

Kenneth Tsz Hin Ng

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Academic Positions

- 2024 – Department of Mathematics, The Ohio State University
Assistant Professor

Education

- The University of Illinois Urbana-Champaign
2024 Ph.D. in Mathematics, *Concentration in Actuarial Science and Risk Analytics*
- The University of Hong Kong
2018 M.Phil. in Mathematics
2016 B.Sc. in Actuarial Science, *First Class Honours*

Professional Qualifications

- 2024 Associate of the Society of Actuaries (ASA)
Pursuing Fellowship (Completed 3 FSA Modules and Exam QFIQF)

Research Interests

Stochastic Control, Mean Field Games, Forward Utility Preferences, Actuarial Science, Financial Mathematics

Publications and Preprints

- 8 Ng, K.T.H., Wong, T.K. and Yam, S.C.P. 2026+. Selling High/Buying Low at a Good Chance. *Preprint*.
- 7 Chong, W.F., Feng, R. and Ng, K.T.H. 2026+. Capital-Allocation-Induced Risk Sharing. *Preprint*.
- 6 Boonen, T., Ng, K.T.H., Ng, T.W. and Nguyen T. 2026+. Pareto and Bowley Reinsurance Games in Peer-to-Peer Insurance. *Submitted*. [[arXiv:2602.14223](https://arxiv.org/abs/2602.14223)]
- 5 Chong, W.F., Dumitrescu, R., Liang G. and Ng, K.T.H. 2026+. Forward Performance Processes under Multiple Default Risks. *Submitted*. [[arXiv:2601.02276](https://arxiv.org/abs/2601.02276)]
- 4 Li, B., Li, W., Ng, K.T.H. and Yam, S.C.P. 2026+. Mean Field Analysis of Mutual Insurance Market. *Submitted*. [[arXiv:2511.12292](https://arxiv.org/abs/2511.12292)]
- 3 Chu, D., Ng, K.T.H., Yam, S.C.P. and Zheng, H. 2025. Mean-Field Analysis of Two-Party Governance: Cooperation versus Competition among Leaders. *Automatica*, Vol. 173, 112028. [[doi:10.1016/j.automatica.2024.112028](https://doi.org/10.1016/j.automatica.2024.112028)]

- 2 Feng, R., Jing, X. and **Ng, K.T.H.** 2025. Optimal Investment-Withdrawal Strategies for Variable Annuities under a Performance Fee Structure. *Journal of Economic Dynamics and Control*, Vol. 170, 105003. [[doi:10.1016/j.jedc.2024.105003](https://doi.org/10.1016/j.jedc.2024.105003)]
- 1 **Ng, K.T.H.** and Chong, W.F. 2024. Optimal Asset Allocations of DC Pension Plan under Forward Utility Preferences. *Insurance: Mathematics and Economics*, Vol. 114, 192-211. [[doi:10.1016/j.insmatheco.2023.12.001](https://doi.org/10.1016/j.insmatheco.2023.12.001)]

Ongoing Projects

- 1 Li, B., Li, W. and **Ng, K.T.H.** A Mean Field Game Approach to Hybrid Pension.
- 2 **Ng, K.T.H.** and Chong, W.F. Optimal Investment, Retirement and Consumption under Forward Utility Preferences.
- 3 Jing, X. and **Ng, K.T.H.** Strategic Staking in Decentralized Insurance Platforms.

Teaching Experience

- OSU MATH 5633 Loss Models I (Autumn 2024), MATH 5635 Stochastic Calculus for Finance I (Autumn 2025), MATH 5636 Stochastic Calculus for Finance II (Spring 2026)
- UIUC (TA) ASRM 472 Life Contingencies II (Spring 2024, **Spring 2023****), ASRM210 Theory of Interest (**Fall 2023***), ASRM 471 Life Contingencies I (Spring 2023), STAT409 Actuarial Statistics II (Fall 2022), STAT408 Actuarial Statistics I (Spring 2022), ASRM410 Investment and Financial Markets (Spring 2021), ASRM406 Linear Algebra and Financial Applications (Grader; Fall 2020, Spring 2021, Fall 2021)
- *Listed in “Teachers Ranked as Excellent by Their Students”, **with outstanding performance**
- HKUST (TA) MATH1012 Calculus 1A (Fall 2018), MATH1012 Calculus 1B (Fall 2018)
- HKU (TA) MATH1009 Basic Mathematics for Business and Economics (Spring 2018), MATH1011 University Mathematics I (Fall 2017), MATH4907 Numerical Methods for Financial Calculus (Spring 2017)

Contributed Presentations

- 2025 **Actuarial Science and Quantitative Risk Management Seminar.** Title: Forward Performance Processes under Multiple Default Risks. The Ohio State University.
Actuarial Research Conference. Title: Mean Field Analysis of Mutual Insurance. York University, Toronto, Ontario, Canada
The Probability and SPDEs Conference. Title: Mean Field Analysis of Mutual Insurance. The Ohio State University, Columbus, Ohio, U.S.
- 2024 **Invited Seminar.** Title: Mean Field Analysis of Two-Party Governance and Mutual Insurance. National Chiao Tung University, Taiwan. Online.
Invited Seminar. Title: Linear Quadratic Mean Field Games: Two-Party Governance and Mutual Insurance. The Ohio State University, Columbus, Ohio, U.S.

- Actuarial Science and Financial Mathematics Seminar.** Title: Linear Quadratic Mean Field Games: Two-Party Governance and Mutual Insurance. The University of Illinois at Urbana-Champaign, Champaign, Illinois, U.S.
- 2023 **Actuarial Science and Financial Mathematics Seminar.** Title: Capital-Allocation Induced Risk Sharing. The University of Illinois at Urbana-Champaign, Champaign, Illinois, U.S.
- Actuarial Research Conference.** Title: Capital-Allocation Induced Risk Sharing. Drake University, Des Moines, Iowa, U.S.
- Actuarial Research Conference.** Title: Variable Annuity with a Performance Fee Structure: A Way Out of the Policyholder-Insurer Conflict. Drake University, Des Moines, Iowa, U.S.
- 2022 **Waterloo Student Conference in Statistics, Actuarial Science and Finance.** Title: When is a Good Time to Sell a Stock? The University of Waterloo, Waterloo, Ontario, Canada
- International Congress on Insurance: Mathematics and Economics.** Title: Optimal Asset Allocations of DC Pension Plan under Forward Utility Preferences. Online

Grants, Awards and Fellowships

- 2025 CKER Individual Grant Competition, The Society of Actuaries. Project Title: **Pricing and Staking of Decentralized Insurance.** Co-Investigator: Xiaochen Jing. Amount: USD 14,000
- 2024 Selected as a recipient of James Hickman Doctoral Scholar, The Society of Actuaries Actuarial Science Alumni Scholarship, The University of Illinois at Urbana Champaign
- 2023 Committee on Knowledge Extension Research (CKER) Travel Grants, The Society of Actuaries Research Institute
State Farm Actuarial Science Prize, The University of Illinois at Urbana-Champaign
PARM Summer Research Fellow, The University of Illinois at Urbana-Champaign
- 2018 Postgraduate Scholarship, The University of Hong Kong
- 2016 Dean's Honor List, Faculty of Science, The University of Hong Kong
Statistics and Actuarial Science Scholarship, The University of Hong Kong
- 2015 HKSAR Government Scholarship Fund, HKSAR Government
- 2014 Dean's Honor List, Faculty of Science, The University of Hong Kong

Services

- Referee Insurance: Mathematics and Economics (8 papers), Scandinavian Actuarial Journal (2 papers)
- Professional Center of Actuarial Excellence Committee, the Society of Actuaries (2025 –)

OSU Graduate admission and nominations committee, Department of Mathematics (2025 –)

Skills

Computer VBA, GGY Axis, Microsoft Office, L^AT_EX, MATLAB, Mathematica

Language Cantonese (Native), English (Proficient), Mandarin Chinese (Proficient), Japanese (Elementary)