

# Kenneth Tsz Hin Ng

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📁 [kennthng.github.io](https://github.com/kennthng)

## 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. 2025+. Selling High/Buying Low at a Good Chance. *Preprint*.
- 6 Chong, W.F., Feng, R. and **Ng, K.T.H.** 2025+. 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](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.
- 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

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## 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

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## Services

- Referee Insurance: Mathematics and Economics (7 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)