

abstract

COMPUTER SCIENCE AND DISCRETE MATHEMATICS SEMINAR II

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

The firefighter problem is a monotone dynamic process in graphs that can be viewed as modeling the use of a limited supply of vaccinations to stop the spread of an epidemic. In more detail, a fire spreads through a graph, from burning vertices to their unprotected neighbors. In every round, a small amount of unburnt vertices can be protected by firefighters. How many firefighters per turn, on average, are needed to stop the fire from advancing? We prove tight lower and upper bounds on the amount of firefighters needed to control a fire in the Cartesian planar grid and in the strong planar grid, resolving two conjectures of Ng and Raff.

Joint work with Ohad Feldheim.