

# Bootstrap percolation in a random subhypergraph

Jonathan Noel

*ETH Zurich*

Given a hypergraph  $H$ , the  $H$ -bootstrap process starts with a set of "infected" vertices of  $H$  and, at each step, a "healthy" vertex becomes infected if there is a hyperedge in which it is the unique healthy vertex. We study the behaviour of this process when the initial infection is a random set of vertices of density  $p$  and the hypergraph  $H$  is obtained from a "sufficiently well behaved" hypergraph by including each edge independently with probability  $q$ . Our main result generalises a theorem of Korándi, Peled and Sudakov. The proof involves an application of the so called "differential equations method." This talk is based on joint work with Robert Morris and Natasha Morrison.