POLITECNICO
DI TORINO

DISMA Dipartimento di
Scienze Matematiche
G. L. Lagrange

ECCELLENZA 2018 · 2022

Thursday November 14, 2019 at 14:30
Politecnico di Torino, DISMA, Aula Seminari (third floor)

Fen LI
Doctoral fellow - ExSIDE

Anti-conformism in the threshold model of collective behavior

Prof. Giacomo Como introduces the seminar.

Abstract

We provide a detailed study of the threshold model, where both conformist and anti-conformist agents coexist. Our study bears essentially on the convergence of the opinion dynamics in the society of agents, i.e., finding absorbing classes, cycles, etc. Also, we are interested in the existence of cascade effects, as this may constitute a undesirable phenomenon in collective behavior.

We divide our study into two parts. In the first one, we basically study the threshold model supposing a fixed complete network, where every one is connected to every one, like in the seminal work of Granovetter. We study the case of a uniform distribution of the threshold, of a Gaussian distribution, and finally give a result for arbitrary distributions, supposing there is one type of anti-conformist. In a second part, the graph is no more complete and we suppose that the neighborhood of an agent is random, drawn at each time step from a distribution. We distinguish the case where the degree (number of links) of an agent is fixed, and where there is an arbitrary degree distribution. We show the existence of cascades and that for most societies, the opinion converges to a chaotic situation.

Biography

Fen Li is one of the doctoral fellows of ExSIDE ('Expectations and Social Influence Dynamics in Economics) since 2017, working on the research project "Conformists and Anticonformists in Opinion Formation and Diffusion". Her research interests are Opinion dynamics in networks, Anti-conformism and Game theory. She did her first year of PhD at University of Paris 1, with the paper " Anti-conformism in the Threshold Model of Collective Behavior" accepted for publication by Dynamic Games and Applications; she did her second year of PhD at Bielefeld University, with the working paper "The Transmission of Continuous Cultural Traits in Endogenous Social Networks"; she is doing her third year at University of Paris 1, with the planned paper "Negative and positive influence among groups in continuous opinion dynamics".

Save the date for the next event: November 19, 2019
More info on www.polito.it/disma-excellence