ICTS String Seminar

Title : Microstate counting from defects in de Sitter

Speaker : Diego Liska (École polytechnique fédérale de Lausanne and Geneva university, Switzerland)

Date : Wednesday, 28 January 2026

Time : 3:30 PM (IST)

Abstract : In this talk, I will examine the microscopic origin of the de Sitter entropy using the Lorentzian path integral. I will construct a Hilbert space whose states are configurations of thin shells or end-of-the-world branes. By analysing these geometries, I will show that the variance of microstate overlaps is dominated by Lorentzian wormholes with conical singularities. From the on-shell action of these wormholes, I will recover the Gibbons-Hawking entropy law, relating the size of the de Sitter Hilbert space to the area of the cosmological horizon. Finally, I will extend the analysis to Schwarzschild-de Sitter spacetime and show that both the cosmological and black hole horizons contribute to the total entropy.

Venue : Online
Zoom Link: https://icts-res-in.zoom.us/j/88092766911?pwd=R3ZrVk9yeW96ZmQ4ZG9KRzVhenRKZz09
Meeting ID: 880 9276 6911
Passcode: 232322