



Fall 2018

## Colloquium Series

November 16, 2018 at 3pm in Bell Hall 143

# Dr. John Harding

New Mexico State University

## A near duality for orthomodular structures

Orthomodular posets and lattices arise from projections of a Hilbert space, or more generally a von Neumann algebra or even an inner product space. They play a fundamental role in the standard treatment of quantum mechanics. We give a near duality between orthomodular posets and a class of hypergraphs that is similar to the near duality between vector spaces and projective geometries. This has implications, including considerable simplification, to the recent topos approach to quantum mechanics of Isham et. al.