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

7 **Ng, K.T.H.**, Wong, T.K. and Yam, S.C.P. 2026+. Selling High/Buying Low at a Good Chance. *Preprint.*

6 Chong, W.F., Feng, R. and **Ng, K.T.H.** 2026+. Capital-Allocation-Induced Risk Sharing. *Preprint.*

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]

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]

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]

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]

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]

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.
4 Boonen, T., **Ng, K.T.H.**, Ng, T.W. and Nguyen T. Reinsurance Contracting in Peer-to-Peer Insurance: Pareto vs. Bowley.

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, LaTeX, MATLAB, Mathematica

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