ICTS Colloquium

Title : Holomorphic curves and their applications in symplectic topology

Speaker : Mohan Swaminathan (Stanford University, California, USA)

Date : Tuesday, 14th May 2024

Time : 03:30 PM (IST)

Abstract : Symplectic manifolds" are a simultaneous generalization of (i) phase spaces from Hamiltonian mechanics and (ii) "algebraic varieties", i.e., solution spaces to systems of polynomial equations in complex n-dimensional space. As a result, the study of these objects involves a rich interplay of techniques from various parts of mathematics and physics. Some natural questions in this field include: Which smooth manifolds admit symplectic structures? How does their topology influence the behaviour of Hamiltonian systems on them? How different is a general symplectic manifold from an algebraic variety? To tackle questions of this form, an extremely versatile tool is the study of "holomorphic curves" in symplectic manifolds. I will explain what these objects are and how they help us answer symplectic questions. I will then talk about some of my work which focuses on the geometry of moduli spaces of holomorphic curves and their compactifications.

Venue : Emmy Noether Seminar Room

Zoom Link: https://icts-res-in.zoom.us/j/95735415419?pwd=cFpYOFc0UVlsV0drVmlvY2MvenQ4QT09
Meeting ID: 957 3541 5419
Passcode: 141516