W. E. (William Esco) Moerner, the Harry S. Mosher Professor of Chemistry and Professor, by courtesy, of Applied Physics at Stanford University, conducts research in physical chemistry and chemical physics of single molecules, single-molecule biophysics, super-resolution imaging and tracking in cells, and trapping of single molecules in solution. His interests span methods of precise quantitation of single-molecule properties, to strategies for three-dimensional imaging and tracking of single molecules, to applications of single-molecule measurements to understand biological processes in cells, to observations of the photodynamics of single photosynthetic proteins and enzymes. He has been elected Fellow/Member of the NAS, American Academy of Arts and Sciences, AAAS, ACS, APS, and OSA. Major awards include the Earle K. Plyler Prize for Molecular Spectroscopy, the Irving Langmuir Prize in Chemical Physics, the Pittsburgh Spectroscopy Award, the Peter Debye Award in Physical Chemistry, the Wolf Prize in Chemistry, and the 2014 Nobel Prize in Chemistry.