

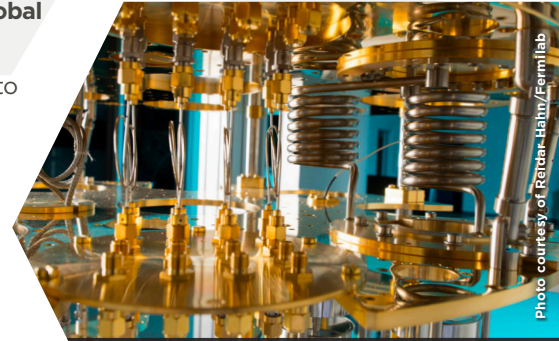
STEM SCIENCE, TECHNOLOGY, ENGINEERING & MATH



With all the resources of a world-class research university, the University of Chicago is a **global leader in scientific advancement**. Our emphasis on critical thinking and creative problem-solving, paired with our world-renowned experts in the STEM fields, prepare our students to lead a **new generation of scientific discovery**. UChicago's intellectual pioneers have long been at the forefront of scientific inquiry and continue to push boundaries and guide the exploration of ideas that reshape the world. Science for tomorrow is happening now, and UChicago plays a pivotal role as a central hub for innovation in **quantum science and engineering** where leading researchers create life-changing technologies.

"Harnessing the laws of quantum mechanics holds great promise for a wide range of technologies. The Chicago Quantum Exchange... [makes] Chicago a unique and powerful hub for the development of critical new technologies."

-Robert J. Zimmer, Chancellor of the University of Chicago

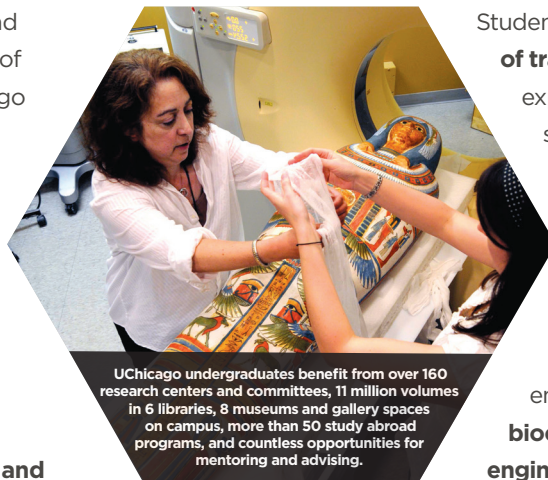


The UChicago Department of Computer Science collaborates in partnership with IBM on the Enabling Practical-Scale Quantum Computing (EPIQC) project to develop powerful, energy-efficient quantum computing technologies.

RESEARCH

A continuing legacy of scientific achievement

Innovative thinking by UChicago scholars has led to the discovery of new dinosaurs, the mathematical theory of black holes, the first self-sustaining nuclear reaction, and much, much more. This **legacy of discovery** continues today, with students and faculty across multiple disciplines contributing to research that has positioned UChicago **at the forefront** of the fields of quantum science and engineering. The U.S. Department of Energy has partnered with UChicago and the national laboratories it oversees to turn science fiction into reality by **harnessing molecules into a single quantum state** and creating quantum communications networks, quantum matter synthesizers, and quantum computing applications to particle acceleration—**new breakthroughs and technologies** that promise to reshape our approaches to some of the most challenging problems faced by the world today.



UChicago undergraduates benefit from over 160 research centers and committees, 11 million volumes in 6 libraries, 8 museums and gallery spaces on campus, more than 50 study abroad programs, and countless opportunities for mentoring and advising.

ENGINEERING

Revolutionizing undergraduate engineering

Building on a strong foundation in mathematics, physics, chemistry, and biology, the Pritzker School of Molecular Engineering (PME) offers students in the College a leading-edge engineering curriculum, including the world's first program formally training quantum engineers at the undergraduate level.

Students **transcend the limits of traditional engineering**, exploring solutions to societal challenges and global issues across a spectrum of disciplines. Molecular Engineering majors choose from three engineering tracks—**bioengineering, chemical engineering, or quantum engineering**—and graduate ready for leadership roles in a wide variety of technology-focused careers.

\$600+

million in sponsored research awards each year

80%

of undergraduate students at UChicago get involved in research

160+

research centers and committees

10¹⁸

calculations per second will be performed by Argonne's supercomputer, Aurora, the most powerful computer in the U.S.

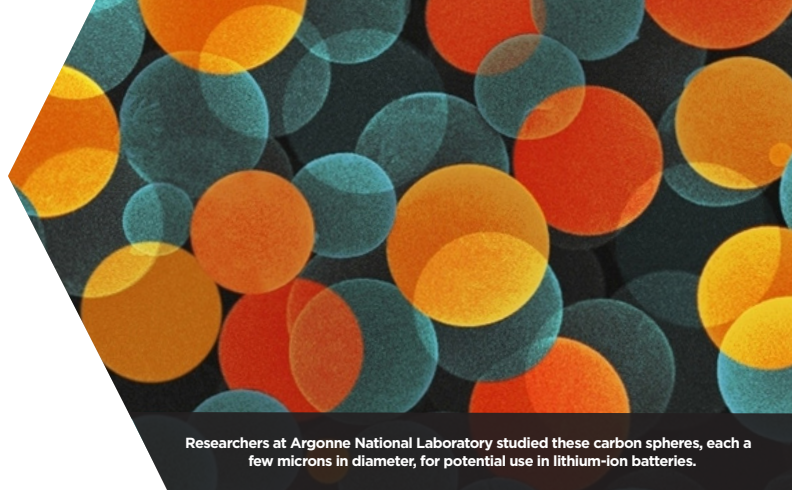
Year-round, undergraduate students perform independent research at the Marine Biological Laboratory in Woods Hole, Massachusetts.



RESOURCES

Leading-edge facilities for world-changing research

- **The Chicago Quantum Exchange** is an intellectual hub for advancing academic and industrial efforts in the science and engineering of quantum systems.
- **The Center for Data and Computing** is the incubator for new multidisciplinary data science research at the University of Chicago.
- **Fermilab** is a Department of Energy National Laboratory named for UChicago professor and Nobel laureate Enrico Fermi that explores the nature of the universe using state-of-the-art particle accelerators.
- **Argonne National Laboratory**, soon to be home to the most powerful supercomputer ever built in the U.S., is the United States' first science and engineering National Laboratory, and its researchers work to solve vital energy, health, technological, and security problems.
- **The Marine Biological Laboratory** in Woods Hole, Massachusetts, hosts researchers who study biology, biomedicine, and environmental science.



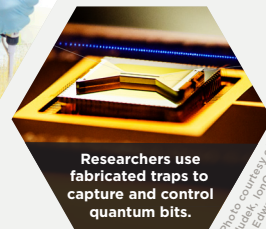
Researchers at Argonne National Laboratory studied these carbon spheres, each a few microns in diameter, for potential use in lithium-ion batteries.

- **The Chicago Center for Cosmochemistry** pursues projects that include studying meteoric isotopes, measuring stardust grains, and examining samples of comets and asteroids.
- **The Pierre Auger Observatory** in Argentina turns an eye towards cosmic rays, stellar motions, and astronomical happenings.
- **The Pritzker School of Medicine** and **the University of Chicago Medical Center** give undergraduates limitless possibilities for medical and biological research on UChicago's campus.

GROWTH

Lifelong support for STEM careers

Undergraduates are supported by their academic advisors, professors, alumni, and Career Advancement advisors. Students of any major can participate in UChicago's Careers In Science, Computation, Innovation, and Engineering (CISCIE), which organizes a workshop curriculum, research opportunities, internships, treks, and innovation competitions. Recent career treks have visited Palo Alto, New York City, and Beijing, and have toured companies like Caterpillar, Google, and Chrysler Group. The Polsky Center for Entrepreneurship and Innovation works with STEM students to foster a culture of entrepreneurship and bridge the gap between theoretical research and commercial applications, creating an incubator environment to nurture undergraduates' entrepreneurial spirit.

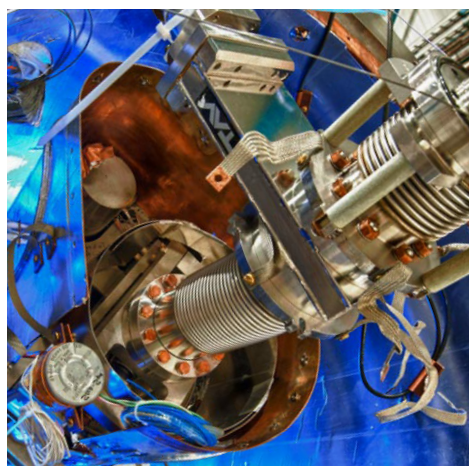


Researchers use fabricated traps to capture and control quantum bits.

Photo courtesy of Prof. Huoke Tomko of the Edwards, JQI



The William Eckhardt Research Center is home to the University of Chicago's Pritzker School of Molecular Engineering.



From blueprint to construction, Fermilab scientists and engineers develop particle accelerators in collaboration with researchers around the world.



Students enjoy a CISCIE trek to the Marine Biological Laboratory in Woods Hole, Massachusetts.



At Argonne, electrons are accelerated to 99.999+% the speed of light in the Advanced Photon Source.