Creating Futures

University of Colorado  Boulder

Chemical and Biological Engineering

Building a Brighter Tomorrow
Vision—Chemical and Biological Engineering at the University of Colorado will be a department widely recognized for its innovative and high impact research at the forefront of interdisciplinary science and engineering; for its excellence in education based on active learning, attention to individual students, and discovery learning; for its outstanding students, faculty, and alumni; and for producing future academic, industry, and government leaders.

Need—Our success in achieving this vision and solving global challenges in health, energy, and other areas will be greatly facilitated by the move of Chemical and Biological Engineering and its partners to the new Jennie Smoly Caruthers Biotechnology Building. We need your support in raising the funds to construct this significant new building.

Department Grows in Size and Stature

Over just the past five years, the Department of Chemical and Biological Engineering has seen:

- More than 65% growth in undergraduate enrollment, from 265 to 442 students
- Nearly 30% growth in tenured and tenure-track faculty, from 18 to 23 faculty
- More than 75% growth in research expenditures, from $8 million to $14 million

This explosive growth has been accompanied by excellence in teaching and research:

- Top-10 ranking among public U.S. graduate programs
- Fourth-highest impact among U.S. universities in research citations
- National awards held by 15 faculty, including 7 AIChE institute awards

This growth has been squeezed into the current Engineering Center, which is over 45 years old and suffers from inadequacies such as five students sharing a hood intended for a maximum of two! Greatly expanded and more modern facilities are needed for cutting-edge chemical and biological technologies and will foster new collaboration between science and engineering.

Collaboration Spurs Faster Discoveries

Consider, for a moment, what our future might look like:

- Biotechnology that can generate renewable fuels, reducing our carbon footprint
- Drug therapies usable in remote, inhospitable settings
- Artificial tissue and dental polymers as effective and adaptable as our own flesh and bones

All of these discoveries, and more, will be facilitated by the Caruthers Biotechnology Building, which will be the new home of three of CU-Boulder’s top programs:

- Colorado Initiative in Molecular Biotechnology
- Department of Chemical and Biological Engineering
- Division of Biochemistry
The new building will promote a dynamic environment in which students engage with faculty, entrepreneurs, and industry partners. The laboratories, meeting spaces, and internal gathering areas will generate interactions and inspire creativity within the building community, which includes:

• **Nobel laureate Tom Cech**, who discovered that RNA in living cells is not only a molecule of heredity but also can function as a catalyst
• **Amgen co-founder Marvin Caruthers**, who won the National Medal of Science for his pioneering research resulting in new methods for the chemical synthesis of DNA and RNA
• **Myogen co-founder/Howard Hughes Medical Institute Professor Leslie Leinwand**, whose research on genetic heart defects is advancing biomedicine

**Building on CU’s Record of Excellence**

Your support of the department’s capital campaign for its new space in the Caruthers Biotechnology Building will allow our faculty to continue their record of excellence in teaching, research, and economic development with innovations such as:

• **Repairing knee cartilage**—Distinguished Professor Kristi Anseth is a pioneer in the area of tissue engineering, developing promising techniques for healing injured cartilage, mending broken bones, and even repairing defective heart valves. She has been honored by AIChE as one of the top 100 Chemical Engineers of the Modern Era and has been elected as one of the youngest members of the National Academy of Engineering.

• **Converting agricultural wastes to liquid fuels using the sun’s energy**—Professor Alan Weimer’s 16 years of industry leadership inform his work on solar-thermal reaction processes—and his role as executive director of the Colorado Center for Biorefining and Biofuels, whose partner universities, companies, and federal labs develop sustainable energy resources and technology.

• **Creating vaccines for malaria and other therapeutic drugs with global impact**—Professor Ted Randolph partners with the School of Pharmacy to improve the storage and effectiveness of protein-based drugs that treat diseases such as cancer. He co-founded Barofold, Inc., honored as the Bioscience Company of the Year by the CU Technology Transfer Office.

Your support will ensure that these advancements continue to flourish by providing the facilities to attract additional faculty and student talent from around the world, resulting in new discoveries and spin off of new companies.

**Photopolymerization to develop new dental materials**
How Can You Help?

The Jennie Smoly Caruthers Biotechnology Building will be the lead academic building on CU-Boulder’s burgeoning East Campus, near Colorado Avenue and 30th Street, less than a mile from the present-day Engineering Center. It is designed at 330,000 square feet, with an estimated cost of $170 million to be provided by a combination of university, public, and private support. The private fundraising goal for the move of the ChBE department is only $10 million, but it is a critical $10 million. To complete the building and assure adequate space for the entire Department of Chemical and Biological Engineering, contact us to find out how your gift may be leveraged by other funding sources.

Your gift of any size is needed now to help meet the $10 million goal.

Following are some of the naming opportunities for chemical and biological engineering space that enable you to recognize a loved one, faculty member, or company through your gift:

- Department of Chemical and Biological Engineering, $15 million
- Center for Chemical and Biological Engineering, $5 million
- Center for New Energy Solutions, $3.5 million (already named)
- Research and Discovery Neighborhoods, $1 million-$2 million
- Research and Teaching Laboratories, $200,000-$500,000
- Offices, Conference Rooms, Collaboration Spaces, $30,000-$200,000
- Research Support Laboratories, $50,000-$100,000

Smaller gifts may be applied toward pooled naming opportunities with former classmates or colleagues. Gifts may be made in the form of cash (including automatic payments from check or credit card accounts), securities, trusts, or bequests. You can also make a pledge to fulfill a commitment over a number of years. Contact Ann Scott at the number below to explore the many ways that you can contribute to the success of this very important project.

The Time Is Now

Groundbreaking for the building took place on September 9, 2009, with the first phase scheduled to be completed in spring 2012 and a second phase to follow as soon as the remaining funds are secured.

Just as collaboration is needed to turn an idea for research into a valuable discovery, so too will teamwork allow us to complete the Jennie Smoly Caruthers Biotechnology Building that much sooner. Please make a gift today, and join us at this critical time in our department’s progress.

To learn about the many ways you can make a gift:

Contact
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