

## Prof. Amitabha Chattopadhyay



Prof. Amitabha Chattopadhyay is a global leader in membrane and receptor biology and biophysics and is a **CSIR Bhatnagar Fellow** at the Centre for Cellular and Molecular Biology (CCMB) in Hyderabad (India), and Professor and Founding Dean of Biological Sciences at the Academy of Scientific and Innovative Research. In addition, he is a Distinguished Visiting Professor at the Indian Institute of Technology Bombay, Adjunct Professor at the Jawaharlal Nehru University (New Delhi), Tata Institute of Fundamental Research, Indian Institute of Science Education and Research (Kolkata), Swinburne University of Technology (Australia), and Honorary Professor at the Jawaharlal Nehru Centre for Advanced Scientific Research (Bangalore). Prof. Chattopadhyay received B.Sc. with Honors in Chemistry from St. Xavier's College (Kolkata) and M.Sc. in Chemistry 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 at Davis, prior to joining CCMB.

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 based on fluorescence spectroscopy for monitoring solvent relaxation in membranes, membrane-mimetic media, and proteins. These insightful studies have led to a better understanding of the dynamics of hydration in membranes and proteins. A 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 (GPCRs), which are important cellular nanomachines that act as drug targets in a majority of human diseases. Pioneering work from his group showed that membrane cholesterol is necessary for the function, organization and endocytosis of GPCRs. Recent work from his group has revealed the molecular mechanism of cholesterol sensing by GPCRs. In addition, his work has 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 useful insight into organization, dynamics and function of membrane 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, and its implications in healthy and diseased states.

Prof. Chattopadhyay's pioneering contributions in membrane and receptor biology and biophysics have been recognized by several awards and prizes. These include **The World Academy of Sciences (TWAS) Prize**, **Shanti Swarup Bhatnagar Award**, Ranbaxy Research Award, Prof. G.N. Ramachandran Gold Medal, SERB Distinguished Fellowship, Prof. G.N. Ramachandran 60<sup>th</sup> Birthday Medal and J.C. Bose Fellowship. 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 is currently the **Editor-in-Chief** of *The Journal of Membrane Biology* and Editorial Board Member of *ACS Chemical Neuroscience*, *FEBS Letters*, *Biophysical Reviews*, *BBA-Biomembranes* and *Chemistry and Physics of Lipids*. He has served on the Editorial Boards of many journals. that include *Biophysical Journal*, *The Journal of Physical Chemistry*, *Journal of Neurochemistry*, *Cellular and Molecular Neurobiology*, *Journal of Fluorescence* and *IUBMB Life*. He recently received the Springer Nature Editor of Distinction Award (2025). Prof. Chattopadhyay has mentored more than 20 Ph.D. students and has authored ~300 research publications (mostly as first or senior/corresponding author; **total citations >18,000**, **h-index 71**, **i-10 index 255** (source: Google Scholar)), two monographs, and national and international patents. He has visited >35 countries and delivered >670 invited lectures all over the world including keynote, plenary, colloquium, and award lectures and organized a number of successful international conferences. He is a popular teacher and has designed and taught courses on 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 national level workshops on manuscript and grant writing intended for students and junior faculty. He supports inclusivity and diversity in academia and has extensively traveled across the globe and likes to experience diverse cultures. He is an avid reader and storyteller, and a connoisseur of movies, music, cuisines, and cricket.