

Hong Kong - Singapore joint Seminar Series in Financial Mathematics/Engineering

Diffusion control games Professor Stefan Ankirchner University of Jena, Germany

Abstract

We consider a symmetric stochastic differential game where each player can control the diffusion intensity of an individual dynamic state process, and the players whose states at a deterministic finite time horizon are among the best α of all states receive a fixed prize. Within the mean-field limit version of the game we compute an explicit equilibrium, a threshold strategy that consists in choosing the maximal fluctuation intensity when the state is below a given threshold, and the minimal intensity else. We show that for large n the symmetric n -tuple of the threshold strategy provides an approximate Nash-equilibrium of the n -player game. Finally, we compare the approximate equilibrium for large games with the equilibrium of the two player case.

The talk is based on joint work with Nabil Kazi-Tani, Julian Wendt and Chao Zhou.

About the speaker

Stefan Ankirchner received his Ph.D. from Humboldt University, Berlin, Germany, in 2005. He was a Chapman Fellow at the Imperial College, London, UK, from 2005 to 2006. Before he joined University of Jena as a full Professor, He was a full Professor at University of Bonn during 2009-2014. His research interests include BSDEs, stochastic controls, and mathematical finance.

Date

23 Feb 2022(Wednesday)
(HK Time)

Time

4:00pm – 5:00pm (HK
Time)

Zoom

<https://cityu.zoom.us/j/97846970818?pwd=eW90Y0NTQTJVQjVFMENnMXNXUHRBdz09>

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