

INVITATION



CSIR-Centre for Cellular and Molecular Biology

cordially invites you on the occasion of its

Founder's Day

lecture by

Prof. Satyajit Mayor

NCBS, Bangalore

on

The edge of a cell, a living fabric: when Physics meets Biology at the surface of living cells

at 4:00 pm on Wednesday, 22nd February 2023



at the CSIR-Indian Institute of Chemical Technology (IICT) Auditorium
Uppal Road, Hyderabad

Dr Vinay K. Nandicoori

Director

High Tea before the talk

About the Speaker



Prof. Satyajit Mayor serves as director of the National Centre for Biological Sciences, Bangalore. Mayor is the former director of the Institute for Stem Cell Biology and Regenerative Medicine (inStem) at Bangalore which has a focus on the study of stem cell and regenerative biology.

In 2012, Mayor won the Infosys Prize for life sciences for his study of regulated cell surface organization and membrane dynamics.

Mayor studied chemistry at the Indian Institute of Technology Bombay and was awarded his PhD in life sciences from The Rockefeller University, New York.

Abstract:

The plasma membrane of an animal cell is a lipid bilayer sandwiched in between the extracellular matrix at the outside and the cortical cytoskeleton at the inside of the cell, demarcating the edge of the cell. It also serves as the site of information transfer between the outside and the inside of the cell. It has been fifty years since Singer and

Nicolson proposed a model to synthesize many of the biophysical properties and organizational characteristics of the plasma membrane, however, efforts to understand the structure and consequently function of the plasma membrane have a long history. In his talk he will survey this history as well as provide an evolutionary perspective on the origins of this remarkably complex fabric made up of many different lipid species and proteins, draped over a cortical actin mesh. It has only been recently recognized that engagement with this dynamic cortex results not only in the control of the shape of the cell and diffusion of membrane components, but also the local composition of this membrane. He will discuss a new model, the active actin membrane composite model of the plasma membrane which accounts for how local composition at the meso-scale may be regulated by the active mechanics of the underlying cytoskeleton. In his talk, he will show how this feature provides a cell the capacity to integrate both chemical and physical cues to fine tune its information processing systems.

Programme

Wednesday, 22nd February 2023

- | | |
|-----------|---|
| 3.30 P.M. | High Tea |
| 4.00 P.M. | Talk by Prof. Satyajit Mayor |
| 5.00 P.M. | Certificate & Memento Distribution |
| 5.25 P.M. | Vote of Thanks |
| 5.30 P.M. | Interactive Session with Prof. Satyajit Mayor |