2022 Virtual ASTIN & AFIR/ERM Colloquia

Tuesday, June 21 - Thursday, June 23, 2022

Plenary Sessions
Parallel Sessions

Tuesday, June 21,2022, Central European Summer Time (UTC +2)

Tuesday, 10:00 - 11:00 — **Parallel Sessions 1**

ASTIN	ASTIN	AFIR/ERM
A new framework of prediction error decomposition for the machine learning era	Stochastic Ensemble Loss Reserving	AI in longevity risk management: improved long-term projections by machine learning
Estimating the effect on payment due to COVID-19 by machine learning method using causal inference	Stochastic Loss Reserving with a Special Bi-directional Recurrent Neural Network Algorithm	Suicide Death Number Estimation for Insurers by Neural Networks: Grasping trend changes

Tuesday, 11:30 - 12:30 — **Parallel Sessions 2**

Anti-discrimination Insurance Pricing: Regulations, Fairness Criteria, and Models	Multivariate matrix-exponential affine mixtures and their applications in risk theory	Risk management for climate change and catastrophes in Asia
Capital market effects of full fair value insurance accounting	Deep Composite Regression	Sustainable Financial Risk Modelling Fitting the SDGs: Some Reflections

Tuesday, 12:30 - 13:30 — **Opening Plenary Session (20:30 - 21:30 in Sydney)**

Dr. Greg Taylor, “Model error and its estimation, with particular application to loss reserving”

Tuesday, 13:30 - 14:30 — **Parallel Sessions 3**

Estimation of the mean square error of a product of random variables	The Skewness of Bornhuetter-Ferguson	Efficient Monte Carlo simulation of portfolio value, value-at-risk and other portfolio metrics
Modelling Insurers Cyber Risk by Hybrid Methodology – Scenario Analysis and LDA	Thinning of loss counts and the Mixed Contagion model	Pension accounting forecasts based on nested stochastic modelling

Tuesday, 15:00 -16:00 — **Parallel Sessions 4**

GemAct: a comprehensive actuarial package for non-life (re)insurance	Social inclusion in the world of modern predictive analytics	Analysis of financial contagion among economic sectors through Dynamic Bayesian Networks
One-year and ultimate reserve risk in Mack Chain Ladder model	Stable Dividends are Optimal under Linear-Quadratic Optimization	Modern Life-Care Tontines

Wednesday, June 22,2022, Eastern Daylight Time (UTC -4)

ASTIN **ASTIN** **AFIR/ERM**

Wednesday, 10:00 - 11:00 **Parallel Sessions 1**

An aggregate trend renewal micro model for loss reserves, with inflation and discount	Risk model with dependent frequency and severity, premium and ruin probability calculation	
Contingent Claim, Lender of Last Resort (LoLR), Helicopter Money in the Era of LIBOR Conversion	Scenario Testing for Large Fleets during the yearly price adjustment process - a practical example	

Wednesday, 11:30 - 12:30 **Parallel Sessions 2**

Cyber risk: An analysis of self-protection and the prediction of claims	Enhancing Claims Triage with Dynamic Data	An Asset-Liability Model for Stable Value Fund Wraps (Guaranteed Retirement Plans)
Efficient computation of expected allocations	Rebalancing the off-Balance Factor Using the Complement of Credibility	Analysis threshold portfolio return of Swiss pension funds based on nested simulation engine

Wednesday,, 13:30 - 14:30 **Parallel Sessions 3**

Monte Carlo Simulation, Dependence, and Risk Accumulation	Modeling the Reserving Cycle with the Discrete Fourier Transform	Pandemic effects on investors behaviour: Tesla valuation with Holt-Winters and fundamental analysis
Capturing the dependence among large losses using extreme-value copulas	The predictive power of the multinomial distribution - 2 practical examples	COVID-19 Mitigations in the U.S

Wednesday, 15:00 -16:00 **Parallel Sessions 4**

Peer-to-Peer Multi-Risk Insurance and Mutual Aid	Simulation-based Earthquake Insurance Risk Calculation	
Required Sample Size in Capital Modeling	Update on Actuarial Density and Actuarial Penetration	

Thursday, June 23,2022, Central European Summer Time (UTC +2)

ASTIN	ASTIN	AFIR/ERM

Thursday, 10:00 - 11:00 **Parallel Sessions 1**

Fraud detection in insurance using generative adversarial networks for data imbalance	Optimal prevention strategies in the classical risk model	Taxation treatment of retirement income products in Australia focusing on variable annuity contracts
Integrating hidden markov model with machine learning for fraud detection in health insurance	Optimal reinsurance under terminal value constraints	Selling life insurance in Africa and Modeling Loss Reserving for surrounding in Micro saving Product

Thursday, 11:30 - 12:30 **Parallel Sessions 2**

Generating unfavorable VaR scenarios with patchwork copulas	Predicting Region-Specific Seismic Losses and Tail Risk – DFA with Learning Algorithms	Impact of management actions such as policyholder dividends on solvency ratio
Internal Modeling without copulas: the beauty of multivariate Thorin classes	Seismic Risk Assessment in UAE by the Large-Magnitude Offshore Shallow Crustal Earthquake	Computation of bonus in multi-state life insurance

Thursday, 13:30 - 14:30 **Parallel Sessions 3**

A copula estimation through recursive partitioning of the unit hypercube	Longevity and mortality risk management post-Covid	Cyber Risk Management
Gamma Mixture Density Networks and their application to modelling insurance claim amounts	Mental health and insurance cover	Regulation risk: the case of Solvency II

Thursday, 15:00 -16:00 **Parallel Sessions 4**

Actuarial (R)evolutions	Capital requirements modeling for market and non-life premium risk in a dynamic insurance portfolio	Insurability and Pandemic (or More Generally, Shared Resilience) Risk
Bootstrap Consistency for the Mack Bootstrap	Continuous partition-of-unity copulas and their application to risk management and other fields	Covering pandemic risk: insurance or smart saving?

Thursday, 16:00 - 17:00 **Closing Plenary Session (10:00 - 11:00 in New York)**

Dr. Steve Mildenhall, "Pricing Insurance Risk: Practice and Theory"