冯润桓 PhD,FSA,CERA

教育背景

2005 - 2008

2003 - 2005

1999 - 2003

职业资格

2012 -

2012 –

工作经历

2024 -

2023 -

2022 - 2023 State Farm

2013 - 2023

2021 - 2023

2020 - 2023

2016 - 2023

2008 - 2012

研究领域

学术期刊主编

2024 - *Risk Sciences*

2024 - *International Journal of Financial Engineering*

2023 - *North American Actuarial Journal*

2022 - *Insurance: Mathematics and Economics*

2019 - 2023 *North American Actuarial Journal*

2018 - *Methodology and Computing in Applied Probability*

2021 - *Annals of Actuarial Science*

2016 - *Quantitative Finance and Economics*

荣誉奖项

2023 会

2022 伊 伊 克

2021 会 会 佳

2020 产 会 佳

2019 全 专业 会 会 佳

2016 伊 伊 伦

2012 分

专著

2025 I ,

2023 *Decentralized Insurance: Technical Foundation of Business Models*, Springer (
)

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

2018 *An Introduction to Computational Risk Management of Equity-Linked Insurance*, Chapman and Hall/CRC Financial Mathematics Series. ( )

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

Runhuan Feng, PhD, FSA, CERA

B306, Lihua Building
Tsinghua University, Beijing

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

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

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*.

Working Papers

10. R. Feng, M. Li, M. Bichuch. (2022) Pricing by stake in DeFi insurance.
9. R. Feng, M. Li (2022) Distributed insurance: allocation of risk and reward.
8. R. Feng, L. Jin, S.H. Loke (2022) Healthcare loss triangle using epidemiology models.

7. R. Feng, P. Jiang, H. Volkmer. (2020) The persistence of winning streaks in financial markets. *Global Association of Risk Professionals (GARP) Best Paper Award for Quantitative Methods in Finance 2019*.
6. Z. Chen, R. Feng, M. Guo, T. Wang. (2023) From gateway to value ladder - The curious case of online mutual aid in China.
5. R. Feng, J. Zhang, N. Zhang (2025) The pension dilemma: financial sustainability versus inter-generational equity.
4. R. Feng, X. Jing, Y. Wu. (2024) Tokenomics of DeFi insurance.
3. R. Feng, H. Li, M. Liu. (2025) From Robo-advisor to super intelligence: a classification framework for AI-based financial planning.
2. M. Anthropelos, R. Feng, S. Kim. (2024) On the expansion of risk pooling.
1. R. Feng, Z. Liang, Y. Song. (2024) Decentralized annuity: a quest for the holy grail of lifetime financial security.