CSIR-CCMB

Cryo-electron microscopy facility opens in Hyderabad at CCMB

Hyderabad, 25th March, 2022: A cutting-edge facility for cryo-electron microscopy was inaugurated by Dr Shekhar Mande, Director-General, Council of Scientific and Industrial Research (CSIR) at the Centre for Cellular and Molecular Biology (CCMB). This makes Hyderabad the second city in India to host a modern cryo-electron microscopy facility. Such a facility allows scientists to look at matter to its atomic details. A close look at molecules such as proteins have been at the forefront of understanding the structural details of living cells and drive drug discovery. In the last two years, such insights have enabled the scientists and pharmaceutical industries understand the coronavirus and find out potential cures.

“The modern cryo-electron microscopy facility is expected to help us view the functioning of several molecular machines that operate in the cell that were earlier not amenable to conventional structure determination methods such as X-ray crystallography or Nuclear Magnetic Resonance (NMR),” said Dr Rajan Sankaranarayanan, an eminent structural biologist at CCMB.

“The facility on CCMB’s campus is funded by the CSIR. It will be accessible to researchers in CCMB, other CSIR labs as well as in other research institutes and universities. It will also be available to the biotech and pharmaceutical industries, of which Hyderabad is a major hub. The facility has been largely built in CCMB in the last two years during COVID-19 pandemic, thanks to our in-house teams,” said Dr Vinay K Nandicoori, Director, CCMB.

This facility will allow working with samples at cryogenic temperatures, around -173 °C, and photographing individual molecules using the electron microscope. This, in addition to the confocal microscopy, NMR spectroscopy and X-ray diffraction facilities at CCMB, makes it a formidable facility for researchers to look into details of living cells like never before.