

CONDENSED MATTER PHYSICS QUANTUM MATERIALS COLLOQUIUM

Tuesday 21 October at 11:00

Simpkins Lee Seminar Room, Department of Physics

(<https://maps.app.goo.gl/WjG71uLF2D48n85B6>)

Entanglement Randomness

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Strongly interacting electrons are the cause of some of the most exotic phenomena in materials, from high temperature superconductivity to the appearance of fractional excitations. Fundamentally, this is due to the interplay of broken symmetry and many-body entanglement. The interplay leads to strange properties, many of which appear to contradict our understanding of basic properties like how materials carry charge and heat. In this talk, I discuss one such contradiction at the core of how we interpret the quantum nature of solids and argue that the resolution comes from the existence of different scales of many-body entanglement, all simultaneously present and randomly distributed.