Contribution ID: **3** Type: **not specified**

Invited Talk - Causal Set Theory and the Closeness of Lorentzian Geometries - Sumati Surya, RRI, Bengaluru

Friday 22 August 2025 10:00 (1 hour)

In this talk I will introduce the causal set approach to quantum gravity, and the founding idea that causality or order, combined with the local volume element determines spacetime geometry. Associated with every causal spacetime and a discreteness scale, is a random causal set, or a locally finite partially ordered set, which captures all the relevant spacetime geometry. One can thus reconstruct the spacetime geometry and topology from the causal set, upto this scale. I will describe recent work that uses the underlying random causal sets to define a closeness function over the space of Lorentzian geometries, which can in turn be used to determine the approach to the continuum in causal set theory.

Session Chair : Sachindeo Vaidya