

**Erik Tonni**

Title: "Aspects of entanglement: entropies, negativity and causal holographic information"

Abstract:

Entanglement of quantum states and its measures play an important role in many areas of theoretical physics. The entanglement entropy is a good measure for pure states, while the negativity allows to measure entanglement for mixed states. A method to compute negativity in QFT through the replica trick will be described. Analytic results and their numerical checks will be presented for simple 2D CFTs like the compactified boson and the Ising model. Within the class of theories with a holographic dual, besides the holographic entanglement entropy, a natural quantity to introduce is the causal holographic information. Its definition and properties will be discussed.