

## **ICTS Special Colloquium**

- Title : Artificial microswimmers: individual and collective phenomena
- Speaker : Stephan Herminghaus, Max Planck Institute for Dynamics and Self-Organization, Germany
- Date : Thursday, October 4, 2018
- Time : 11:00 AM
- Venue : Ramanujan Lecture Hall, ICTS Campus, Bangalore
- Abstract : Plankton provides the most important route of injection of solar energy into the biosystem. It is therefore of major importance to attain a deep understanding of swimming motility and swarming of these microorganisms. As their natural habitats include turbulent (oceanic photosphere) and still (lacustrine) waters as well as the benthic (seafloor) areas, a wide variety of geometries and flow conditions are to be studied. We discuss a number of phenomena found recently in both natural single-cell swimmers (*Chlamydomonas reinhardtii*) and artificial liquid microswimmers consisting of self-propelling 'oil' droplets. Some emphasis is given to properties which may be relevant for biofilm formation, such as adhesion and swarm formation, in particular in non-trivial geometries.