39th Actuarial Research Conference August 4th – 7th, 2004
Iowa Memorial Union, The University of Iowa, Iowa City

Conference sponsors include AERF Committee of The Actuarial Foundation, American Academy of Actuaries, American Society of Pension Actuaries, AmerUS Group, Canadian Institute of Actuaries, Casualty Actuarial Society, Colegio Nacional de Actuarios, A.C., Conference of Consulting Actuaries, Society of Actuaries, and University of Iowa Department of Statistics and Actuarial Science.

Wednesday, August 4th

5:00-7:00 Welcome Reception and Registration

Thursday, August 5th

8:00-9:30 Registration

8:00-9:00 Continental Breakfast

9:00–10:30 Chair: **Jim Broffitt**
- 9:00-9:05 **Jim Broffitt**
- 9:05-9:25 **Neil Parmenter**, President, SOA
- 9:25-9:30 **Harry H. Panjer**, Editor, *NAAJ*
- 9:30-9:50 **Hans U. Gerber**, Elias S. W. Shiu
  On Optimal Dividends: From Reflection to Refraction
- 9:50-10:10 **Michael Sherris**, John van der Hoek
  Capital Allocation in Insurance:
  Economic Capital and the Allocation of the Default Option Value
- 10:10-10:30 James M Carson, **Chris Clark**, Krzysztof M. Ostaszewski
  The Economic Aspects of Life Insurance Backdating

10:30–11:00 Coffee break

11:00-12:20 Chair: **Esther Portnoy**
- 11:00-11:20 **Virginia R. Young**, S. David Promislow
  Indifference Pricing via the Probability of Ruin
- 11:20-11:40 Moshe A. Milevsky, **Kristen S. Moore**, Virginia R. Young
  Optimal Asset Allocation and Ruin-Minimization Annuitization Strategies
- 11:40-12:00 **Sebastian Jaimungal**, Virginia R. Young
  Pricing Equity Linked Pure Endowments with Risky Asset Following Lévy Processes
- 12:00-12:20 **Qingzhe Zhen**
  Effects of Dependence among Claim Vectors on the Ruin Probability
  in a Multi-dimensional Risk Model

12:20-2:00 Lunch

12:20-2:00 Committee on Knowledge Extension Research

2:00-3:30 Chair: **Sam Cox**

2:00-2:30 **Barry McKeown**, **Stafford Thompson**,
CAS/SOA Minority Recruiting Committee
Summer Actuarial Program for High School Juniors

2:30-2:50 **Rick Gorvett**
Complexity and Complex Adaptive Systems:
Applications for Actuarial Science, Finance, and Risk Management

2:50-3:10 Hans U. Gerber, **Elias S. W. Shiu**
On Time Value of Ruin in a Sparre Andersen Model: Ruin Theory by Divided Differences

3:10-3:30 **Jeffrey S. Pai**
An Empirical Study on Pet Insurance

3:30-4:00 Coffee Break

4:00-5:40 Chair: **N. D. Shyamal Kumar**

4:00-4:20 **Arnold F. Shapiro**
Fuzzy Logic in Insurance: The First 20 Years

4:20-4:40 **Marie-Claire Koissi**
Fitting and Forecasting Mortality Rates for Nordic Countries Using the Lee-Carter Model

4:40-5:00 Edward W (Jed) Frees, **Ping Wang**
Credibility Theory Using Copulas

5:00-5:20 **Jiandong Ren**
Managing Catastrophe Risk: An Actuarial Approach

5:20-5:40 **Stuart Klugman**
2005 Education Redesign

5:40-7:00 Joint CAS/SOA Ph.D. Grants Task Force

6:00-7:30 Reception

Friday, August 6th

7:30-9:00 Continental Breakfast

8:30-10:20 Chair: **Larry Miller**

8:30-8:40 **Curtis Huntington**

8:40-9:00 **Mathieu Boudreault**, H. Cossette, É. Marceau
Modeling Insurance Losses Resulting From Natural Catastrophes

9:00-9:20 H. Cossette, **David Landriault**, É. Marceau
Ruin Probabilities in the Compound Binomial Model Defined in a Markovian Environment

9:20-9:40 **Shuanming Li**
On a Class of Discrete Time Renewal Risk Processes

9:40-10:00 **Yi Lu,** Shuanming Li
On the Probability of Ruin in a Markov-modulated Risk Model

10:00-10:20 **Corina Constantinescu,** Enrique Thomann
Decay of Ruin Probability under Uncertain Investments

10:20-10:50 Coffee break

10:50-12:30 Chair: **Sam Broverman**

- 10:50-11:10 **Vytaras Brazauskas**
  Another Look at Empirical Estimation of Actuarial Risk Measures
- 11:10-11:30 **Yongtao Laurel Hu**
  VaR and CTE under Multivariate Pareto Distributions
- 11:30-11:50 **Greg Slone**, Steve Craighead
  Game Theoretic Analysis of Competitive Rate Setting
- 11:50-12:10 **Hangsuck Lee**
  Pricing Barrier Options
- 12:10-12:30 **Yu Zhou**
  On the Existence of an Optimal Regression Complexity in the Least-Square Monte Carlo (LSM) Framework for Options Pricing

12:30-2:00 Lunch

12:30-2:00 *NAAJ* Editorial Board Meeting

2:00-3:40 Chair: **Steve Paris**

- 2:00-2:20 **Kai Chen**
  Hedging Salary Related Pension Benefits
- 2:20-2:40 **Hongzhen Tian**
  Pricing and Hedging a Hybrid Pension Plan
- 2:40-3:00 Samuel H. Cox, **Yijia Lin**
  Natural Hedging of Life and Annuity Mortality Risks
- 3:00-3:20 **Patrice Gaillardetz,** X. Sheldon Lin
  Consistent Pricing for Equity-Linked Products
- 3:20-3:40 **Dick London**
  Current Board of Governors Issues of Interest to Academic Actuaries: Accreditation of University Actuarial Programs and Alternate Route

3:40-4:10 Coffee Break

4:10-5:30 Chair: **David Promislow**

- 4:10-4:30 **Yungui Hu,** Samuel H. Cox
  Modeling Future Mortality Risk from Exposure to a Sudden Extreme Situation and Its Impact on Life Insurance
- 4:30-4:50 **Samid Viveros**
  Variance of the Loss for Term and Pure Endowment in Actuarial Notation
- 4:50-5:10 **N. D. Shyamal Kumar**
  Hattendorff Theorem - Yet Another Look
- 5:10-5:30 **Bruce L. Jones**
  Symbolic Computation of Moments of Loss Random Variables in Discrete Time

6:00 Conference Banquet
6:00-7:00 Cash Bar
7:00 Dinner
After-dinner speaker: **Dick London**
Current Board of Governors Issues of Interest to Academic Actuaries: Accreditation of University Actuarial Programs and Alternate Route (Cont’d)

Saturday, August 7th

7:30-9:00 Education & Research Section Council

7:30-9:00 Continental Breakfast

8:40-10:20 Chair: **Hans Gerber**

- 8:40-9:00 H. Cossette, A. Delwarde, M. Denuit, **Frédérick Guillot**, É. Marceau
  Development and Application of the Prospective Mortality Tables in Actuarial Science
- 9:00-9:20 **Adam Kolkiewicz**
  Smooth Monte Carlo Method for Diffusion Processes
- 9:20-9:40 **Yujia Zhu**
  Empirical Analysis of Representative Scenario Sampling Algorithms
- 9:40-10:00 **Marjorie A. Rosenberg**
  Development of Cohort Life Tables for "Other Causes" for Use in Simulation Modeling
- 10:00-10:20 **Ji Eun Choi**
  Simulated Maximum Likelihood Estimation of Stochastic Volatility Models

10:20-10:50 Coffee break

10:50-12:40 Chair: **Mary Hardy**

- 10:50-11:10 **K.C. Cheung**, H. Yang
  Optimal Consumption Strategy in the Presence of Default Risk:
  Discrete-Time Case
- 11:10-11:30 **Edward Furman**, Zinoviy Landsman
  Risk Capital Decomposition for a Multivariate Dependent Gamma Portfolio
- 11:30-11:50 **Louis Doray**
  Estimators for a Generalized Poisson Autoregressive Process of Order 1
- 11:50-12:10 **Andreas Milidonis**
  Price Regulation in the Automobile Insurance Market:
  A Discrete-time Markov Chain Model
- 12:10-12:30 **Enrique de Alba**, Gilberto Atondo
  Claims Reserving When There Are Negative Values in the Runoff Triangle:
  Bayesian Analysis Using the Three-parameter Log-normal Distribution
- 12:30-12:40 Concluding Remarks

12:40 Lunch boxes available