

**Adam Nahum (University of Oxford)**

**Generation of quantum entanglement: links to KPZ growth and to classical percolation**

Isolated quantum many-body systems, if initialised in states of low entanglement, typically evolve towards states of high (volume law) entanglement.

I will first describe how to use simple minimal models (quantum circuits made up of randomly chosen gates) to obtain a coarse-grained description of entanglement production. In 1+1D this is closely related to Kardar-Parisi-Zhang growth of a classical interface.

In the second part of the talk I will discuss what happens to entanglement generation when unitary evolution is interspersed with projective measurements. I will show that there is a phase transition as a function of a measurement rate, and will describe a toy model for it in terms of classical percolation.