMMERCIALIZATION OF NEW DISCOVERIES, BY TRAINING STUDENTS IN THE BUSINESS AND SCIENTIFIC ASPECTS OF BIOTECHNOLOGY, AND THROUGH PARTNERSHIPS WITH REGIONAL COMPANIES.**

*– Thomas Cech, Nobel Laureate, CU Distinguished Professor,  
Director of the Colorado Initiative in Molecular Biotechnology*

# Generating Energy Solutions



CU-Boulder Chancellor Phil DiStefano charges his electric hybrid vehicle at the chancellor's residence.

Colorado has become A NATIONAL HUB for new energy innovation. CU is playing an important role in advancing sustainable and renewable solutions.

According to the Colorado Cleantech Industry Association, more than 300 clean technology companies are based in Colorado—all working toward energy creation that does not deplete natural resources. Cleantech jobs are on the rise, too. The governor's office reports that 17,000 renewable energy and energy research jobs—the fourth-largest concentration in the nation—are powering Colorado's new energy economy.

THE GEM PROGRAM HAS BEEN A TREMENDOUS ASSET TO MY CAREER BY PROVIDING INFORMATION AND INSIGHT INTO A BROAD ARRAY OF TECHNICAL, FINANCIAL AND SOCIETAL ISSUES THAT IMPACT THE HIGHLY INTERCONNECTED ENERGY INDUSTRY.

— Jay Herrmann,  
Vice President of Marketing, Xcel Energy



- **CU-Boulder and its partners – the National Renewable Energy Laboratory (NREL), the Colorado School of Mines and Colorado State University (CSU)— in 2008 founded the Colorado Renewable Energy Collaboratory, a major initiative to advance and develop renewable and sustainable energy solutions.**

- UC Denver's Business School pioneered the Global Energy Management Program (GEM), a Master of Science degree program designed to prepare leaders for conventional, nonconventional and renewable energy businesses. The university created the executive-track program in partnership with major Colorado companies in response to an expected shortfall of energy managers.

- At UCCS, electrical and computer science faculty and graduate students are working with automotive engineers in Detroit and electric-vehicle companies in Colorado to develop the next generation of batteries to power electric and hybrid vehicles.

- CU-Boulder's Renewable and Sustainable Energy Institute has partnered with NREL to create an interdisciplinary joint institute dedicated to solving the world's energy challenges through research, education and marketable technology.



# Providing Health Care to Coloradans

Colorado is home to one of the nation's **FINEST HEALTH CARE, TEACHING, RESEARCH** and clinical care **MECCAS**: the University of Colorado Anschutz Medical Campus.



CU is the only public research university meeting the state's growing demand for physicians, nurses, dentists, oral surgeons, pharmacists, physician's assistants and physical therapists. Doctors who teach in the CU School of Medicine also treat patients at University of Colorado Hospital and affiliates The Children's Hospital, Denver Health Medical Center, National Jewish Health and the Veterans Administration Medical Center. The Anschutz Medical Campus boasts five professional schools: the School of Medicine, the School of Dental Medicine, the School of Pharmacy, the College of Nursing and the Graduate School.

- The CU School of Medicine received \$15.1 million in state funding in fiscal year 2008-09, but provided \$36 million in uncompensated care to Colorado residents.
- In fiscal year 2009, the CU Anschutz Medical Campus produced 327 nurses; 163 pharmacists; 133 physicians; and 70 dentists.
- **For every dollar the state provides, the CU School of Medicine generates \$65 in grants, contracts and revenue.**
- The University of Colorado Hospital and its AMC affiliate The Children's Hospital are "magnet" facilities recognized for their nursing excellence.
- The UCCS Beth-El College of Nursing, one of the state's oldest nursing schools, is using innovative Cisco technology to deliver health care education to rural Colorado.



**WHAT WE DO AT THIS CAMPUS IS EXTRAORDINARY. WE CARE FOR VERY COMPLEX MEDICAL, SURGICAL AND OTHER HEALTH PROBLEMS, AND TRAIN NEW GENERATIONS OF PHYSICIANS AND OTHER HEALTH PROFESSIONALS TO GO TO ALL CORNERS OF COLORADO SO PEOPLE CAN HAVE THE HEALTH CARE THEY DESERVE. THE FUTURE HOLDS HUGE PROMISE AS OUR RESEARCH EFFORTS—AND THE BIOMEDICAL COMPLEX TAKING SHAPE HERE—CONTINUE TO GROW AND INTERACT, WITH THE GOAL OF BRINGING WHAT WE DO FROM THE LABORATORY TO THE PATIENT.**

*— Richard Krugman, M.D., Vice Chancellor for Health Affairs and Dean of the CU School of Medicine*





# Pushing the Aerospace Envelope

Colorado's AEROSPACE INDUSTRY IS SOARING and CU is a large part of that success.

The Centennial State has the nation's third-largest aerospace economy and is home to more than 300 aerospace companies, contractors and suppliers and nearly 177,000 people working in space-related jobs. With one of the oldest and most prestigious space programs in the nation, CU contributes to all of these endeavors. No other public university in the world receives more NASA funding. Since 2005, CU has received nearly \$300 million in NASA grants and contracts to support space research and education.



Jim Voss and students before a spacecraft model called the Dream Chaser.



- **CU is the only research institution in the world that has designed and built NASA space instruments that have traveled to every planet in the solar system.**

- CU has 18 alumni astronauts who have served on 40 space missions spanning the entire U.S. manned space flight program, from the 1960s Mercury program to space shuttle missions.

- LASP—the Laboratory for Atmospheric and Space Physics—at CU-Boulder is the most experienced university-based space research center in the world.

- The CU-Boulder Department of Aerospace Engineering Sciences is ranked 10th nationally among public universities by *U.S. News & World Report*.

**THE AEROSPACE INDUSTRY OFFERS MANY SKILLED JOB OPPORTUNITIES IN COLORADO, AND CU PROVIDES THE RESEARCH-BASED ENGINEERING EDUCATION NECESSARY FOR OUR GRADUATES TO EXCEL THERE.**

– Jim Voss, CU Alumnus-Astronaut and Scholar  
in Residence at the CU-Boulder College  
of Engineering and Applied Science



CU alumnus and NASA astronaut Steve Swanson.

# Nurturing the Colorado Lifestyle



## CU contributes to the rich COLORADO LIFESTYLE.

From Boulder to Colorado Springs, CU campuses and communities play host to a rich array of time-honored Colorado traditions and cultural, academic, business, science and community events, including the annual Colorado Shakespeare Festival, one of the top three Shakespeare festivals in the nation, STEMapalooza, a science expo for K-12 students, the expanding Southern Colorado Economic Forum, and Colorado Buffaloes and Mountain Lion athletic events.

THE COLORADO SHAKESPEARE FESTIVAL IS UNIQUELY POSITIONED TO EXPAND BOTH THE QUALITY AND QUANTITY OF ITS WORK IN THE COMING YEARS, BECOMING AN EVEN BIGGER PLAYER ON THE NATIONAL THEATER SCENE. WE ARE PROUD TO HAVE BEEN A FEATHER IN CU'S CULTURAL CAP SINCE 1958, AND WE TAKE PRIDE IN THE OUTREACH PROGRAMS WE UNDERTAKE, WHICH ALLOW US TO COLLABORATE WITH OTHERS ON THE CAMPUS.

*—Philip C. Sneed, Producing Artistic Director, Colorado Shakespeare Festival*



- More than 92,000 people attended the Conference on World Affairs over five days in the spring of 2010, making it one of the largest annual events in Boulder.
- STEMapalooza, a vibrant science, technology, engineering and math expo for K-12 students, is sponsored by UC Denver. In 2009, the hands-on event drew nearly 10,000 visitors to the Colorado Convention Center.
- Nearly 37,000 people attended the 2009 Colorado Shakespeare Festival on the CU-Boulder campus, generating \$1.3 million in revenue for the local economy.
- **In 2009, Colorado Buffaloes football and men's and women's basketball, volleyball and soccer drew more than 472,000 spectators at CU-Boulder; UCCS Mountain Lion Athletic events drew about 20,000 spectators.**
- The Southern Colorado Economic Forum at UCCS is held each fall, drawing participants eager to learn more about regional economic forecasts.

# University of Colorado



*Boulder • Colorado Springs • Denver • Anschutz Medical Campus*

*Advancing Colorado* is produced by University Relations in the CU Office of the President.  
For more information, go to [www.cu.edu](http://www.cu.edu)  
Please visit University of Colorado's outreach page at [www.cu.edu/content/cuoutreach](http://www.cu.edu/content/cuoutreach)

The data included in the 2010 *Advancing Colorado* is based on the 2008-09 fiscal year expenditures of the university and the CU, CU Real Estate and Coleman foundations, as well as the expenditures of students and their out-of-state visitors. Data for the university and foundations are based on audited financial statements, and student expenditures are estimated based on a four-campus student survey conducted in Fall 2009 (the most recent data available).