

## THE INSTITUTE FOR MOLECULAR ENGINEERING

### ADDRESSING SOCIETAL PROBLEMS WITH MOLECULAR SCIENCE

With renowned scientists from around the world, the Institute for Molecular Engineering is defining a nascent field of study that has the potential to address fundamental problems of societal import. The institute was created in partnership with Argonne National Laboratory and builds on the tradition of collaboration and cutting-edge research well established at Argonne and the University of Chicago.

The institute conducts research at the intersection of chemical, electrical, mechanical, and biological engineering as well as materials, biological, and physical sciences. The institute's work exploring innovative technologies in nanoscale manipulation and design at a molecular scale has the potential for societal impact in such areas as energy, health care, and the environment.

### A NEW FIELD

The Institute for Molecular Engineering is at the forefront of an emerging field. This exciting new field involves the incorporation of synthetic molecular building blocks—including electronic, optical, mechanical, chemical, and biological components—into functional systems that will impact technologies from advanced medical therapies to quantum computing. The institute is the largest new academic program that the University has started since the founding of the University of Chicago Harris School of Public Policy in 1988.

The institute's partner, Argonne National Laboratory, brings leading scientists and engineers and world-class facilities to the endeavor, including the Advanced Photon Source, the Argonne Leadership Computing Facility, and the Center for Nanoscale Materials.

### AN INTERDISCIPLINARY APPROACH

The groundbreaking institute has an interdisciplinary approach to research at the molecular level. A committee of University faculty first conceived of the Institute for Molecular Engineering as a new research and teaching program building on the University's strengths in the basic molecular, computational, and clinical sciences. In this spirit of collaboration across disciplines, it will share a space with the University's Physical Sciences Division in the forthcoming William Eckhardt Research Center. Over the next decade, the Institute for Molecular Engineering will recruit at least 24 faculty members, many of them with joint appointments at Argonne, to work in thematic areas defined by the director and other faculty.

"This isn't going to be directed narrowly toward one scientific discipline, but at creating an institute that attacks societal problems from a technological viewpoint," said Matthew Tirrell, the founding Pritzker Director of the institute. "Many important societal problems in energy or health care or the environment can be addressed by new molecular-level science. When you are trying to solve problems, you need people from different kinds of disciplines. That's something the Institute for Molecular Engineering can create right from the beginning."