

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 **SERB Distinguished 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 (GPCRs) 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, SERB Distinguished Fellowship, and J.C. Bose Fellowship from the Dept. of Science and Technology, Govt. of India. He is an elected Fellow of The World Academy of Sciences, Royal Society of Biology, Royal Society of Chemistry, and all the Indian Academies of Science. 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 close to 300 research publications (mostly as first or senior/corresponding author; **total citations > 11,600, h-index 57, i-10 index 190**), two monographs, and national and international patents. He has delivered close to 600 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 abroad. Prof. Chattopadhyay is involved with science awareness and popularization programs among high school and college students in India, and in giving lectures to students and junior faculty on manuscript and grant writing. Prof. Chattopadhyay is a **Distinguished Visiting Professor** at the Indian Institute of Technology Bombay (Mumbai), Adjunct Professor at the Jawaharlal Nehru University (New Delhi), Tata Institute of Fundamental Research (Mumbai), Indian Institute of Science Education and Research (Kolkata), Royal Melbourne Institute of Technology (Australia), Swinburne University of Technology (Australia), and Honorary Professor 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.