# PROGRAM AT A GLANCE

## Wednesday, August 3, 2022

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Details</th>
<th>Location</th>
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<tbody>
<tr>
<td>9:00–11:30</td>
<td>Mini-Workshop</td>
<td>Chancellor Room</td>
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<tr>
<td>13:00–15:00</td>
<td>Outing to Japan House (registered guests only)</td>
<td>See note*</td>
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<tr>
<td>17:00–19:00</td>
<td>Registration and Reception</td>
<td>Chancellor Room</td>
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## Thursday, August 4, 2022

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Details</th>
<th>Location</th>
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<tbody>
<tr>
<td>8:30–8:45</td>
<td>Coffee and Morning Snack</td>
<td>Lobby</td>
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<td>8:45–9:00</td>
<td>Opening Remarks from Matthew Ando</td>
<td>Illinois Room</td>
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<tr>
<td>9:00–10:00</td>
<td>Keynote Address Qihe Tang “Insurance and Systemic Risk”</td>
<td>Illinois Room</td>
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<tr>
<td>10:00–10:20</td>
<td>Coffee Break</td>
<td>Lobby</td>
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<tr>
<td>10:20 – 11:50</td>
<td><strong>Statistical and Machine Learning I</strong>&lt;br&gt;Chair: Liang Hong</td>
<td>Illinois Room</td>
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<tr>
<td>10:20–</td>
<td>Panyi Dong, “Automated Machine Learning in Insurance”</td>
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<tr>
<td>10:50–</td>
<td>Young sun Kim, “Transfer Learning in Actuarial Science: Primer and Applications”</td>
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</tbody>
</table>
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*


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*


10:20 – 11:50  
**Reinsurance**  
*Chair: Tim Boonen*

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
Brian Fennin, “Beyond Excel”

11:50 – 13:00 Lunch

13:00 – 14:30 Risk Modeling and Measurement I
Chair: Jean-François Bégin
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
13:00–Hon Keung (Tony) Ng, “Statistical Models and Algorithms for Assessing Robustness and Reliability of Networks with Applications in Cybersecurity Insurance”
14:00–Zhiwei Tong, “An Integrated Study of Cyber Security and Cyber Insurance”

13:00 – 14:00 Health Insurance
Chair: Anne MacKay
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*

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**

Scot Barton, VP of Product, Carpe Data, “InsurTech”

14:30–14:50  
**Coffee Break**

14:50–16:20

**Loss Reserving and Ratemaking I**  
*Chair: Peng Shi*

14:50–Bowen Liu, “The Application of Accumulation Tests in Peaks Over Threshold Modeling with Norwegian Fire Insurance Data”

15:50–Juan-Sebastian Yanez, “Parametric Outstanding Claim Payment Count Modelling through a Dynamic Claim Score”

Mortality And Longevity Modeling I
Chair: Haibo Liu

14:50–Haibo Liu, “Pricing Extreme Mortality Risk amid the COVID-19 Pandemic”


Capital Allocation and Dependence Modeling
Chair: Etienne Marceau

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”

Actuarial Education
Chair: Russell Hendel

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
Nancy Behrens, “Professionalism and You”

16:20–17:00 Poster Session

16:30 – 19:00 Happy Hour

17:00 – 19:00 Outing to Japan House (registered guests only)

Friday, August 5, 2022

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<tr>
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<tr>
<td>8:30–9:00</td>
<td>Coffee and Morning Snack</td>
<td>Lobby</td>
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<td>9:00–10:00</td>
<td>Keynote Marianne Purushotham “The Insurance Industry Evolution and Academic Collaboration”</td>
<td>Illinois Room</td>
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<tr>
<td>10:00–10:20</td>
<td>Coffee Break</td>
<td>Lobby</td>
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</table>
| 10:20 – 11:50 | Risk Modeling and Measurement II  
Chair: Yiqing Chen | Illinois Room |
| 10:50–   | Ruodu Wang, “Model Aggregation for Risk Evaluation and Robust Optimization”     |
10:20 – 11:50  **Actuarial Approaches to COVID-19**  
*Chair: Ian Duncan*

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”


10:20 – 11:20  **Life Insurance**  
*Chair: Xiaochen Jing*

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**  
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*

13:00–Brian Hartman, “A Multivariate Spatiotemporal Model for County Level Mortality Data in the Contiguous United States”

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

Quantitative Finance II
Chair: Arnold Shapiro

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”

Blockchain, Telematics, and InsurTech
Chair: Elias Shiu

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”

Casualty Actuarial Society Invited Session

Roosevelt Mosley and Ken Williams, “Race and Insurance Pricing”
14:30 – 14:50  Coffee Break

14:50 – 16:20  
**Loss Reserving and Ratemaking II**  
*Chair: Daniel Bauer*  
Illinois Room

14:50–Marie Michaelides, “Individual Claims Reserving Using Activation Patterns”


14:50 – 16:20  
**Retirement and Pension Mathematics II**  
*Chair: Gao Niu*  
Knowledge Room


15:50–Gao Niu, “Retirement Benefit Evaluation Based on Impaired Mortality with Tax Consideration”

14:50 – 16:20  
**Statistical and Machine Learning II**  
*Chair: Jianxi Su*  
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


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**

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<td>Coffee and Morning Snack</td>
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<td>9:00–10:00</td>
<td>Keynote Address Ken Seng Tan “Sustainable Risk Management Strategy via Index-Based Agricultural Insurance”</td>
<td>Illinois Room</td>
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<td>10:00–10:20</td>
<td>Coffee Break</td>
<td>Lobby</td>
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<td>10:20–11:20</td>
<td><strong>Loss Reserving and Ratemaking III</strong></td>
<td>Illinois Room</td>
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<td><em>Chair: Cynthia Edwalds</em></td>
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<td>10:50–Wenyi Lu, “Quantification of Variability of Chain Ladder Reserve Estimates: Comparison of Mack’s Method vs Bayesian Simulation Method Regarding Implementation Difficulties”</td>
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<td>10:20–11:50</td>
<td><strong>Risk Modeling and Measurement III</strong></td>
<td>Knowledge Room</td>
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<td><em>Chair: Kristina Sendova</em></td>
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<td>10:50–Qiuqi Wang, “E-backtesting risk measures”</td>
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10:20–11:50 **Statistical and Machine Learning III**
*Chair: Nariankadu Shyamalkumar*

10:20–Nariankadu Shyamalkumar, “Mortality Forecasting with Neural Tangent Kernel Regression”


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

12:10–13:00 Boxed lunch to go