



Indian Institute of Technology Delhi

DEPARTMENT OF BIOCHEMICAL ENGINEERING & BIOTECHNOLOGY

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Switching of Cargos driven by a Team of Motor Proteins at Microtubule Intersections

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Eukaryotic cells employ specialized proteins called molecular motors for transporting organelles and vesicles from one location to another in a regulated and directed manner. These molecular motor proteins are mechano-chemical enzymes that often work collectively as a team while transporting cargos. Intra-cellular cargos transported by a team of motor proteins vary greatly in their shape and sizes-from spherical lysosomes, vacuoles and peroxisomes to ellipsoid mitochondria and chloroplast, from almost cylindrical golgi bodies and small microtubules to irregular shaped rRNA molecules and viral proteins. These cargos often navigate through a complex three dimensional cytoskeletal network consisting of many microtubules and actin filaments to reach their destination, as single filaments are not long enough to traverse the entire dimensions of the cell from source to destination. Thus, cargos have to switch from one filament to another at these intersections during their intracellular travel for effective cell navigation. In this talk, I will focus on our theoretical/computational models to understand how cargo switching from one filament to another depends on the geometries of microtubule intersections in 3D.

All are welcome

Seminar will be held in **DBEB SEMINAR ROOM** at **Block I, Room 223** at **4 PM**
For additional information, contact Seminar coordinator D. Sundar at sundar@dbeb.iitd.ac.in