

A GIAN course on "Motor Proteins and Molecular Motors" (04 -08 Feb 2019)

Program schedule:

| Day 1 | Registration | 10:30 am - 10:55 am (outside CR-II) | | |
|------------------------------------|--------------|-------------------------------------|-------------------|---|
| 04/02/2019 (Monday) | | Venue | Time | Topic |
| | Lecture 1 | CR-II | 11:00 am - 12:00 | Introduction to motor proteins in biological systems. |
| | Lecture 2 | CR-II | 3:00 pm - 4:00 pm | History of biological molecular motors, their classification, structures and functions. |
| Day 2 05/02/2019 (Tuesday) | Lecture 3 | CR-II | 11:00 am - 12:00 | Overview of experimental methods for investigating motor proteins. Bulk chemical kinetic measurements and structural methods. |
| | Lecture 4 | CR-II | 3:00 pm - 4:00 pm | Single-molecule force spectroscopy, fluorescent labeling and super-resolution techniques. |
| Day 3 06/02/2019 (Wednesday) | Lecture 5 | CR-II | 11:00 am - 12:00 | Theoretical foundations for understanding motor proteins. Equilibrium thermodynamics and statistical mechanics. |
| | Lecture 6 | CR-II | 3:00 pm - 4:00 pm | Chemical kinetics, random walks and first-passage processes. |
| | Tutorial 1 | CR-II | 4:30 pm - 5:30 pm | |
| Day 3 07/02/2019 (Thursday) | Lecture 7 | CR-II | 11:00 am - 12:00 | Theoretical analysis of biological molecular motors: Continuum ratchets. |
| | Lecture 8 | CR-II | 3:00 pm - 4:00 pm | Theoretical analysis of biological molecular motors: Discrete-state stochastic methods. |
| | Tutorial 2 | CR-II | 4:30 pm - 5:30 pm | |
| Day 5 08/02/2019 (Friday) | Lecture 9 | CR-II | 11:00 am - 12:00 | Collective behavior of motor proteins. |
| | Lecture 10 | CR-II | 3:00 pm - 4:00 pm | Artificial molecular motors and rotors. |

CR = Conference room