BioFrontiers launches innovative co-location program

BioFrontiers offers an unprecedented opportunity for Colorado’s entrepreneurial biotech community by renting lab and office space to some of the most innovative startups. This program allows cutting-edge collaboration among industry and academia, our students, researchers and staff and external partners. Co-location offers students more diverse and marketable training—providing access to the business component of science. Small startups also have access to resources they may not otherwise have, including expertise that can enhance their research, and lab equipment including machines capable of powerful genomics processing. BioFrontiers is emerging as an internationally known center for best practices in co-locating companies on campus.

Recently, Roy Parker, a professor of biochemistry and member of the BioFrontiers Task Force, collaborated with Double Helix, a startup company that rents lab space in the Jennie Smoly Caruthers Biotechnology Building. The collaboration was facilitated by Joe Dragavon, whose Advanced Light Microscopy facility provides services for both Parker and Double Helix. Double Helix works with scientists at CU-Boulder on technologies used in super-resolution imaging. Members of the Parker Lab worked with Double Helix’s Anurag Agrawal and Anthony Barsic to complete super-resolution microscopy of stress granules, which are connected to many human neurodegenerative diseases. This deep level of imaging allowed Parker Lab researchers to look inside the cores of these stress granules and gain a better understanding of how they cause disease. This collaboration resulted in a paper in the scientific journal, Cell.

IQ Biology PhD certificate program

In 2011, the BioFrontiers Institute launched the Interdisciplinary Quantitative (IQ) Biology PhD Certificate Program. This elite graduate education experience gives students unprecedented power to create their own interdisciplinary bioscience doctorate by allowing them to choose rotations across a variety of labs representing three scientific and/or engineering disciplines. This program, led by CU-Boulder Distinguished Professor and Nobel Laureate Tom Cech, provides interdisciplinary experience and access to the University’s leading faculty and researchers from 10 academic departments: Chemistry and Biochemistry; Molecular, Cellular and Developmental Biology; Chemical and Biological Engineering; Computer Science; Applied Mathematics; Geological Science; Physics; Integrative Physiology; Ecology and Evolutionary Biology and Mechanical Engineering.

Extensive training in computational and mathematical biology—which better prepares students to manage and interpret vast quantities of biological data now available to investigators—is a key component of the program. Our IQ Biology program strives to produce graduates who undertake scientific challenges in innovative ways and who are well prepared for careers in business or academia. The IQ Biology Program, which relies heavily on endowed fellowships, currently enrolls 42 students, including six starting this fall, and has awarded three PhDs since its inception.
Kristi Anseth invited by NSF to submit proposal for Engineering Research Center

Kristi Anseth was recently invited by the NSF to submit a full proposal for funding an Engineering Research Center in Personalized Biomaterials. There were 170 pre-proposals submitted and only 17 institutions were invited to submit full proposals. As well, Kristi was recently named a fellow at the National Academy of Inventors, a status given to academic inventors who demonstrate a prolific spirit of innovation that has tangible impact on quality of life, economic development, and the welfare of society.

BioFrontiers addition of fifth wing

In February, we started construction of the $46 million, 57,347-square-foot addition of a fifth wing to the BioFrontiers building. The expansion of our world-class facilities will enable CU-Boulder to increase the number of educational and in-lab research opportunities available to undergraduates, as well as provide an additional springboard for interdisciplinary research and discovery among faculty, staff and students. 3,764 square feet of the E-Wing is dedicated for instructional purposes. This instructional space is designed to promote “active learning,” by which students learn by doing rather than by being lectured. Often they work in small groups, with the professor “setting the stage” for the activity, while teaching assistants and learning assistants provide mentorship. Examples include conducting simple experiments in class, building molecular models, and exploring computer simulations. Clickers are often used to predict the outcome of in-class experiments and to compile class results.

Due to limited construction funds, the instructional space is the only portion of the interior of the building that will be completed at the outset. With generous support from the BioFrontiers Institute’s donors and friends, the university can convert interior shelled space into usable research facilities in the near future.

Core Faculty | Dual Appointments

We have seven core faculty holding dual appointments with CU-Boulder and the Anschutz Medical Campus, including Natalie Ahn, Kristi Anseth, Tom Cech, Robin Dowell, Robert Garcea and Leslie Leinwand. As well, the BioFrontiers Task Force has an additional five faculty members holding dual appointments. Dual appointments support our collaborative and interdisciplinary nature, which is the heart and soul of the Institute.

2016 Butcher Award talk

We are thrilled to announce this year’s upcoming Butcher Award Talk. On Tuesday, October 18, Julie Gerberding, MD will join us. Gerberding, the first woman to be appointed director of the Centers for Disease Control, is an accomplished physician and researcher, a consultant to several national and international health organizations, and now the executive vice president for strategic communications at Merck.

Tom Cech inducted into 2016 Class of Fellows of the AACR Academy

Tom Cech was recently inducted into the 2016 Class of Fellows of the AACR Academy (American Association of Cancer Research). Each year, the AACR Academy serves to recognize and honor 11 distinguished scientists whose major scientific contributions have propelled significant innovation and progress against cancer. Inductees are assessed on the basis of scientific achievements in cancer research and cancer-related biomedical science. Only individuals whose work has had a significant and long lasting impact on the field are eligible for election.

BioFrontiers Institute

Advancing Human Health

An Update for Friends of BioFrontiers

Summer / Fall 2016

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