# Insurance Mathematics, Ruin Theory and Monte Carlo Methods

## June 28 – 30, 2004
### T6, Meng Wah Complex

*Department of Statistics and Actuarial Science*

*and*

*Institute of Mathematical Research*
*Department of Mathematics*

***Organizing Committee:***
*Chairmen: Tze Leung Lai, Stanford U. & HKU, Kai W. Ng, HKU*
*Members: Ngai Hang Chan, CUHK, Elias Shiu, U. Iowa and HKPU,*
*Hailiang Yang, HKU, Siu Pang Yung, HKU*

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| 9:00 – 9:10 | *Welcoming Address*<br>**Prof. Lap-Chee Tsui,** VC of HKU |
| 9:10 – 9:30 | *Opening Remarks*<br>**Mr. Richard M.F. Yuen**, Commissioner of Insurance, HKSAR<br>**Mr. Patrick Poon**, CEO Greater China, Asia/Pacific, ING Asia/Pacific Limited |
| 9:30 – 10:00 | *Photo Session* |
| 10:00 – 10:50 | **Hans U. Gerber,** Ecole des Hautes Etudes Commerciales, University of Lausanne<br>*On Optimal Dividends: From Reflection to Refraction* |

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| **10:50 – 11:10** | *Coffee Break* |

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| 11:10 – 11:40 | **Ze-Hui Li,** Department of Mathematics, Lan-Zhou University<br>*Weak Convergence of a New Risk Model* |
| 11:40 – 12:00 | **Kam C. Yuen,** Statistics and Actuarial Science, HKU<br>*Some Ruin Problems for a Risk Process with Stochastic Interest* |
| 12:00 – 12:30 | **Guojing Wang,** Department of Mathematics, Suzhou University<br>*Ruin Probabilities for a Risk Process with Stochastic Return on Investments* |

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| **12:30 – 14:00** | *Lunch Break* |

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| 14:00 – 14:50 | **Marc Goovaerts**, CRIS, Actuarial Science, K.U. Leuven<br>*Actuarial Risk Measures* |
| 14:50 – 15:20 | **Kequan Ding,** Department of Mathematics, Graduate School of the Chinese Academy of Sciences<br>*Reference Price in Real Estate Pricing* |

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| **15:20 – 15:40** | *Coffee Break* |

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| 15:40 – 16:10 | **Zhenting Hou,** School of Mathematical Sciences and Computing Technology, Central south University<br>*Markov Skeleton Processes and Their Applications to Risk Theory* |
| 16:10 – 16:40 | **Hailiang Yang,** Statistics and Actuarial Science, HKU<br>*Ruin Theory: Martingale Approach* |
| 16:40 – 17:10 | **Rongming Wang,** Department of Statistics, East China Normal University<br>*On Erlang(2) Risk Process Perturbed by Diffusion* |

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| **17:30 – 18:00** | *Reception* |

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| 18:00 – 19:00 | *Patrick Poon Lecture Series in Actuarial Science*<br><br>**Prof. Sai Wan Elias Shiu**, Statistics and Actuarial Science, University of Iowa & Applied Mathematics, HKPU<br>*The Changing Insurance Business and Mathematical Finance* |

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| **19:30 – 21:30** | *Conference Dinner* |

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| 9:00 – 9:40 | **Tze Leung Lai and Hock Peng Chan**, Statistics, Stanford University & C.V. Starr Professor, HKU, and Mathematics, NUS<br>*Sequential Monte Carlo Methods for Computing Probabilities of Rare Events in Complex Models* |
| 9:40 – 10:10 | **Sam Wong**, Information & Systems Management, HKUST<br>*Efficient Implementation of Universal Portfolio by Sequential Importance Sampling* |
| 10:10 – 10:40 | **Stephen Lee**, Statistics and Actuarial Science, HKU<br>*Variance Estimation for Sample Quantiles Using the m out of n Bootstrap* |
| **10:40 – 11:00** | *Coffee Break* |
| 11:00 – 11:30 | **Zhengyan Lin**, Department of Mathematics, Zhe-Jiang University<br>*Limiting Behavior of Strong Near-Epoch Dependent Random Variables* |
| 11:30 – 12:00 | **Xinsheng Zhang,** Department of Statistics, Fudan University<br>*The Distribution of Exit Time for One Dimensional Diffusion Processes* |
| 12:00 – 12:30 | **Chun Su,** Department of Statistics & Finance, University of Science and Technology of China<br>*On the Behavior of the Product of Independent Random Variables* |
| **12:30 – 13:30** | *Lunch Break* |
| 13:30 – 14:10 | **Ngai-Hang Chan and Michael Wong**, Statistics, CUHK<br>*Data Mining of Resilience Indicators* |
| 14:10 – 14:40 | **Wai-Sum Chan,** Statistics and Actuarial Science, HKU<br>*An Actuarial Analysis of Long-Term Care Insurance Demand in Hong Kong* |
| 14:40 – 15:10 | **Zhigang Xie,** School of Finance, Shanghai University of Finance and Economics<br>*Risk Construction of China Insurers: Identification of Methodologies* |
| **15:10 – 15:20** | *Coffee Break* |
| 15:20 – 15:50 | **Zhongfei Li,** Center for Financial Engineering and Risk Management, Sun Yat-Sen University<br>*Optimal Dynamic Portfolio Selection under Safety-First Rules* |
| 15:50 – 16:20 | **Ka Chun Cheung**, Statistics and Actuarial Science, HKU<br>*Optimal Stopping Behavior of Equity-Indexed Annuity with Regime Switching* |
| **16:20 – 16:30** | *Coffee Break* |
| 16:30 – 17:00 | **Duo Wang,** Department of Financial Mathematics, Beijing University<br>*Asset Pricing Dynamics with Time-Varying Second Moment* |
| 17:00 – 17:30 | **Ken Siu,** Department of Mathematics, City University of Hong Kong<br>*On Pricing Derivatives under GARCH Models: A Dynamic Gerber-Shiu's Approach* |
| **17:45 – 18:15** | *Reception* |
| 18:15 – 19:00 | *Patrick Poon Lecture Series in Actuarial Science*<br><br>**Prof. Hans U. Gerber,** Ecole des Hautes Etudes Commerciales, University of Lausanne<br>*The Actuary: Between Mathematics and Realities* |
| 19:00 – 19:20 | *Closing Remarks*<br><br>**Mr. Richard Yuen,** Commissioner of Insurance, HKSAR |

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| 9:00 – 9:50 | **Sai Wan Elias Shiu**, Statistics and Actuarial Science, University of Iowa & Applied Mathematics, HKPU<br>*The Time Value of Ruin in a Sparre Andersen Model* |
| 9:50 – 10:20 | **Yijun Hu,** School of Mathematics and Statistics, Wuhan University<br>*Asymptotic Ruin Probabilities for Discrete Time Risk Models with Heavy-Tailed Claims* |
| **10:20 – 10:40** | *Coffee Break* |
| 10:40 – 11:10 | **LiXin Song,** Department of Applied Mathematics, Dalian University of Technology<br>*Semiparametric Credibility Ratemaking Using a Piecewise Linear Prior* |
| 11:10 – 11:40 | **Beda Chan,** Statistics and Actuarial Science, HKU<br>*The Ruin Probability of the Secondary School Places Allocation (SSPA) Lottery* |
| 11:40 – 12:00 | **Closing** |