PROGRAM AT A GLANCE

Wednesday, August 3, 2022

Time	Session Details	Location
9:00–11:30	Mini-Workshop	Chancellor Room
13:00–15:00	Outing to Japan House (registered guests only)	See note*
17:00–19:00	Registration and Reception	Chancellor Room

Thursday, August 4, 2022

Time	Session Details	Location
8:30–8:45	Coffee and Morning Snack	Lobby
8:45–9:00	Opening Remarks from Matthew Ando	Illinois Room
9:00–10:00	Keynote Address Qihe Tang “Insurance and Systemic Risk”	Illinois Room
10:00–10:20	Coffee Break	Lobby
10:20 – 11:50	**Statistical and Machine Learning I** *Chair: Liang Hong*	Illinois Room

10:20–Panyi Dong, “Automated Machine Learning in Insurance”

10:50–Young sun Kim, “Transfer Learning in Actuarial Science: Primer and Applications”

11:20–Vajira Manathunga, “Framework for BERT Based NLP Models with Applications to Warranty Policy Loss Prediction”

10:20 – 11:50	**Retirement and Pension Mathematics I** *Chair: Jonathan Ziveyi*	Knowledge Room
	10:20–Jonathan Ziveyi, “A Hybrid Variable Annuity Contract Embedded with Living and Death Benefit Riders”	
	10:50–Daniel Linders, “The 3-Step Hedge-Based Valuation: Fair Valuation in the Presence of Systematic Risks”	
	11:20–Adriana Ocejo, “Portfolio Optimization with a Guaranteed Minimum Maturity Benefit and Risk-Adjusted Fees”	
10:20 – 11:20	**Quantitative Finance I** *Chair: Ruodu Wang*	Innovation Room
	10:20–Zhanyi Jiao, “A Reverse Expected Shortfall Optimization Formula”	
	10:50–James Ely, “The Laplace Transform as Stochastic Present Value”	
10:20 – 11:50	**Reinsurance** *Chair: Tim Boonen*	Excellence Room
	10:20–Mingren Yin, “Optimal Reinsurance Design with Model Uncertainty”	
	10:50–Gee Lee, “Multivariate Insurance Portfolio Risk Retention”	
	11:20–Tim Boonen, “Bowley vs. Pareto Optima in Reinsurance Contracting”	

10:20–11:20	**Invited Session**	Humanities Room
	Brian Fennin, “Beyond Excel”	
11:50 – 13:00	Lunch	Lobby
13:00 – 14:30	**Risk Modeling and Measurement I** *Chair: Jean-François Bégin*	Illinois Room
	13:00–Xing Wang, “Extreme and Inference for Tail Gini Functionals with Applications in Tail Analysis of Systemic Risk”	
	13:30–Phelim Boyle, “Sums of Sums of Lognormals”	
	14:00–Qian Zhao, “Robust Credibility Based on Censored Data”	
13:00 – 14:30	**Cyber Risk I** *Chair: Maochao Xu*	Knowledge Room
	13:00–Hon Keung (Tony) Ng, “Statistical Models and Algorithms for Assessing Robustness and Reliability of Networks with Applications in Cybersecurity Insurance”	
	13:30–Maochao Xu, “Statistical Modeling of Data Breach Risks: Time to Identification and Notification”	
	14:00–Zhiwei Tong, “An Integrated Study of Cyber Security and Cyber Insurance”	
13:00 – 14:00	**Health Insurance** *Chair: Anne MacKay*	Innovation Room

	13:00–Ying Chen, “Actuarial Price of Health Insurance Coverage and Dependence in Care Utilization”	
	13:30–Nickolas Thiessen, “How Much Surplus Should a Health Insurer Hold to Avoid Insolvency?”	
13:00 – 14:30	**Insurance Economics** *Chair: Bin Zou*	Excellence Room
	13:00–Shengchao Zhuang, “Variance Insurance Contracts”	
	13:30–Yuanying Guan, “Ambiguity Aversion and State-Dependent Insurance”	
	14:00–Bin Zou, “Stackelberg Differential Game for Insurance under Model Ambiguity”	
13:00 – 14:30	**Carpe Invited Session**	Humanities Room
	Scot Barton, VP of Product, Carpe Data, “InsurTech”	
14:30 – 14:50	Coffee Break	Lobby
14:50 – 16:20	**Loss Reserving and Ratemaking I** *Chair: Peng Shi*	Illinois Room
	14:50–Bowen Liu, “The Application of Accumulation Tests in Peaks Over Threshold Modeling with Norwegian Fire Insurance Data”	
	15:20–Roxane Turcotte, “Longitudinal Claim Count Models Using Splines for Predictive Ratemaking”	

	15:50–Juan-Sebastian Yanez, "Parametric Outstanding Claim Payment Count Modelling through a Dynamic Claim Score"	
14:50 – 16:20	**Mortality And Longevity Modeling I** *Chair: Haibo Liu*	Knowledge Room
	14:50–Haibo Liu, "Pricing Extreme Mortality Risk amid the COVID-19 Pandemic"	
	15:20–Yuan Chen, "Data Driving LSTM Method to predict the Mortality under COVID-19 in the United States Based on Deep Learning"	
	15:50–Kenneth Zhou, "Modeling Cause-of-Death Mortality with Jump Effects: Implications on Risk Management to Life Insurers"	
14:50 – 16:20	**Capital Allocation and Dependence Modeling** *Chair: Etienne Marceau*	Innovation Room
	14:50–Yong Xie, "Option Implied Degree of Nonlinear Dependence: Definition, Properties, and Information Contents"	
	15:20–Etienne Marceau, "Collective Risk Models with FGM dependence"	
	15:50–Christopher Blier-Wong, "Efficient Computation of Expected Allocations"	
14:50 – 15:50	**Actuarial Education** *Chair: Russell Hendel*	Excellence Room
	14:50–Diana Skrzydlo, "Designing Authentic Assessments for Learning"	
	15:20–Russell Hendel, "A Reading Comprehension Approach Based on Keywords to Prelim Exam Problems"	

14:50 – 16:20	**Invited Session**	Humanities Room
	Nancy Behrens, “Professionalism and You”	
16:20–17:00	Poster Session	Lobby
16:30 – 19:00	Happy Hour	Lobby
17:00 – 19:00	Outing to Japan House (registered guests only)	See note*

Friday, August 5, 2022

Time	Session Details	Location
8:30–9:00	Coffee and Morning Snack	Lobby
9:00–10:00	Keynote Marianne Purushotham “The Insurance Industry Evolution and Academic Collaboration”	Illinois Room
10:00–10:20	Coffee Break	Lobby
10:20 – 11:50	**Risk Modeling and Measurement II** *Chair: Yiqing Chen*	Illinois Room
	10:20–Daoping Yu, “Comparison of Model Selection Criteria for Distinguishing Operational Risk Models”	
	10:50–Ruodu Wang, “Model Aggregation for Risk Evaluation and Robust Optimization”	
	11:20–Yiqing Chen, “An Asymptotic Study of Systemic Expected Shortfall and Marginal Expected Shortfall”	

10:20 – 11:50	**Actuarial Approaches to COVID-19** *Chair: Ian Duncan*	Knowledge Room
	10:20–Linfeng Zhang, “Pandemic Risk Management: Resources Contingency Planning and Allocation”	
	10:50–Hee Seok Nam, “Mathematical and Actuarial Analysis on a Deterministic SEIR Model”	
	11:20–AYSE ARIK, “Estimating the Impact of COVID-19 Health Disruptions on Breast Cancer Risk”	
10:20 – 11:20	**Life Insurance** *Chair: Xiaochen Jing*	Innovation Room
	10:20–Jamaal Ahmad, “Computation of Bonus in Multi-State Life Insurance”	
	10:50–Xiaochen Jing, “Is There Principal-Agent Problem in Variable Annuities? Evidence from Investment Restrictions and a Comparison of Fee Incentives”	
10:20 – 11:50	**Invited Session**	Humanities Room
	Jeff Beckley and panelists,”Actuarial Educators Forum”	
11:50 – 13:00	Lunch	Lobby
13:00 – 14:30	**Mortality and Longevity Modeling II** *Chair: Brian Hartman*	Illinois Room
	13:00–Brian Hartman, “A Multivariate Spatiotemporal Model for County Level Mortality Data in the Contiguous United States”	

13:30–Adrian O Hagan, "Quantifying Impacts for Insurers of Polygenic Risk Scores for Multifactorial Genetic Disorders: a Simulation Study Using Coronary Artery Disease."

14:00–Lydia Gabric, "A Generalized Graphical Risk Metric for Natural Hedging"

13:00 – 14:30	**Quantitative Finance II** *Chair: Arnold Shapiro*	Knowledge Room

13:00–Arnold Shapiro, "Conceptualizing Life Annuities as Fuzzy Random Variables"

13:30–Anne MacKay, "Optimal Stopping with Discontinuous and Time-Dependent Reward with Applications to Variable Annuities"

14:00–Wenchu Li, "Sustainable Investing in Corporate Bonds: Evidence from the U.S. Life Insurance Companies"

13:00 – 14:30	**Blockchain, Telematics, and InsurTech** *Chair: Elias Shiu*	Innovation Room

13:00–Francis Duval, "Anomaly Detection Techniques for Feature Extraction in Automotive Claim Classification"

13:30–Patrick Toman, "Freeze Loss Risk Management Using IoT Sensor Networks and Online Time Series Classification"

14:00–Mao Li, "Distributed Insurance"

13:00 – 14:30	**Casualty Actuarial Society Invited Session**	Humanities Room

Roosevelt Mosley and Ken Williams, "Race and Insurance Pricing"

14:30 – 14:50	Coffee Break	Lobby
14:50 – 16:20	**Loss Reserving and Ratemaking II** *Chair: Daniel Bauer* 14:50–Marie Michaelides, "Individual Claims Reserving Using Activation Patterns" 15:20–Sebastian Calcetero, "A Credibility Index for Efficient Computation and Interpretation of Bayesian Models for Experience Rating in Non-life Insurance" 15:50–Carlos Araiza, "A Discrimination-Free Premium Under a Causal Framework"	Illinois Room
14:50 – 16:20	**Retirement and Pension Mathematics II** *Chair: Gao Niu* 14:50–Jiwon Jung, "Modelling Functional Disability with Hawkes Process" 15:20–Mengyi Xu, "An Observation-Driven Approach to Multi-State Modeling of Mortality and Disability" 15:50–Gao Niu, "Retirement Benefit Evaluation Based on Impaired Mortality with Tax Consideration"	Knowledge Room
14:50 – 16:20	**Statistical and Machine Learning II** *Chair: Jianxi Su* 14:50–Jianxi Su, "Inference for The Tail Conditional Allocation: Large Sample Properties and Insurance Risk Assessment" 15:20–Vytaras Brazauskas, "Smoothing and Measuring Discrete Risks"	Innovation Room

	15:50–Changyue Hu, “Improving Business Insurance Loss Models by Leveraging InsurTech Innovation”	
14:50 – 16:20	**Cyber Risk II** *Chair: Petar Jevtic*	Excellence Room
	14:50–Petar Jevtic, “Framework for Cyber Risk Loss Distribution of Hospital Infrastructure: Bond Percolation on Mixed Random Graphs Approach”	
	15:20–Meng Sun, “Modeling Cyber Loss Severity Using a Spliced Regression Distribution with Mixture Components”	
	15:50–Ahmed Soliman, “Understanding Insured Behavior through Causal Analysis of IoT Streams”	
14:50 – 16:20	**Society of Actuaries Invited Session**	Humanities Room
	John W. Robinson, Stuart Klugman and Steven Siegel	
16:20 – 17:00	Lobby Chatting	Lobby
17:00–17:30	Group Photo	Lobby
18:15	Shuttle for Banquet Dinner opens	Conference center parking lot
18:30–22:00	**Banquet**	Alice Campbell Alumni Center
	18:30—Reception	
	19:00—Dinner	

20:00—Address from SOA president-elect

20:15—Address from CAS president-elect

20:30— Presentation of MCAP Best Paper Award; Presentation of SOA Early Career Award; Performance

Saturday, August 6, 2022

Time	Session Details	Location
8:30–9:00	Coffee and Morning Snack	Lobby
9:00–10:00	Keynote Address Ken Seng Tan “Sustainable Risk Management Strategy via Index-Based Agricultural Insurance”	Illinois Room
10:00–10:20	Coffee Break	Lobby
10:20 – 11:20	**Loss Reserving and Ratemaking III** *Chair: Cynthia Edwalds*	Illinois Room
	10:20–Nii Okine, “Ratemaking in a Changing Environment”	
	10:50–Wenyi Lu, “Quantification of Variability of Chain Ladder Reserve Estimates: Comparison of Mack’s Method vs Bayesian Simulation Method Regarding Implementation Difficulties”	
10:20 – 11:50	**Risk Modeling and Measurement III** *Chair: Kristina Sendova*	Knowledge Room
	10:20–Liyuan Lin, “Diversification Quotients: Quantifying Diversification via Risk Measures”	
	10:50–Qiuqi Wang, “E-backtesting risk measures”	

	11:20–Kristina Sendova, “Simultaneously arriving claims”	
10:20 – 11:50	**Statistical and Machine Learning III** *Chair: Nariankadu Shyamalkumar*	Innovation Room
	10:20–Nariankadu Shyamalkumar, “Mortality Forecasting with Neural Tangent Kernel Regression”	
	10:50–Liang Hong, “Valid Model-Free Prediction of Future Insurance Claims Based on a Machine Learning Strategy”	
	11:20–Jean-François Bégin, “Ensemble Economic Scenario Generators: Unity Makes Strength”	
10:20 – 11:50	**Invited Session**	Humanities Room
	Margie Rosenberg and panelists, “Discussing the “I” of DEI”	
11:55–12:10	Departing remarks Presentation for ARC2023	Illinois Room
12:10–13:00	Boxed lunch to go	Lobby