

ICTS-String Theory Seminar

Title : Gravitational dynamics from entanglement in holographic conformal field theories

Speaker : Onkar Parrikar, University of Pennsylvania, USA

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Details : Provided below

Lecture	Date	Timings
Lecture 1	21.08.2019	11:30 am - 12:30 pm
Lecture 2	22.08.2019	2:00 pm - 3:00 pm
Lecture 3	23.08.2019	2:00 pm - 3:00 pm

Abstract : We will discuss recent progress in understanding gravitational dynamics in the context of the AdS/CFT correspondence as emerging from the constraints satisfied by the entanglement structure of states in holographic conformal field theories. More precisely, we will show that if the entanglement entropies of all subregions in a holographic state of the CFT satisfy the Ryu-Takayanagi formula, then the bulk spacetime must necessarily satisfy the (non-linear) Einstein equation. Along the way, we will review recently developed techniques for computations of information theoretic quantities such as entanglement entropies and modular Hamiltonians in relativistic quantum field theories, and universal field theory constraints such as the averaged null energy condition which can be proved using these techniques.