

Professor J. Andrew McCammon

Biographical Sketch

J. Andrew McCammon is Distinguished Professor of the Graduate Division at UCSD, where he is also Distinguished Research Professor of Chemistry & Biochemistry and Distinguished Research Professor of Pharmacology. He received his B.A. from Pomona College, and his Ph.D. in chemical physics from Harvard University, where he worked with John Deutch (of MIT). In 1976-78, he developed the computer simulation approach to protein dynamics in Martin Karplus's lab at Harvard. He joined the University of Houston as Assistant Professor of Chemistry in 1978 and became the M.D. Anderson Chair Professor of Chemistry in 1981. He moved to UCSD in 1995. Professor McCammon has invented theoretical methods for accurately predicting and interpreting molecular recognition, rates of reactions, and other properties of chemical systems. In addition to their fundamental interest, these methods play a growing role in the design of new drugs and other materials. Professor McCammon is the author with Stephen Harvey of "Dynamics of Proteins and Nucleic Acids" (Cambridge University Press) and is the author or co-author of about 900 publications in theoretical chemistry and biochemistry. More than 80 of his graduate students and postdoctoral fellows have secured tenured or tenure-track faculty positions at leading colleges and universities. In the 1980's, Professor McCammon guided the establishment of the computer-aided drug discovery program of Agouron Pharmaceuticals (now Pfizer Global Research and Development, La Jolla Laboratories), and contributed to the development of the widely prescribed HIV-1 protease inhibitor, Viracept (nelfinavir). The McCammon group's studies of HIV-1 integrase flexibility contributed to the discovery of the first in a new class of antiviral drugs by Merck & Co., named Isentress (raltegravir) and approved by the US FDA in 2007. Professor McCammon received the first George Herbert Hitchings Award for Innovative Methods in Drug Design from the Burroughs Wellcome Fund in 1987. In 1995, he received the Smithsonian Institution's Information Technology Leadership Award for Breakthrough Computational Science, sponsored by Cray Research. That same year, he was appointed to the Joseph E. Mayer Endowed Chair in Theoretical Chemistry at UCSD. He was appointed an Investigator of the Howard Hughes Medical Institute during 2000-2017. He received the American Chemical Society's 2008 National Award for Computers in Chemical and Pharmaceutical Research. He received the Joseph O. Hirschfelder Prize in Theoretical Chemistry for 2016-17, the Russell M. Pitzer Award in Theoretical Chemistry in 2017 and the Philip and Marjorie Newmark Award in Biochemistry in 2021. Professor McCammon is a Fellow of the American Academy of Arts and Sciences, the American Association for the Advancement of Science, the American Physical Society, and the Biophysical Society. He is a Member of the US National Academy of Sciences.