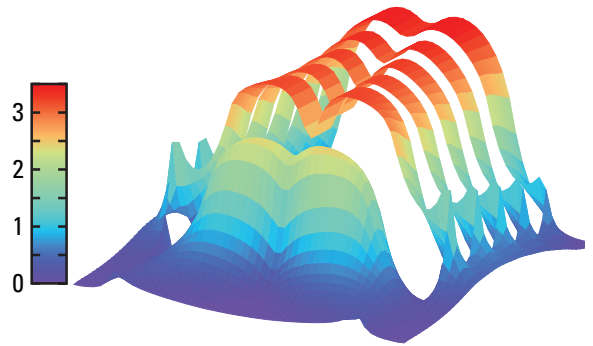


Mean Field Games: Agent Based Models to Nash Equilibria

AMS Short Course, January 13–14, 2020
In Conjunction with the Joint Mathematics Meetings



In 2020, the Short Course focuses on models for large systems of interacting agents. Ideas from statistical physics permit approximations of Nash equilibria for stochastic dynamic games with many players. Diverse branches of mathematics converge in this subject area—control and game theory, partial differential equations, probability, scientific computing and optimal transport. The course faculty provide participants an entrée to theoretical issues, numerical challenges, and applications in such areas as economics and financial markets, crowd motion, power systems, and cyber network security.

Course Organizer:

François Delarue, *University of Nice*

Other Speakers:

Christy Graves, *Princeton University*

Daniel Lacker, *Columbia University*

Mathieu Laurière, *Princeton University*

Roland Malhamé, *École Polytechnique de Montréal*

Kavita Ramanan, *Brown University*

Ronnie Sircar, *Princeton University*

The American Mathematical Society's Short Courses connect mathematicians and students to emergent areas of applied mathematics through survey lectures and other activities. Short Courses are designed to introduce individuals to new topics—fueling the participants' curiosity, discovery, or research.



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