Institut für Diskrete Mathematik

Combinatorics Seminar

Friday 8th April 14:15

Online meeting (Webex)

Best response dynamics in random graphs

Nikolaos Fountoulakis

(Birmingham University)

In this talk, we will discuss evolutionary games on a binomial random graph $G(n, p)$. These games are determined through 2-player symmetric game with 2 strategies played between the incident members of the vertex set. Players/vertices update their strategies synchronously: at each round, each player selects the strategy that is the best response to the current set of strategies its neighbours play. We show that such a system reduces to generalised majority and minority dynamics. We show rapid convergence to unanimity for p in a range that depends on a certain characteristic of the payoff matrix. In the presence of a bias among the pure Nash equilibria of the game, we determine a sharp threshold on p above which the largest connected component reaches unanimity with high probability, and below which this does not happen.

This is joint work with Jordan Chellig and Calina Durbac.

Meeting link:

 https://tugraz.webex.com/tugraz/j.php?MTID=m40f85343e56ff5051d731ace1bea82e4

Meeting number: 2731 089 0467

Password: btHRJxCa252

Joshua Erde, Mihyun Kang