THE CONTACT PROCESS ON A GRAPH ADAPTING TO INFECTION DENSITY

JOHN FERNLEY (ENS LYON)

Abstract. This talk presents a phase transition for the contact process (a simple model for infection without immunity) on a homogeneous random graph that is initially Erdös-Rényi, but reacts dynamically to the infection to try to prevent an epidemic via *updating* in only the infected neighbourhoods, at constant rate. Under this graph dynamic, the presence of infection can help to prevent the spread and so many monotonicity-based techniques fail but analysis is made possible nonetheless via a local forest construction.

Upcoming article with Peter Mörters (Universität zu Köln) and Marcel Ortgiese (University of Bath).