



ICTS Seminar

- Title : Multiscale simulation of biomolecules: Understanding the emergence of biological functions from the interaction of molecules
- Speaker : Sumantra Sarkar (Los Alamos National Laboratory, USA)
- Date : Tuesday, July 28, 2020
- Time : 03:30 pm (IST)
- Abstract : Biological systems display a rich array of behaviors, such as growth, proliferation, migration, and responding to external stimuli, which give them their lifelike qualities. Most of these behaviors emerge from the collective interactions and reactions of thousands of molecules. Therefore, the holy grail of modern biophysics is to identify and understand how macroscopic biological behaviors emerge from the microscopic interactions of these molecules. The key challenge to such an effort is that biological interactions occur over broad spatiotemporal scales. In this talk, I shall describe a novel theoretical technique, called GFRD, that allows us to bridge the spatiotemporal scales between microscopic interactions and macroscopic behavior. Using this tool, I shall demonstrate progress in understanding how dynamics at microscopic spatiotemporal scales influences macroscopic behaviors. These results have a significant impact on our present understanding of biological phenomena and will open up new vistas in the study of reaction-diffusion systems.
- Online seminar : Please click on the below link to join the meeting
Link: <https://guest.livesize.com/672942> (supported browser: Google Chrome)