

Prof. Amitabha Chattopadhyay



Prof. Amitabha Chattopadhyay received B.Sc. with Honors in Chemistry from St. Xavier's College (Calcutta) and M.Sc. from IIT Kanpur. He obtained his Ph.D. from the State University of New York (SUNY) at Stony Brook, and was a Postdoctoral Fellow at the University of California, Davis. He subsequently joined the Centre for Cellular and Molecular Biology (CCMB) in Hyderabad and now is a J.C. Bose Fellow there.

Prof. Chattopadhyay's work is focused on monitoring organization, dynamics and function of biological membranes in healthy and diseased conditions. His group has developed and applied novel, innovative and sensitive techniques (such as the *wavelength-selective fluorescence approach*) using fluorescence spectroscopy for monitoring solvent relaxation in membranes, membrane-mimetic media, and proteins. These pioneering studies have led to a better understanding of the dynamics of hydration of membranes and proteins. Another seminal contribution of Prof. Chattopadhyay's group focuses on the role of membrane cholesterol in regulating the organization, dynamics and function of G protein-coupled receptors such as the serotonin_{1A} receptor. His work showed, for the first time, that membrane cholesterol is necessary for the function of G protein-coupled receptors such as the serotonin_{1A} receptor. His work has also provided novel insight in the role of membrane cholesterol in the entry of pathogens into host cells. Prof. Chattopadhyay has used fluorescence-based microscopic approaches such as Fluorescence Recovery After Photobleaching (FRAP), Fluorescence Correlation Spectroscopy (FCS), and Fluorescence Resonance Energy Transfer (FRET) to provide novel insight into organization, dynamics and function of membrane-bound receptors. Overall, his work has contributed significantly to the understanding of membrane organization and dynamics, and the interplay between membrane lipids and proteins, especially in neuronal membranes.

Prof. Chattopadhyay was awarded the prestigious **The World Academy of Sciences (TWAS) Prize, Shanti Swarup Bhatnagar Award**, Ranbaxy Research Award, Prof. G.N. Ramachandran 60th Birthday Medal from the Indian National Science academy, and is a J.C. Bose Fellow of the Dept. of Science and Technology, Govt. of India. He is an elected Fellow of the Royal Society of Chemistry, and all the Indian Academies of Science, the Telangana Academy of Sciences, and West Bengal Academy of Science and Technology. Prof. Chattopadhyay has served on the editorial boards of a large number of journals that include *Biophysical Journal*, *The Journal of Physical Chemistry*, *Journal of Neurochemistry*, *BBA-Biomembranes*, *Journal of Membrane Biology*, *FEBS Letters*, *IUBMB Life* and *ACS Chemical Neuroscience*. He has mentored a number of students for Ph.D. Prof. Chattopadhyay has authored more than 230 research publications (mostly as first or senior/corresponding author; **total citations > 9300, h-index 52, i-10 index 171**), a monograph, and national and international patents. He has delivered more than 500 invited lectures all over the world including keynote, plenary, and colloquium lectures. Prof. Chattopadhyay has organized a number of international conferences on the broad theme of biological membranes including a thematic meeting of the Biophysical Society. Prof. Chattopadhyay has been instrumental in designing and teaching courses related to biomembranes and fluorescence spectroscopy for Ph.D. students in India and other parts of the world. In recent years, Prof. Chattopadhyay has been involved with science awareness programs among high school and college students. Prof. Chattopadhyay is an Adjunct Professor at the Tata Institute of Fundamental Research (Mumbai), Indian Institute of Technology (Kanpur), Jawaharlal Nehru University (New Delhi), Indian Institute of Science Education and Research (Mohali), Royal Melbourne Institute of Technology (Australia), Swinburne University of Technology (Australia), and Honorary Faculty at the Jawaharlal Nehru Centre for Advanced Scientific Research (Bangalore). He served as the first Dean of Biological Sciences of the Academy of Scientific and Innovative Research.