Ying Tan

Department of Decision of Analytics and Operations
City University of Hong Kong
7/F, Lau Ming Wai Academic Building
Kowloon, Hong Kong

Appointments

Instructor — Aug. 2026 – present
City University of Hong Kong — Hong Kong, China
Visiting Assistant Professor — Jul. 2023 – Jun. 2026
University of California, Santa Barbara — Santa Barbara, US

Education

Ph.D., ***Applied Mathematics*** — Aug. 2017 – May 2023
University of Southern California — Los Angeles, US
Advisor: Jin Ma
B.S., ***Mathematics and Applied Mathematics*** — Aug. 2013 – May 2017
Fudan University — Shanghai, China
International Asian Studies Program, ***Associate Student*** — Aug. 2015 – Dec. 2015
The Chinese University of Hong Kong — Hong Kong, China

Research Interests

Stochastic Analysis and Stochastic Differential Equations
Stochastic Optimal Control
Optimal Transport and Schrödinger Bridge Problem
Generative AI and Diffusion Model
Graphon Mean-field System

Publications and Preprints

1. Non-linear Mean Field Graphon Games (with Ichiba, T.), in preparation.
2. A Stochastic Two-Point Boundary Value Problem with Random Terminal Conditions (with Ma, J.), in preparation.
3. Schrödinger bridge for generative AI: Soft-constrained formulation and convergence analysis (with Ma, J. and Xu, R.), submitted to Mathematical Finance, arXiv: 2510.11829.
4. The incompressible limit of the isentropic fluids in the analytic spaces (with Li, L.), Z. Angew. Math. Phys. 74 (2023), no. 4, Paper No. 164, 15 pp.
5. Generalized Kyle-Back Strategic Insider Trading Model with Dynamic Information (with Ma, J.), submitted to Mathematics of Operations Research (under the first round of revision), arXiv:2204.13137v1.

Professional Services

- Reviewer for SIAM Journal on Control and Optimization
- Reviewer for Stochastic Processes and their Applications

Invited Talks

International Women in Mathematics Day, UCSB	May 2025
12^{th} Western Conference on Mathematical Finance, USC	Mar. 2025
PSTAT Seminar, UC Santa Barbara	May 2024
11^{th} Western Conference on Mathematical Finance, UC Berkeley	Mar. 2023
Financial Math Seminar, University of Michigan	Feb. 2023
Probability and Statistics Seminar, USC	Feb. 2023
Probability and Stochastic Process Seminar, BICMR	Nov. 2022
CFMAR Seminar, UC Santa Barbara	Oct. 2022
Graduate Student Colloquium, USC	Mar. 2022

Conferences Attended

7^{th} Memorial Conference of Prof. Xunjing Li, Huzhou	Jul. 2026
2022 CFMAR Workshop, UC Santa Barbara	Sep. 2022
10^{th} Western Conference in Mathematical Finance, virtual	Jan. 2020
9^{th} Western Conference in Mathematical Finance, USC	Nov. 2018

Teaching as Instructor at UCSB

Introduction to Mathematical Finance	Spring 2026
Stochastic Processes	Spring 2026
Introduction to Mathematical Finance	Fall 2025
Time Series	Fall 2025
Stochastic Processes	Spring 2025
Introduction to Mathematical Finance	Spring 2025
Stochastic Processes	Winter 2025
Introduction to Mathematical Finance	Fall 2024
Time Series	Fall 2024
Stochastic Processes	Spring 2024
Introduction to Mathematical Finance	Spring 2024
Stochastic Processes	Winter 2024
Time Series	Winter 2024
Introduction to Mathematical Finance	Fall 2023

Teaching Assistant Experience at USC

Financial Informatics and Simulations	Spring 2023
Stochastic Calculus and Mathematical Finance II	Spring 2023
Calculus III	Summer 2022
Stochastic Calculus and Mathematical Finance II	Spring 2022
Real Analysis	Spring 2022
Calculus II	Summer 2021
Mathematics of Machine Learning	Spring 2021
Probability Theory	Fall 2020
Ordinary Differential Equations	Summer 2020
Calculus II	Spring 2020
Calculus I	Fall 2019

Calculus III — Summer 2019
Calculus I — Spring 2019
Introduction to Probability and Statistics — Fall 2018

MENTORING UNDERGRADUATE STUDENTS

CFMAR Undergraduate Lab — Fall 2025 - Winter 2026
Optimal Transport in Finance and generative AI
Honors program in Time Series — Fall 2025
Applications in biotech and stock market
Stochastic Control Reading Group — Oct. 2025
Introduction to BSDE and FBSDE
Honors program in Time Series — Winter 2024
Financial forecasting and forecasting short-term wind speeds

TECHNICAL SKILLS

Programming: C, MATLAB, Mathematica, Python, LaTeX, SQL, R.
Language: Chinese (native), English (professional).