Abstract:

In Causal Set theory the ordering of the spacetime "atoms" and their number are meant to give us all of the geometrical information. Thus, we should be able to construct causal set expressions that give us back particular geometrical quantities. In this talk I will describe a recent result that allows one to determine the Gibbons-Hawking-York (GHY) boundary term for a causal set. The GHY term appears in the action for a spacetime with a boundary, and is simply the integral over the extrinsic curvature of that boundary. A side effect of the work behind this result was the emergence of a new way to calculate the dimension of a causal set. Finally, I would like to discuss the boundary contributions that are "hidden" in the bulk action for a causal set.