THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SPECIAL COLLOQUIUM

Random games and edge percolation on the hypercube

By

Prof. Andrea COLLEVECCHIO

School of Mathematics, Monash University
and Monash Data Futures Institute

Abstract

We study random games with N players, each with two actions available, and i.i.d. payoffs. We provide a coupling with bond percolation on the hypercube. This coupling allows one to study the geometry of Pure Nash Equilibria (PNE) and other types of equilibria. We show that various phase transitions depend only on a single parameter of the model, that is, the probability of having ties. Moreover, we study the behaviour of learning processes on these random games.

Date   :   27 June 2025 (Friday)
Time   :   3:00p.m. – 4:00p.m.
Venue :   Lecture Theatre K

All Are Welcome!