Runhuan Feng, PhD, FSA, CERA

B306, Lihua Building
Tsinghua University, Beijing

Phone: +86(10)62795565
Email: fengrh@sem.tsinghua.edu.cn

Professional Experiences

Academic

Tsinghua University, China

Chair Professor, School of Economics and Management, 2023– Present.

University of Illinois at Urbana-Champaign, United States

Adjunct Professor, Actuarial and Risk Management Sciences, 2025– Present.

Blockchain Teaching Collaborative, 2023.

State Farm Companies Foundation Endowed Professor, 2021 – 2023.

Faculty Fellow, Office of Risk Management & Insurance Research, Department of Finance, Gies College of Business, 2020–2022.

Full Professor, Mathematics, Statistics, Industrial & Enterprise Systems Engineering, 2020 – 2023

State Farm Companies Foundation Scholar, 2017-2021.

Associate Professor, Math, Statistics, Industrial & Enterprise Systems Engineering, 2016– 2020.

Assistant Professor, Mathematics, 2013–2016.

Affiliate faculty, Computer Science and Engineering Program, 2013–2023.

Stanford University, United States

Visiting Professor, Institute for Computing and Mathematical Engineering, 2020.

University of New South Wales, Australia

Visiting Professor, ARC Centre of Excellence in Population Ageing Research, 2019.

Hunan University, China

Sensegain Foundation Distinguished Professor, 2019–2022.

Technical University of Munich, Germany

Bavarian State Ministry for Science, Research & the Arts Visiting Professor, 2019.

University of Wisconsin–Milwaukee, United States

Assistant Professor, Dept. of Mathematical Sciences, 2008-2012.

Administrative

Tsinghua University, China

Director, China Center for Insurance and Risk Management, School of Economics and Management.

University of Illinois System, United States

Faculty Lead, Finance and Insurance Sector, Discovery Partnership Institute, Chicago, 2021– 2023.

University of Illinois at Urbana-Champaign, United States

Founding Director, MS in Predictive Analytics and Risk Management Program, 2021 – 2023.

Advisory Board Member, Office of Risk Management & Insurance Research, Department of Finance, Gies College of Business, 2021–Present.

Founder, Illinois Risk Lab, 2018–2023.

Director of Actuarial Science, Department of Mathematics, 2016– 2023.

Education

Ph.D. Actuarial Science, University of Waterloo, 2008.

M.Sc. Actuarial Mathematics, Concordia University, 2005.

B.Sc. Statistics, B. Econ. Insurance, Nankai University, 2003.

Professional Designations

Fellow of the Society of Actuaries.

Chartered Enterprise Risk Analyst, CERA Global Association.

Research Interests

Financial Technology, Retirement Planning, Decentralized Finance, Risk Management

Publications

Academic Papers

49. R. Feng, P. Liu. (2025) Spatio-temporal risk sharing and transfer: A unified theory of decentralized insurances and annuities. *Journal of Risk and Insurance*, Forthcoming.

48. W. Chong, R. Feng, H. Hu, L. Zhang. (2025) Cyber risk assessment for capital management. *Journal of Risk and Insurance*, 92 (2), 424–471.

47. R. Feng, X. Jing, K. Ng. (2025) Optimal investment-withdrawal strategy for variable annuities under a performance fee structure. *Journal of Economic Dynamics and Control*, 170, 105003

46. S. Abdikerimova, T. Boonen, R. Feng. (2024) Multiperiod peer-to-peer risk sharing. *Journal of Risk and Insurance*, 91(4), 943–982.

45. R. Feng, M. Liu, N. Zhang. (2024) A unified theory of decentralized insurance. *Insurance: Mathematics and Economics*, 119, 157–178.

44. M. Denuit, J. Dhaene, R. Feng, P. Hieber, C. Robert. (2024) Decentralized insurance: on the popularity of tontines and peer-to-peer (P2P) insurance schemes. *Annals of Actuarial Science*, 18 (2), 237–241.

43. R. Feng, S. Kim, A. Painsky (2024) Tokenization of distributed insurance by auction, *Japanese Journal of Statistics and Data Science*, 7, 1039–1057.

42. Z. Chen, R. Feng, H. Li, T. Yang (2024) Coping with longevity via hedging: fair dynamic valuation of variable annuities. *Insurance: Mathematics and Economics*, 117, 154–169.

41. Z. Chen, R. Feng, L. Wei, J. Zhao (2024) Cost-effectiveness, fairness and adverse selection in mutual aid. *European Financial Management*, 30 (3), 1510–1544.

40. Feng, R., Liu, C., Taylor, S. (2023). Peer-to-peer risk sharing with an application to flood risk pooling. *Annals of Operations Research*, 321(1-2), 813-842.

39. S. Abdikerimova, R. Feng. (2022) Peer-to-peer multi-risk insurance and mutual aid. *European Journal of Operational Research.* 299 (2), 735–749.

38. R. Feng, P. Li. (2022) Sample recycling method – a new approach to efficient nested Monte Carlo simulations. *Insurance: Mathematics and Economics*. 105, 336–359.

37. M. Dacorogna, R. Feng, J. S. H. Li, A. Olivieri. (2022). Managing the risk of mortality shocks. *Annals of Actuarial Science*, 16(3), 425–427.

36. R. Feng, R.J. A. Laeven, S. X. Lin (2022). Editorial to the virtual special issue on emerging risks and insurance technology. *Insurance: Mathematics and Economics*, 107, 418–421.

35. R. Feng, G. Gan, N. Zhang. (2022) Variable annuity pricing, valuation, and risk management: a survey. *Scandinavian Actuarial Journal.* 2022:10, 867–900.

34. R. Feng, J. Figueroa-Lopez, C. Lefévre, J. Guo. (2022) Editorial for Special Issue on Advances in Actuarial Science and Quantitative Finance. *Methodology and Computing in Applied Probability*. 24, 2, 475–479.

33. X. Chen, W. Chong, R. Feng, L. Zhang. (2021) Pandemic risk management: resources contingency planning and allocation. *Insurance: Mathematics and Economics*, 101, 359–383. *Awarded research grant from the Canadian Institute of Actuaries.*

32. W. Chong, R. Feng, L. Jin. (2021) Holistic principle for risk aggregation and capital allocation. *Annals of Operations Research*, 330(1-2), 26–54.

31. R. Feng, P. Jiang, H. Volkmer. (2021) Geometric Brownian motion with affine drift and its time-integral. *Applied Mathematics and Computation*, 395, 125874.

30. P. Li, R. Feng. (2021) Nested Monte Carlo simulation in financial reporting: a review and a new hybrid approach. *Scandinavian Actuarial Journal*, 2021, 9, 744–778.

29. R. Feng, B. Yi. (2019) Quantitative modeling of risk management strategies: stochastic reserving and dynamic hedging of variable annuity guaranteed benefits. *Insurance: Mathematics and Economics*, 85, 60–73.

28. E.C.K. Cheung, R. Feng. (2019) Potential measures and expected present value of operating costs until ruin in renewal risk models with general interclaim times. *Scandinavian Actuarial Journal*, 2019(5), 355–386.

27. R. Feng, A. Kuznestov, F. Yang. (2019) Exponential functionals of Levy processes and variable annuity guaranteed benefits. *Stochastic Processes and their Applications*, 129 (2), 604–625.

26. Z. Cui, R. Feng, A. MacKay. (2017) Variable annuities with VIX-linked fee structure under a Heston-type stochastic volatility model. *North American Actuarial Journal*, 21(3), 458–483.

25. R. Feng, X. Jing, J. Dhaene. (2017) Comonotonic approximations of risk measures for variable annuity guaranteed benefits with dynamic policyholder behavior. *Journal of Computational and Applied Mathematics*, 311, 272–292.

24. R. Feng, J. Vecer. (2017) Risk-based capital requirements for guaranteed minimum withdrawal benefit. *Quantitative Finance*, 17(3), 471–478.

23. R. Feng, X. Jing. (2016) Analytical valuation and hedging of variable annuity guaranteed lifetime withdrawal benefits. *Insurance: Mathematics and Economics*, 72, 36–48.

22. R. Feng, Y. Shimizu. (2016) Applications of central limit theorems for equity-linked insurance. *Insurance: Mathematics and Economics*, 69, 138–148.

21. R. Feng, A. Kuznestov, F. Yang. (2016) A short proof of duality relations for hypergeometric functions. *Journal of Mathematical Analysis and Applications*, 443(1), 116–122.

20. R. Feng, H. Huang. (2016) Statutory financial reporting for variable annuity guaranteed death benefits: Market practice, mathematical modeling and computation. *Insurance: Mathematics and Economics*, 67, 54–64.

19. R. Feng. (2016) Stochastic integral representations of the extrema of time-homogeneous diffusion processes. *Methodology and Computing in Applied Probability*, 18(3), 691–715.

18. R. Feng, H.W. Volkmer. (2016) An identity of hitting times and its application to the valuation of guaranteed minimum withdrawal benefit. *Mathematics and Financial Economics*, 10(2), 127–149.

17. R. Feng, H.W. Volkmer. (2015) Conditional Asian options. *International Journal of Theoretical and Applied Finance*, 18 (6), 1550040.

16. R. Feng, H.W. Volkmer, S. Zhang, C. Zhu. (2015) Optimal dividend policies for piecewise-deterministic compound Poisson risk models, *Scandinavian Actuarial Journal*, 2015 (5), 423–454.

15. R. Feng, Y. Shimizu. (2014) Potential measures of spectrally negative Markov additive processes with applications to ruin theory. *Insurance: Mathematics and Economics*, 59, 11–26.

14. R. Feng, H.W. Volkmer. (2014) Spectral methods for the calculation of risk measures for variable annuity guaranteed benefits. *ASTIN Bulletin*, 44 (3), 653–681.

13. R. Feng. (2014) A comparative study of risk measures for guaranteed minimum maturity benefits by a PDE method. *North American Actuarial Journal*, 18(4), 445–461.

12. R. Feng, Y. Shimizu. (2013) On a generalization from ruin to default in Lévy insurance risk models, *Methodology and Computing in Applied Probability*, 15 (4), 773–802.

11. E.C.K. Cheung, R. Feng. (2013) A unified analysis of claim costs up to ruin in a Markovian arrival risk model. *Insurance: Mathematics and Economics*, 53 (1), 98–109.

10. R. Feng, H.W. Volkmer. (2012) Analytical calculation of risk measures for variable annuity guaranteed benefits, *Insurance: Mathematics and Economics*, 51 (3), 636–648.

9. R. Feng, H.W. Volkmer. (2012) Modeling credit value adjustment with downgrade-triggered termination clause using a ruin theoretic approach, *Insurance: Mathematics and Economics*, 51 (2), 409–421.

8. Feng, R., Zhang, S., and Zhu, C. (2012). Optimal dividend payment problems in piecewise-deterministic compound Poisson risk models. *Proceedings of the 51st IEEE Conference on Decision and Control*, pages 7309–7314.

7. R. Feng. (2011) An operator-based approach to the analysis of ruin-related quantities in jump diffusion risk models, *Insurance: Mathematics and Economics* 48 (2), 304–313.

6. R. Feng, J. Garrido. (2011) Actuarial applications of epidemiological models, *North American Actuarial Journal* 15(1), 112–136.

5. R. Feng. (2009) A matrix operator approach to the analysis of ruin-related quantities in the phase-type renewal risk model, *Schweizerische Aktuarvereinigung Mitteilungen*, 1, 71-87.

4. R. Feng. (2009) On the total operating costs up to default in a renewal risk model, *Insurance: Mathematics and Economics*, 34 (2), 305-314.

3. J. Cai, R. Feng, G.E. Willmot. (2009) On the expectation of total discounted operating costs up to default and its applications, *Advances in Applied Probability*, 41 (2), 495-522.

2. J. Cai, R. Feng, G.E. Willmot. (2009) Analysis of the compound Poisson surplus model with liquid reserves, interest and dividends, *ASTIN Bulletin*, 39 (1): 225-247.

1. J. Cai, R. Feng, G.E. Willmot. (2009) The compound Poisson surplus model with interest and liquid reserves: analysis of the Gerber-Shiu discounted penalty function, *Methodology and Computing in Applied Probability*, 11 (3): 401-423.

Books and Book Chapters

5. R. Feng. (2022) *Decentralized Insurance: Technical Foundation of Business Models*. Springer. (Designated as a textbook for SOA Fellowship Exam – Foundation of Corporate Finance and Enterprise Risk Management (CFE) Exam starting from Fall 2023.)

4. R. Feng, J.Garrido, L. Jin, S.-H. Loke, L. Zhang. (2021) Epidemic compartment models and their insurance applications, In *Pandemics: Insurance and Social Protection*. Springer.

3. R. Feng. (2018) *An Introduction to Computational Risk Management of Equity-Linked Insurance*, Chapman and Hall/CRC Financial Mathematics Series. `https://www.crcpress.com/An-Introduction-to-Computational-Risk-Management-of-Equity-Linked-Insurance/Feng/p/book/9781498742160` (Designated as a textbook for SOA Fellowship Exam – QFI Quantitative Finance Exam.)

2. R. Feng, D. Linders, A. Lo. (2018) *ACTEX Study Manual for SOA Exam SRM - Statistics for Risk Modeling*. ACTEX Learning.

1. R. Feng, Z. Cui, P. Li. (2016) Nested stochastic modeling for insurance companies. Society of Actuaries. `https://www.soa.org/research/nested-stochastic-modeling-report.pdf`

Technical Reports and Professional Articles

9. P. Dong, R. Feng, Z. Quan, T. Wang (2024) Exploring Federated Learning. *The Actuary*. October 2024. https://www.theactuarymagazine.org/exploring-federated-learning/

8. Z. Quan, L. Zhang, W.F. Chong, R. Feng (2023) CyLit: An NLP-Powered Repository and Search Tool for Cyber Risk Literature, Society of Actuaries. https://www.soa.org/resources/research-reports/2023/cylit-nlp-search/

7. R. Feng, J. L. Hong (2021) The quest for rising stars. *The Actuary*, November 2021. https://theactuarymagazine.org/the-quest-for-rising-stars/www.theactuarymagazine.org.

6. R. Feng, L. Jin (2021) Managing Investment Risks in Contractual Designs. *Risk Management*, September 2021. https://www.soa.org/sections/joint-risk-mgmt/joint-risk-mgmt-newsletter/2021/september/rm-2021-09-feng-jin/

5. R. Feng (2021) Innovations in decentralized insurance - peer-to-peer and mutual aids. Hi Marley Blog. https://www.himarley.com/blog/2021/5/3/gt2ng8pg2p9u35dq04d4z25wuq4i41

4. R. Feng. (2021) Recognizing future academic leaders: the creation of an early career award in actuarial science. *Expanding Horizon*. April.

3. R. Feng, L. Jin, S.-H. Loke. (2021) Interplay between epidemiology and actuarial modeling. *Casualty Actuarial Society E-Forum*, Spring 2021.

2. R. Feng. (2015) A thought on Fermi problems for actuaries. *The Modeling Platform*, 1: 22–27.

1. R. Feng, S. K. Boddapati. (2018) Undergraduate research in risk and actuarial science at the University of Illinois. *Expanding Horizon*.

Honors and Awards

Institute and Faculty of Actuaries (UK) Geoffrey Heywood Prize, 2022

Michael V. Colla Award for Mathematics Related to Medicine, University of Illinois, 2022.

State Farm Companies Foundation Endowed Professor, 2022– Present.

International Association of Actuaries Non-Life Section, ASTIN Colloquium Best Paper Award. August 2021.

Global Association of Risk Professionals (GARP) Best Paper Award for Quantitative Methods in Finance 2019.

CAS Best of 2020, 2020 Casualty Actuarial Society Annual Meeting.

State Farm Companies Foundation Scholar, 2017– 2022.

Helen P. Petit Professorial Scholar, College of Liberal Arts and Sciences, 2016.

University Research Fellow, University of Wisconsin-Milwaukee, 2012.

Society of Actuaries Doctoral Stipend (Hickman Scholarship), 2007.

List of Teachers Ranked as Excellent by Students, University of Illinois, Fall 2013, Spring 2015, Spring 2016, Spring 2017, Fall 2018, Fall 2020.

Editorial Services

Risk Sciences, KeAi

Executive Editor-in-Chief, 2024–Present.

Insurance Studies, Insurance Society of China

Editorial Board, 2025–Present.

International Journal of Financial Engineering, World Scentific

Associate Editor, 2024-Present.

North American Actuarial Journal, Taylor & Francis

Co-Editor, 2023-Present.
Associate Editor, 2019-Present.

Methodology and Computing in Applied Probability, Springer

Editor, 2018-Present.
Guest Editor, Special issue on "Advances in Actuarial Science and Quantitative Finance", 2021-2022.

Insurance: Mathematics and Economics, Elsevier

Associate Editor, 2022–Present.
Guest Editor, Special Issue on Emerging Risks and Insurance Technology, 2021–2022.

Annals of Actuarial Science, Cambridge University Press

Associate Editor, 2021-Present.
Guest Editor, Special Issue on "Managing the Risk of Mortality Shocks", 2021.

Quantitative Finance and Economics, AIMS Press

Associate Editor, 2016-Present.
Guest Editor, Special issue on "Computational Finance and Insurance", 2017.

Professional Services

Council Member, China Association of Social Security, Private Insurance Division, 2024-2027.

Council Member, China Society of Optimization, Overall Planning and Economical Mathematics, Emergency Management Division, 2024-2027.

Selected Consulting Projects

Managing Investment Risks of Insurance/Annuity Contractual Designs

(Society of Actuaries, 2019-2020)

With the increasing sophistication of contractual designs for insurance and annuity products over the past decade, there is growing interest among practitioners to understand a distinct link between insurance/annuity contractual design and the level of difficulty in managing the investment risks of the contract. This research study offers a computational framework for breaking down contractual designs to mechanical components of risk management techniques and measuring the effect of risk management actions.

Design and Feasibility Study of Pension Obligation Bonds

(State Universities Annuitants Association, 2016–2018)

The State of Illinois retirement systems are currently in the worst financial condition in the nation with more than $130 billion unfunded liabilities. In 2015, the Illinois Supreme Court overthrew pension reforms that aimed to scale back benefits in order to reduce deficit. Lawmakers are limited to policy tools for debt management. The purpose of the research was to design long-term bonding solutions and to provide a quantitative basis for a legislative proposal that resulted from this project.

Nested Stochastic Modeling

(Society of Actuaries, 2015-2016)

The research was commissioned by the Society of Actuaries to conduct an industry survey on current market practices of nested stochastic modeling and to perform a research study on computational methodologies to accelerate run time and improve efficiency. The study created a resource for financial reporting actuaries to better understand the pros and cons of emerging techniques. The findings of this research are expected to contribute to the development of industrial best practice on nested stochastic modeling.

Media Coverage

Efforts to support China's national strategic development by insurance industry. https://trfinance.sina.com.cn/money/insurance/bxdt/2024-04-23/doc-inasvrzu9394828.shtml

Safeguarding the development of artificial intelligence. https://baijiahao.baidu.com/s?id=1800210907109189607&wfr=spider&for=pc

A journey of 'integration' between technology and regulation amidst the wave of financial innovation" https://client.sina.com.cn/zt_d/subject-1711703904?cre=tianyi&mod=wfin&loc=18&r=25&rfunc=70&tj=cxvertical_wap_wfin&tr=0

University professor develops model to address pension crisis. https://dailyillini.com/news/2018/01/29/university-professor-develops-model-address-pension-crisis/

Lawmakers look to see if UI professor's pension fix adds up. http://www.news-gazette.com/news/local/2018-01-31/lawmakers-look-see-if-ui-professors-pension-fix-adds.html

Illinois pension mega-bond sale idea gets legislative airing. https://www.reuters.com/article/illinois-bonds/illinois-pension-mega-bond-sale-idea-gets-legislative-airing-idUSL2N1PP2NA

The future of policing has arrived – predictive analytics warn of crimial activity from the streets to the boardroom. https://issuu.com/luckbox/docs/december_2022_luckbox_issuu

Patent

U.S. Patent Application No.: 63/394,237
Title of Invention: *Distributed Insurance*
Filing Date: August 1, 2022
Inventors: Runhuan Feng and Mao Li

Grants

32. Faculty of Arts, Humanity and Social Sciences Research Grant 2024
Tsinghua University

31. School of Economics and Management Research Grant 2023
Tsinghua University

30. National Risk Management System Based on Insurance Mechanisms 2023
National Social Sciences Foundation of China (PI: Ruo Jia, Co-PI: Runhuan Feng)

29. Distributed Insurance and Risk Sharing 2022
Campus Research Board, University of Illinois.

28. Using Federated Learning on Segregated Insurance Data to Protect Privacy and Improve Actuarial Models 2022
Society of Actuaries. (PIs: Runhuan Feng, Zhiyuan Quan, Tianyang Wang)

27. SPR Federated Learning Technology as Applied to Insurance Industry Datasets- Proof of Concept 2022
Intel Corporation. (PIs: Runhuan Feng, Zhiyu Quan, Tianyang Wang)

26. Privacy in Cloud and Distributed Computing 2022
Cisco Research. (PI: Masooda Bashir, Co-PI: Cathy Blake, Runhuan Feng, Faye Jones)

25. Axis Re Cyber Risk Scenario Analysis 2021
Office of Risk Management and Insurance Research, Gies College of Business.

24. Society of Actuaries Cyber Risk Research 2021
Building an NLP-Powered Repository and Search Tool for Cyber Risk Literature, (PI: Zhiyu Quan, Co-PIs: Alfred Chong, Runnhuan Feng, Linfeng Zhang)

23. 2020 Individual Grant Competition 2021
Casualty Actuarial Society. Pandemic, Infection Disease Models and Insurance Applications. (PI: Runhuan Feng, Co-PI: Sooie-Hoe Loke)

22. An Inclusive Evaluation of Privacy Standards in the Cloud 2021
Cisco Research. (PI: Masooda Bashir, Co-PI: Cathy Blake, Alfred Chong, Runhuan Feng, Faye Jones)

21. Pandemic, infection disease models and insurance applications 2020
Canadian Institute of Actuaries. (PIs: Sooie-Hoe Loke, Runhuan Feng)

20. COVID-19 contingency planning and resource allocation 2020
    Canadian Institute of Actuaries. (PI: Runhuan Feng, Co-PI: Xiaowei Chen, Alfred Chong)
19. Peer-to-peer insurance research grant 2020
    Casualty Actuarial Society
18. Defined Outcome Investing 2020
    Oliver Advisors, Inc.
17. Ignacio H. de Larramendi Research Grant 2019-2020
    Fundación MAPFRE, Spain. (PI: Runhuan Feng, Co-PI: Alfred Chong, Daniel Linders, Jay Kesan)
16. Center of Actuarial Excellence Research Grant 2019-2022
    Society of Actuaries. (PI: Runhuan Feng, Co-PI: Alfred Chong, Daniel Linders, Jay Kesan)
15. Society of Actuaries Research Grant 2019
    SOA Committee on Finance Research and CAS/CIA/SOA Joint Risk Management Section (PI: Runhuan Feng)
14. Investment for Growth Grant Competition 2017
    University of Illinois. (PI: Matthew Ando, Co-PI: Runhuan Feng)
13. State Farm Companies Foundation Scholar (Endowment) 2017-Present
12. H. P. Petit Professorial Scholar 2016-2017
    University of Illinois, College of Liberal Arts and Sciences.
11. Society of Actuaries Research Grant 2015-2016
    Financial Reporting Section (PI: Runhuan Feng)
10. Strategic Instructional Innovations Program 2015-16
    College of Engineering, UIUC. (PI: Alexandra Chronopoulou, Co-PIs: Runhuan Feng, Doug King, Justin Sirignano, Richard Sowers)
9. 2015 Individual Grant Competition Award 2015-16
    Jointly funded by the Actuarial Foundation and the Committee on Knowledge and Extension Research of the Society of Actuaries. (PI: Runhuan Feng, Co-PIs: Zhenyu Cui and Anne MacKay)
8. IMSE Small Grants Program 2013-14
    Initiative for Mathematical Sciences and Engineering, UIUC. (PI: Runhuan Feng, Co-PI: Narayana R. Aluru)
7. Centers of Actuarial Excellence 2013 Grant Competition 2014-16
    Society of Actuaries (Co-PIs: Rick Gorvett, Paul Johnson, David Varodayan)
6. 2013 Individual Grant Competition Award 2013-14
    The Actuarial Foundation. (PI: Runhuan Feng)
5. University of Illinois Campus Research Board Award 2013
    (PI: Runhuan Feng)

4. 2010 Individual Grant Competition Award 2010-11
   The Actuarial Foundation. (PI: Runhuan Feng)
3. Institutional Grant, Society of Actuaries. 2010
   (PI: Runhuan Feng)
2. SOA/CAS/CIA Doctoral Stipend (Hickman Scholars) 2008
   Society of Actuaries.
1. IQFI Research Grant Competition Award 2007
   Institute of Quantitative Finance & Insurance, University of Waterloo (PIs: Jun Cai, Runhuan Feng)

Research Assistant Professor/Postdoc Supervision

5. Yexin Chen, Tsinghua University, 2025-2028.
4. Peixin Liu, University of Illinois at Urbana-Champaign, 2022-2025.
3. Mao Li, 2021 - 2022. First destination: Quantitative Analyst, WorldQuant.
2. Ying Wang, 2016-2018. First destination: Assistant Professor, East China Normal University.
1. Alfred W. F. Chong, 2017-2018. First destination: Assistant Professor, University of Illinois at Urbana-Champaign.

Doctoral Students Supervision

12. Junshang Jiang, Tsinghua University, PhD candidate, 2025-Present.
11. Yixuan Sun, Tsinghua University, PhD candidate, 2024-Present.
10. Jingwen Zhang, Hunan University, PhD candidate, co-supervised with Prof. Ning Zhang, 2023-Present.
9. Youxi Zhang, Tsinghua University, PhD candidate, 2023-Present.
8. Seongyoon Kim, University of Illinois at Urbana-Champaign, PhD candidate, 2021-Present.
7. Yulong Wu, University of Illinois at Urbana-Champaign, PhD candidate, 2020-Present.
6. Linfeng Zhang, University of Illinois at Urbana-Champaign, co-supervised with Prof. Alfred Chong, graduated in 2023. *Applications of Actuarial and Data Science Techniques to Emerging Topics in Risk Management*. First destination: Ohio State University.
5. Longhao Jin, University of Illinois at Urbana-Champaign, graduated in 2022. *Capital Allocation and Risk Management in Insurance*. First destination: Facebook (Research Scientist, Machine Learning Engineering)
4. Samal Abdikerimova, University of Illinois at Urbana-Champaign, graduated in 2022. *Peer-to-Peer Insurance and Risk Sharing*. First destination: ERGO (Munich Re), Germany
3. Chongda Liu, University of Illinois at Urbana-Champaign, graduated in 2021. *Variable Annuity Guaranteed Benefits and Decentralized Insurance*. First destination: Castleton Commodities International.

2. Peng Li, Central University of Finance and Economics, co-supervised with Prof. Ming Zhou, graduated in 2017. *Hedging and Efficient Algorithm of Embedded Options for Variable Annuity*. First destination: Nanjing University of Finance and Economics.

1. Bingji Yi, University of Illinois at Urbana-Champaign, co-supervised with Prof. Renming Song, graduated in 2017. *On Intrinsic Ultracontractivity of Perturbed Lévy Process and Applications of Lévy Process in Actuarial Mathematics*. First destination: Sunrise Futures.

Professional Services

Book review

Springer, 2019;

ACTEX Publications, 2017.

Conference organization

Program committee, 2025 MRS International Risk Conference, Boston University, July 2024.

Program committee, 2024 China Finance Review International & China International Risk Forum Joint Conference, Nanjing, June 2024.

Co-Chair, 2024 China International Conference on Insurance and Risk Management, Ningbo, July 2024.

Chair, Scientific Committee, 2024 International Congress on Insurance: Mathematics and Economics, Chicago, July 2024.

Scientific Committee, 2023 Actuarial Research Conferece, Drake University.

Scientific Committee, 2023 International Congress on Insurance Mathematics and Economics, Heriot-Watt University., Edinburgh, UK.

Co-Chair, Program Committee, 2023 China Finance Review International & China International Risk Forum Joint Conference, Shanghai, July 2023.

Chair, Invited Session on Decentralized Insurance, INFORMS 2022 Annual Meeting, Indianapolis, October 2022.

Co-Chair, Program Committee, 2022 China International Risk Forum, July 2022.

Chair, Scientific Committee, Organizing Committee, 2021 International Congress on Insurance Mathematics and Economics.

Chair, Scientific Committee, Organizing Committee, 2022 Actuarial Research Conference, Champaign, June 2022.

Co-Chair, Planning Committee, 2019 Risk Analytics Symposium, Chicago, May 17, 2019.

Scientific Committee. 2019 Actuarial Research Conference, Purdue University.

Scientific Committee. The 6th International Gerber-Shiu Workshop, June 8-9, 2016, Renmin University.

Scientific Committee. 2015 Actuarial Research Conference, University of Toronto.

Organizer. 2014 SIAM Financial Mathematics and Engineering, Minisymposium on Variable Annuities.

Research grants review

Swiss National Science Foundation 2023

National Science Foundation, South Africa 2019,2020, 2022

Mitacs Accelarate Research Program, Canada 2018

Natural Sciences and Engineering Research Council of Canada, Mathematical, Environmental and Physical Sciences Division 2015

New University Researchers Start-up Program, Fonds de recherche du Québec – Nature et technologies 2016

External thesis examiner

Mark Richard, PhD Thesis, Frankfurt School of Finance & Management, 2023.

Chen Yongzhao, PhD Thesis, Department of Statistics and Actuarial Science, University of Hong Kong, December 2021.

Jessica Dang, PhD Thesis, Department of Statistics and Actuarial Science, University of Waterloo, May 2021.

Shuai (Alex) Yang, PhD Thesis, Department of Statistics, University of Toronto, August 2020.

Fabio Andreés Gómez De Los Ríos, Universidad Nacional de Colombia, Bogotá. November 2019.

Nikolay Gudkow, PhD Thesis, University of New South Wales. October 2018.

Qian Feng, PhD Thesis, Centrum Wiskunde & Informatica. April 2017.

Pavan Aroda, PhD Thesis, Department of Mathematics and Statistics, York University. November 2016.

External tenure and promotion reviewer

University of Waterloo, Nanyang Technological University, Michigan State University, 2023

Towson University, Temple University, University of Connecticut, University of North Carolina, Michigan State University, 2022

West Virginia University, Temple University 2021.

DePauw University, University of Amsterdam, 2020.

University of Minnesota Duluth, 2017.

University of Wisconsin–Milwaukee, 2018.

Competitions and Challenges

Judge, Yongbao Cup University Student Insurance Research Award, August 2023.

SOA Center of Actuarial Excellence Evaluation Committee, Faculty Advisor *2018-Present*

SOA Education and Research Council *2018-2021*

The council facilitates expanding the knowledge base of the actuarial profession, promote ties between practitioners and academics, seek ways to support and encourage actuarial education and research.

Chair of the E&R Council, 2020-2021.

Chair, Early Career Award Working Committee, 20019-2020.

University Services

Chair, Search Committee for Open Rank Faculty Position in Actuarial Science, Dept of Math, 2022.

Chair, Search Committee for Academic Program Specialist, Dept of Math, 2022.

Search Committee for Lecturer Position in Actuarial Science, Dept. of Math, 2022.

Chair, Search Committee for Open Rank Faculty Position in Actuarial Science, Dept. of Math, 2021.

Search Committee for the Chair of the Department of Mathematics, 2021.

Search Committee for Academic Program Specialist Position, 2019.

Senate Committee on Faculty and Academic Staff Benefits, 2018-2020.

Search Committee for the Chair of the Department of Mathematics, 2018.

Chair, Search Committee for Lecturer Position in Actuarial Science, Department of Mathematics, 2018.

Task Force on Quantitative Risk Management, Campus Investment for Growth Program, 2017-2018.

Chair, Search Committee for Faculty Position in Actuarial Science, Departments of Mathematics and Statistics, 2017.

Curriculum Committee, Department of Statistics, 2017.

Graduate Recruiting and Application Screening Committee, Department of Mathematics, 2017-Present.

Search Committee for Academic Program Specialist, Department of Mathematics, 2017.

Search Committee for Director of Center for Risk Management and Insurance Research, Department of Finance, 2017.

Area Chair, Actuarial Science, Department of Mathematics, 2016-Present.

Mathematics in Sciences and Society Chair, Colloquium Committee, Department of Mathematics, 2014-2016.

Search Committee for Academic Advisor, Office of Undergraduate Studies, 2014.

Organizer, Actuarial Science & Financial Mathematics Seminar, 2013-2016.

Co-organizer, Financial Math, Risk and Uncertainty Seminar, 2015-Present. Department of Mathematics and Department of Industrial Enterprise and System Engineering, University of Illinois

Actuarial Science Committee, Social Committee, Department of Mathematical Sciences, University of Wisconsin-Milwaukee, 2008-2012.