ICFO

ALUMNI SEMINAR: Conformal quantum circuits and holography

LLUIS MASANES

May 13, 2024
11:00 to 12:00
Seminar Room

We introduce a spin chain whose dynamics consists of a (dual) unitary circuit symmetric under a discrete version of the conformal group. This spin chain is dual to a toy theory of quantum gravity in 2+1 dimensions, where certain tensor-network states correspond to the classical geometries. While holographic codes are static, our tensor networks (or geometries) evolve in time via the circuit. These states satisfy the Ryu-Takayanagi relationship between entanglement and geometry, but they provide much more, they contain a complete description of the bulk, including the interior of black holes, a feature that is not so transparent in standard AdS/CFT.

Hosted by: Prof. Dr. Antonio Acin