Curriculum Vitae

Xueyuan Wu (B.Sc, M.Sc, PhD, AIAA)

Centre for Actuarial Studies
Department of Economics
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EDUCATION:

PhD (Actuarial Science)
The University of Hong Kong 2004
PhD thesis "Insurance Risk Models with Correlated Classes of Business"

M.Sc (Probability & Statistics)
Nankai University, China 2000

B.Sc (Probability & Statistics)
Nankai University, China 1997

WORKING EXPERIENCE:

Teaching Experience

09/10 – present **The University of Melbourne**
Senior Lecturer at the Centre for Actuarial Studies.

01/06 – 08/10 **The University of Melbourne**
Lecturer at the Centre for Actuarial Studies.
Lecturing in *Financial Mathematics I*, *Actuarial Modelling II*, *Contingencies*, *Risk Theory II*, *Actuarial Studies Projects* and supervising *Actuarial Studies Research Essay*.

01/05 –12/05 **The University of South Australia**
Casual Lecturer at the School of Mathematics and Statistics.
Coordinating and lecturing in *Statistical Analysis in Business* (a large scale service teaching subject with around 1000 enrolled students per year) and *Life Contingencies*.

08/03 –12/05 **The University of South Australia**
Tutor at the School of Mathematics and Statistics.
Tutoring in *Statistical Analysis in Business* and *Statistics for Laboratory Sciences 101*.

08/03 –12/05 **The University of South Australia**
Tutor for the Aboriginal Tutorial Assistance Scheme (**ATAS**)
Conducting tuition sessions for *Statistics for Laboratory Sciences 101* and *Applied Research and Evaluation*.

10/00 – 08/03 **The University of Hong Kong**

Part-time tutor at the Department of Statistics and Actuarial Science.

Conducting tutorials for *Financial Mathematics, Risk Theory, Probability Modeling*, and *Stochastic Models*.

Research Assistant

06/05 – 07/05 **University of South Australia**

Research Assistant at the School of Mathematics and statistics.

Using SPSS and R to analyse elderly citizens' suicide rates by fitting the generalised additive model.

ACADEMIC ACHIEVEMENTS:

Working Papers

- Liu, Q., Pitt, D. and Wu, X. Data mining for income protection insurance.

Refereed Publications in Journals

[1] Liu, Q., Pitt, D., Wang, Y. and Wu, X. (2013). Survival Analysis of Left Truncated Income Protection Insurance Data. *Asia-Pacific Journal of Risk and Insurance*, in press.

[2] Wu, X. (2013). Equilibrium distributions of discrete phase type. *Stochastic Models*, in press.

[3] Wu, X. and Li, S. (2012). On a discrete time risk model with time-delayed claims and a constant dividend barrier. *Insurance Markets and Companies: Analysis and Actuarial Computations*, 3 (1), 50-57.

[4] Liu, Q., Pitt, D., Zhang, X. and Wu, X. (2011). A Bayesian approach to parameter estimation for kernel density estimation via transformations. *Annals of Actuarial Science*, 5(2), 181-193.

[5] Siaw, K.K., Wu, X., Pitt, D. and Wang, Y. (2011). Matrix-form Recursive Evaluation of the Aggregate Claims Distribution Revisited. *Annals of Actuarial Science*, 5(2), 163-179.

[6] Wu X. (2010). Ruin probabilities for a risk model with two classes of risk processes. *Australian Actuarial Journal*, 16, 87-108.

[7] Wu, X. and Li, S. (2010). Matrix-form recursive evaluations of compound distributions. *ASTIN Bulletin*, 40, 351-368.

[8] Yip, P.S.F., Pitt, D., Wang, Y., Wu, X., Ratson, R., Huggins, R. and Xu, Y. (2010). Assessing the Impact of Suicide Exclusion Periods on Life Insurance. *CRISIS*: *The Journal of Crisis Intervention and Suicide Prevention*, 31, 217-223.

[9] Wu, X. and Li, S. (2009). On the discounted penalty function in a discrete time renewal risk model with general interclaim times. *Scandinavian Actuarial Journal*, 4, 281-294.

[10] Beveridge, C.J., Dickson, D.C.M. and Wu, X. (2008). Optimal dividends under reinsurance. *Bulletin of the Swiss Association of Actuaries*, 2, 149-166.

[11] Yuen, K.C., Guo, J.Y. and Wu, X. (2006). On the first time of ruin in the bivariate compound Poisson model. *Insurance: Mathematics and Economics*, 38, 298-308.

[12] Wu, X. and Yuen, K.C. (2003). A discrete-time risk model with interaction between classes of business. *Insurance: Mathematics and Economics,* 33, 117-133.

[13] Yuen, K.C., Guo, J.Y. and Wu, X. (2002). On a correlated aggregate claims model with Poisson and Erlang risk processes. *Insurance: Mathematics and Economics*, 31, 205-214.

Discussions

- Wu, X. (2008) Discussion of “The Time of Recovery and the Maximum Severity of Ruin in a Sparre Andersen Model”. North American Actuarial Journal 12(4): 425-427.

Conference Papers and Other Research Output

- Wu, X. and Li, S. (2008). On a discrete-time Sparre Anderson model with phase-type claims. Centre for Actuarial Studies: the research paper series, No 169, University of Melbourne.
- Wu, X.Y., Yuen, K.C. (2004) “An interaction risk model with delayed claims,” *The XXXV ASTIN Colloquium*, 17 pages.
- Yuen, K.C., Guo, J.Y., Wu, X.Y. (2002) “Ruin probabilities for a correlated claims model,” *Transactions of the 27th: International Congress of Actuaries and the 33rd International ASTIN Colloquium*, 15 pages.

Conference Presentation and Seminars

- "Equilibrium distributions of discrete phase type" (2013). Invited speaker, The 2013 International Conference on Actuarial Risk and Related Topics, 15-17 March, Nankai University, China.
- “Equilibrium distributions of discrete phase type” (2012). The 4th International Gerber-Shiu Workshop, 4-5 July, Melbourne.
- “Matrix-form Recursions for a family of compound distributions” (2010). School of Mathematical Sciences, 9 June, Nankai University, Tianjin, China.
- “Matrix-form Recursive Evaluation of the Aggregate Claims Distribution Revisited” (2010). *The 14th International Congress on Insurance: Mathematics and Economics, June 17-19, Canada*.
- “Matrix-form Recursions for a family of compound distributions” (2009). *Australasian Actuarial Education and Research Symposium 2009*, *Dec 14-15*, *UNSW, Australia.*

- "Some discussions on discrete phase-type claims" (2008). Invited talk, Department of Econometrics and Business Statistics, Oct 17, Monash University.
- "On a discrete-time Sparre Andersen model with Phase-type claims" (2008). *The 12th International Congress on Insurance: Mathematics and Economics, July 16-18, China*.
- "On the discounted penalty function in a discrete time renewal risk model with general interclaim times" (2007). Invited talk, The Department of Statistics and Applied Probability, NUS, Dec 13, Singapore.
- "On the discounted penalty function in a discrete time renewal risk model with general interclaim times" (2007). *The 11th International Congress on Insurance: Mathematics and Economics, July 10-12, Greece*.
- "On the discounted penalty function in a discrete time renewal risk model with general interclaim times" (2007). Invited Speaker, *International Workshop on Insurance Risk Theory and Related Topics, April 16-18, China.*
- "On a discrete-time risk model with delayed claims and a constant dividend barrier" (2006). *The 10th International Congress on Insurance: Mathematics and Economics, July 18-20, Belgium*.
- "On Risk Models with Interactive Correlation" (2003). The University of Hong Kong PhD Seminar.
- "Recursive Calculation of Finite-time Survival Probabilities in Discrete-time Risk Models" (2003). Invited talk, School of Math and Statistics, University of South Australia.
- "On the Interaction Risk Model with Delayed Claims" (2002). *International Conference on Applied Statistics, Actuarial Science and Financial Mathematics (ICAAF2002).*

RESEARCH INTERESTS:

- Discrete time risk models
- Actuarial statistics
- Phase-type distributions in Risk Theory
- Matrix Analytical Methods

RESEARCH GRANTS:

- Title: *On the Recursive Evaluation of Aggregate Claims for a Large Family of Claim Number Distributions*
  Funding Body: IAAust
  Start Date: 01 Jan 2010 End Date: 31 Dec 2010
  Amount Awarded: $7,000
  Chief Investigators: Dr Xueyuan Wu and Dr Shuanming Li
- Title: *The applications of Phase-type Distributions in Risk Theory*

Funding Body: Faculty of Economics and Commerce, University of Melbourne
Start Date: 01 Jan 2009 End Date: 31 Dec 2009
Amount Awarded: $7,000
Chief Investigators: Dr Shuanming Li and Dr Xueyuan Wu

- Title: *The impact of suicide exclusion clauses on life insurer profitability*
  Funding Body: Division of Information Technology, Engineering and the Environment (UniSA)
  Start Date: 01 Jan 2008 End Date: 31 Dec 2008
  Amount Awarded: $7,000
  Chief Investigators: Dr Yan Wang, Dr David Pitt and Dr Xueyuan Wu
- Title: *Determinants of the Longevity of Workers' Compensation Insurance Claims*
  Funding Body: Early Career Research Grant (Melbourne U)
  Start Date: 01 Jan 2007 End Date: 31 Dec 2007
  Amount Awarded: $10,000
  Chief Investigators: Dr David Pitt, Dr Xueyuan Wu and Dr Shuanming Li

STUDENT SUPERVISION:

Honours

- Student: Jeremiah Cheung
  Year(s): 2012
  Thesis: Evaluating the effectiveness of two stochastic mortality models using Hong Kong Data
- Student: Yao Cheng
  Year(s): 2011
  Thesis: Annuity Puzzle in Australia
- Student: Michael Raphael Rozenblit
  Year(s): 2010 (First class Honours)
  Thesis: Modelling of Motor Vehicle Accident Frequency
- Student: Kok Keng Siaw
  Year(s): 2009 (First class Honours)
  Thesis: Further Results on Matrix-form Recursions for Aggregate Claims Distribution
- Student: Qing Liu
  Year(s): 2008 (First class Honours)
  Thesis: *The effect of suicide exclusion clause on death claims for Australian life policies*
- Student: Kim Hoong Wong
  Year(s): 2007
  Thesis: *Income Protection Insurance Experience in the UK*
- Student: Jaan Simpson
  Year(s): 2007

Thesis: *A discrete time renewal risk model with general interclaim times and its application to modelling insurance risk*

- Student: Christopher J. Beveridge
  Year(s): 2006 (First class Honours)
  Thesis: *Optimal Levels of Reinsurance in the Classical Risk Model*
- Student: Anna Kuleshova
  Year(s): 2006
  Thesis: *Model of Aggregate Flood Claims for a Portfolio of Commercial Buildings in Coastal New South Wales*

PhD co-supervision

Student: Qing Liu

Time of commencement: Mar 2009

Time of completion: Mar 2013.

Institute: Centre for Actuarial Studies, Department of Economics, University of Melbourne

MEMBERSHIP IN PROFESSIONAL ORGANISATION:

Associate of the Actuaries Institute (since August 2011)

PROFESSIONAL ACTIVITIES:

Referee for Journals

Acta Mathematicae Applicatae Sinica (English Series)
Acta Mathematica Scientia
Applied Mathematics and Computation
ASTIN Bulletin
Insurance: Mathematics and Economics
Performance Evaluation
Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales
Statistics and Probability Letters
Stochastic Environmental Research and Risk Assessment