ICTS Geometry and Physical Mathematics Seminar

Title : Bicommutant Categories and Conformal Nets

Speaker : Chetan Vuppulury (Sapienza Università di Roma, Italy)

Date : Thursday, 14 May 2026

Time : 3:30 PM (IST)

Abstract : W*-categories provide a natural categorical analogue of Hilbert spaces, while bicommutant categories may be viewed as categorified von Neumann algebras. In this talk, I will introduce these notions with an emphasis on module W*-categories and their fusion. I will then turn to conformal nets and explain how the category of solitons associated to a conformal net carries a bicommutant structure. I will describe two constructions of the soliton category: one arising from localized endomorphisms of algebras, and another from suitable restricted representations of conformal nets. I will explain how these constructions fit into the broader program of building a fully extended modular functor. Finally, I will briefly discuss defects between conformal nets and mention some open problems and current directions in the field. This is ongoing work done in collaboration with Nivedita.

Venue : Chern Lecture Hall
Zoom Link: https://icts-res-in.zoom.us/j/96158577595?pwd=SDvbW9bRk1cxAEp1uQ4jcCjaIjifSP.1
Meeting ID: 961 5857 7595
Passcode: 141415