

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

Mean Field Games with Mean-Field-Dependent Volatility, and Associated Coupled Nonlocal Quasilinear Forward-Backward Parabolic Equations

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Abstract

We consider mean field games with mean-field-dependent volatility, and associated fully coupled nonlocal quasilinear forward-backward PDEs (FBPDEs). We give the global in time existence of classical solutions of the FBPDEs, and the uniqueness under an additional monotonicity condition. A verification theorem is also obtained and the solution of the FBPDEs is used to construct an optimal strategy of the mean field game. Finally, we discuss the linear-quadratic case. This is a joint work with Ziyu Huang, Fudan University.

About the speaker

Prof. Shanjian Tang is the professor in School of Mathematical Sciences at Fudan University and the Director of the Mathematics and Finance Institute. His research interests lie in stochastic control, stochastic differential equations, mathematical finance, probability theory and beyond. He is the Associate Editor of many leading journals in control theory. He has received many prestigious awards including the Second Class Award of State Natural Science Award.

Date

Oct 06, 2022 (Thursday)
(HK Time)

Time

16:00 – 17:00
(HK Time)

Zoom

<https://polyu.zoom.us/j/91580162767?pwd=TFpKQ2lKSZWc4dWdXWnIBVEc1eIczZz09>

Meeting ID:
915 8016 2767

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