Matthew Tirrell, a pioneering researcher in the fields of biomolecular engineering and nanotechnology, is the founding Pritzker Director of the Institute for Molecular Engineering.

Tirrell specializes in the manipulation and measurement of the surface properties of polymers, materials that consist of long, flexible chain molecules. His work combines microscopic measurements of intermolecular forces with the creation of new structures. His work has provided new insight into polymer properties, especially surface phenomena, such as adhesion, friction, and biocompatibility, and new materials based on self-assembly of synthetic and bioinspired materials.

Tirrell began his academic career in 1977 at the University of Minnesota, where he served as Shell Distinguished Chair in Chemical Engineering, Earl E. Bakken Professor of Biomedical Engineering, director of the Biomedical Engineering Institute, and head of Chemical Engineering and Materials Science. Tirrell moved to the University of California, Santa Barbara, in 1999, where for a decade he was professor of Chemical Engineering, Materials, Biomolecular Science, and Engineering, and Richard A. Auhll Professor and Dean of the College of Engineering.