

# Tensor Networks for Fine-Graining Lattice Gauge Theory, and Also Path Integral Geometry

*Thursday, September 13, 2018 11:30 AM (25 minutes)*

There are many tensor network approaches to studying quantum field theories. In this talk we summarize two: (1) An approach to fine-graining (UV-completing) lattice Yang-Mills theory in the Hamiltonian formalism. Central to this approach are local maps that perform curvature interpolation in the gauge-group, which together form the building blocks of a gauge-invariant MERA tensor network. (2) A way of assigning geometric content to pieces of certain well-known tensor networks for critical systems, via their mimicry of pieces of euclidean time path integral (of a conformal field theory).

**Presenter:** MILSTED, Ashley (Perimeter Institute for Theoretical Physics)

**Session Classification:** Session 5