With all the resources of a world-class research university, the University of Chicago is a \textit{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 \textit{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.”

-\textit{Robert J. Zimmer, President of the University of Chicago}

\section*{RESEARCH}
\textbf{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 \textit{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. In 2018, the U.S. Department of Energy awarded $22 million to UChicago and the national laboratories it oversees to turn science fiction into reality by creating quantum communications networks, quantum matter synthesizers, and quantum computing applications to particle acceleration—new technologies that promise to reshape our approaches to some of the most challenging problems faced by the world today.

\section*{ENGINEERING}
\textbf{Revolutionizing undergraduate engineering}

Building on a strong foundation in mathematics, physics, chemistry, and biology, the Institute for Molecular Engineering (IME) offers students in the College a leading-edge curriculum, including the world’s first program formally training quantum engineers at the undergraduate level. Students \textbf{transcend the limits of traditional engineering}, exploring approaches to societal problems and global issues across a spectrum of disciplines.

Molecular Engineering majors choose from three engineering tracks—\textit{biology, chemical and soft materials, and applied physics}—and graduate with an innovative conceptual toolbox built from an understanding of the fundamentals of science at the nanoscale.

\textbf{$450$ million in sponsored research awards each year}

\textbf{80\% of undergraduate students at UChicago get involved in research}

\textbf{160+ research centers and committees}

\textbf{10^{18} calculations per second will be performed by Argonne’s supercomputer, Aurora, the most powerful computer in the U.S.}
The William Eckhardt Research Center is home to the University of Chicago’s Institute for Molecular Engineering. At Argonne, electrons are accelerated to 99.999+% the speed of light in the Advanced Photon Source.

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

Undergraduates are supported by their academic advisors, professors, alumni, and Career Advancement advisors. Students of any major can participate in UChicago Careers in Science, Technology, Engineering, and Math (UCISTEM), 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 at Argonne National Laboratory studied these carbon spheres, each a few microns in diameter, for potential use in lithium-ion batteries.

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.

GROWTH
Lifelong support for STEM careers

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• 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.