FRIEDRICH-SCHILLER-
UNIVERSITÄT
JENA
Fakultät für Mathematik und Informatik

Institut für Mathematik

Seminar zur Stochastik

Donnerstag, 6. Juli 2023
15 Uhr s.t.
SR 025 August-Bebel-Str. 4

Herr Prof. Dr. Markus Fischer
(University of Padua, Italy)

“On correlated equilibria and mean field games”

Abstract: Mean field games are limit models for symmetric N-player games, as the number of players N tends to infinity. The prelimit models are usually solved in terms of Nash equilibria. A generalization of the notion of Nash equilibrium, due to Robert Aumann (1974, 1987), is that of correlated equilibrium. In a simple discrete setting, we will discuss correlated equilibria for mean field games and their connection with the underlying N-player games. We first consider equilibria in restricted strategies (Markov open-loop), where control actions depend only on time and a player's own state. In this case, N-player correlated equilibria are seen to converge to the mean field game limit and, conversely, correlated mean field game solutions induce approximate N-player correlated equilibria. We then discuss the problem of constructing approximate equilibria when deviating players have access to the aggregate system state. We also give an explicit example of a correlated mean field game solution not of Nash-type. Results (with L. Campi and Federico Cannerozzi) on a related notion of equilibrium in a diffusion-type setting will be mentioned as well.

Joint work with Ofelia Bonesini (Imperial College London) and Luciano Campi (University of Milan "La Statale")

Alle Interessierte sind herzlich eingeladen

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