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Emiliano A. Valdez, PhD, FSA

Professor, Actuarial Science

Summary of work experience

My work experience combines many years of academic and industry work. As tenured full professor at the University of Connecticut, my current duties include teaching core courses within our actuarial program and conducting actuarial research. I am also the interim director of the graduate programs in actuarial science at UConn, and hold a joint appointment with the Department of Statistics. From 2013 to 2015, I was the Director of the actuarial science program at Michigan State University. My academic experience includes several years of teaching and pursuing research in three different continents: North America, Australia and Asia. My research productivity has been recognized in several ways. In addition to having won best paper awards at a few conferences, I have been awarded the Halmstad Prize twice, the Edward A. Lew Award, and the Hachemeister Prize in recognition for my significant contributions to the actuarial literature. I have had research grants that amounted to close to half a million dollars, and according to Google Scholar, my work has been recognized by my peers with over 4,208 citations. I have conducted invited lectures at several universities and at several conferences and symposiums around the world.

Education

1998 University of Wisconsin, Madison, Wisconsin, USA, PhD in Business, concentration in Actuarial Science, Risk Management and Insurance, minor in Statistics

1986 University of Connecticut, Storrs, Connecticut, USA, MS (Mathematics), major in Actuarial Science

1984 University of the Philippines, Diliman, Quezon City, Philippines, BS (Mathematics), *Cum Laude*

Doctoral thesis

Title Relative Importance in Multiple Decrement Models

Adviser Professor Edward (Jed) W. Frees

Research interest

Actuarial Science
Statistics in Insurance
Copula Models and Dependencies
Data Mining

Details of work experience

2015–present **Professor of Actuarial Science**, *University of Connecticut*, Department of Mathematics, 341 Mansfield Road, Storrs, CT 06269-1009.
Duties include teaching, academic research in actuarial science. Mainly responsible for teaching graduate courses in applied statistics and predictive modeling. Interim Director, Graduate Programs in Actuarial Science.

2013–2015 **Professor and Director of the Actuarial Science Program**, *Michigan State University*, Department of Mathematics, 619 Red Cedar Road, East Lansing, MI 48824.
Teaches actuarial courses, conducts actuarial research and provides leadership in the actuarial science program. With joint appointment in the Department of Statistics and Probability.

2007–2013 **Professor of Actuarial Science**, *University of Connecticut*, Department of Mathematics, 196 Auditorium Road, Storrs, CT 06269-3009.
Duties include teaching, academic research in actuarial science. Taught courses on Applied Actuarial Statistics (with VEE content), Simulation for actuarial students, Actuarial Mathematics and Loss Models.

2001–2007 **Associate Professor, Actuarial Studies**, *University of New South Wales*, Faculty of Commerce and Economics, Sydney, NSW 2052 Australia.
Duties include teaching, academic research in actuarial science. Courses taught include Insurance Risk Models, Life Insurance and Superannuation Models, Probability and Statistics for Actuaries, Stochastic Modelling in Insurance, Financial Economics.

1998–2001 **Assistant Professor**, *Nanyang Technological University*, Division of Actuarial Science and Insurance, Nanyang Business School, Nanyang Avenue, Singapore 639798.
Duties include teaching and research in actuarial science and insurance. Courses I have taught are Statistical Modelling, Survival Models, Life Contingencies, Mortality Investigations, Business Statistics, Mathematics of Finance, and Mathematics for Insurance Majors.

1993–1998 **Teaching and Research Assistant**, *University of Wisconsin - Madison*, School of Business, 975 University Avenue, Madison, WI 53706.
Duties include teaching discussion classes and grading exams for undergraduate and graduate business statistics courses. Also assisted in a research project "Methodology to Deal with Dependencies on Multi-Life Risks" funded by the Society of Actuaries.

Summer 1995/1996 **Summer Actuarial Intern**, *Price Waterhouse LLP*, One Financial Plaza, Hartford, CT 06103-2601.
Assisted in the development of TRITON - an actuarial valuation software for calculating reserves, cash values, and other actuarial items for life insurance and annuity products. Examined, tested, and developed actuarial formulas for this valuation system.

1987–1993 **Senior Actuarial Associate**, *Connecticut Mutual Life*, 140 Garden Street, Hartford, CT 06154.
Performed various actuarial duties in mainly three different areas of the company: Valuation and Financial Reporting, Experience Studies, and Group Pension Pricing and Product Development.

1985–1986 **Graduate Teaching Assistant**, *University of Connecticut*, Department of Mathematics, 196 Auditorium Road, Storrs, CT 06269-3009.
Taught mathematics for Business, Economics, and Management while pursuing graduate work in actuarial science. Received a UConn actuarial fellowship grant based on academic excellence. Handled a seminar class for the preparation of actuarial examinations.

1985 **Instructor in Mathematics**, *University of the Philippines*, Department of Mathematics, Diliman, Quezon City, Philippines 1101.
Taught College Algebra, Trigonometry, and Calculus

Professional and academic membership

1993–present Fellow of the Society of Actuaries

2007–present Member, ASTIN Section, International Actuarial Association

2003–2007 Fellow of the Institute of Actuaries of Australia (inactive)

2009 Member, American Risk and Insurance Association (inactive)

2009 Member, American Statistical Association (inactive)

Awards recognized for research

2011 Lloyd's Science of Risk Prize, category winner on Insurance Operations and Markets, Lloyd's of London

2011 The David G. Halmstad Prize, Actuarial Foundation

2010 Charles A. Hachemeister Prize, Casualty Actuarial Society

2006 Ernst & Young Best Paper Award at the 28th International Congress of Actuaries (ICA) in Paris, France, 28 May - 2 June 2006

2000 Best Paper Award at the 4th Asia-Pacific Risk and Insurance Association (APRIA) Conference in Perth, Australia, 16-19 July 2000

1998 Halmstad Prize, Society of Actuaries

1998 Edward A. Lew Award, Society of Actuaries

Editorial activities

2020–present Associate Editor, *North American Actuarial Journal*

2018–present Associate Editor, *Dependence Modeling*

2010–present Associate Editor, *Insurance: Mathematics and Economics*

2013–present Member of the Editorial Board, *The Scientific World Journal*, Probability and Statistics subject area

2010–present Member, Editorial Board, *Insurance Markets and Companies: Analyses and Actuarial Computations*

2011–present Member, Editorial Board, *Accounting and Finance Review*, USP/Brazil

2012–present Member, Editorial Board, *Communications in Mathematical Finance*

2012–present Member, Editorial Board, *Risks*

Research grants

2019 Society of Actuaries Committee on Knowledge and Extension Research (CKER) Individual Grant, *Analysis of Prescription Drug Utilization with Beta Regression Models*, joint project with Dr. Guojun Gan, Total funding: US$16,000.

2018 Society of Actuaries Committee on Knowledge and Extension Research (CKER) Individual Grant, *Valuation of Large Variable Annuity Portfolios with Rank Order Kriging*, joint project with Dr. Guojun Gan, Total funding: US$15,000.

2017–2019 Society of Actuaries Centers of Actuarial Excellence (CAE) Research Grant, *Applying Data Mining Techniques in Actuarial Science*, joint project with Jeyaraj Vadiveloo and Guojun Gan, Total funding: US$157,300.

Society of Actuaries Committee on Knowledge and Extension Research (CKER) Individual Grant, *Fat-tailed Regression Modeling with Spliced Distributions*, joint project with Dr. Guojun Gan, Total funding: US$14,000.

2016 Society of Actuaries Committee on Knowledge and Extension Research (CKER) Individual Grant, *Regression Modeling for the Valuation of Large Variable Annuity Portfolios*, joint project with Dr. Guojun Gan, Total funding: US$13,000.

2009–2013 Australian Research Council (ARC) Linkage Project, *Managing Risk with Insurance and Superannuation as Individuals Age*, with investigators M. Sherris, J. Piggott, J.R. Evans, C. Kim (U. of New South Wales), E.A. Valdez (Connecticut), O.S. Mitchell (U. of Pennsylvania) and E.S. Hernaes (Ragnar Frisch Centre for Economic Research), and industry partners APRA, Pricewaterhouse Coopers and the World Bank, Total funding: A$1,289,245.

2004–2006 Australian Research Council (ARC) Discovery Grant, *Retirement Asset Decumulation: Adequacy, Institutions, and Products*, with J. Piggott (Economics, UNSW) and O.S. Mitchell (U. of Pennsylvania), Total funding: A$285,000.

2003–2005 Australian Research Council (ARC) Discovery Grant, *Pricing, Solvency and Capital Management in Insurance: New Perspectives from the Integration of Actuarial and Financial Economic Theory*, with M. Sherris, J. Van Der Hoek (Adelaide), J. Jang, and S. Purcal, Total funding: A$168,000.

2003 Actuarial Education Research Fund (AERF) and Casualty Actuarial Society (CAS) Research Grant, *Empirical Estimation of Dependence in a Portfolio of Insurance Claims*, Total funding: US$12,000.

2001-2002 Special Research Grant, UNSW Faculty of Commerce and Economics, *Stochastic Analysis of Retirement Income Replacement Ratios*, Total funding: A$3,500.

1999-2000 School of Accountancy and Business Research Grant, Nanyang Technological University, Singapore, *Bivariate Analysis of Persistency and Survivorship*.

1994 Society of Actuaries AERF Research Grant, *Methodology to deal with dependencies in multi-life risks*, with E.W. Frees (U. of Wisconsin - Madison), Total funding: US$4,500.

Working papers

2020 "Flexible Modeling of Hurdle Conway-Maxwell-Poisson Distributions with Application to Mining Injuries," by S. Yin, D.K. Dey, E.A. Valdez and X. Li, submitted for publication.

"Analysis of Prescription Drug Utilization with Beta Regression Models," by G. Gan and E.A. Valdez, submitted for publication.

"Cost-sensitive Multi-class AdaBoost for Understanding Driving Behavior with Telematics," by B. So, J.-P. Boucher and E.A. Valdez, submitted for publication.

"Skewed link regression models for imbalanced binary response with applications to life insurance," by S. Yin, D.K. Dey, E.A. Valdez, G. Gan and J. Vadiveloo, submitted for publication.

"Cluster analysis of death claims experiences," by S. Yin, G. Gan, E.A. Valdez and J. Vadiveloo, submitted for publication.

"Tree-based models for the efficient valuation of large variable annuity portfolios," by Z. Quan, G. Gan and E.A. Valdez, submitted for publication.

"On a Multi-Year Microlevel Collective Risk Model," by R. Oh, H. Jeong, J.Y. Ahn and E.A. Valdez, submitted for publication.

"Hybrid Tree-based Models for Insurance Claims," by Z. Quan, G. Gan and E.A. Valdez, submitted for publication.

"Modeling of multivariate longitudinal data with dropout," by E.W. Frees, C. Bolance, M. Guillen and E.A. Valdez, submitted for publication.

"A non-convex regularization approach for stable estimation of loss development factors," by H. Jeong, H. Chang and E.A. Valdez, submitted for publication.

Book published

July 2019 *Metamodeling for Variable Annuities*, by G. Gan and E.A. Valdez, CRC Press, Taylor & Francis Group.

August 2018 *Actuarial Statistics with R: Theory and Case Studies*, by G. Gan and E.A. Valdez, ACTEX Publications: New Hartford, Connecticut.

Research publications

2020 "Predictive compound risk models with dependence," by H. Jeong and E.A. Valdez, *Insurance: Mathematics and Economics*, vol. 94, pp. 182-195.

"Bayesian credibility premium with GB2 copulas," by H. Jeong and E.A. Valdez, *Dependence Modeling*, iss. 8, pp. 157-171.

"Data Clustering with Actuarial Applications," by G. Gan and E.A. Valdez, *North American Actuarial Journal*, vol. 24, iss. 2, pp. 168-186.

"Valuation of Large Variable Annuity Portfolios with Rank Order Kriging," by G. Gan and E.A. Valdez, *North American Actuarial Journal*, vol. 24, iss. 1, pp. 100-117.

2019 "Generalized linear mixed models (GLMMs) for dependent compound risk models," by H. Jeong, E.A. Valdez, J. Ahn and S. Park, *Variance*, accepted for publication.

2018 "Machine Learning Techniques for Variable Annuity Valuation," by G. Gan, Z. Quan and E.A. Valdez, Proceedings, 4th International Conference on Big Data and Information Analytics (BigDIA).

"Fat-tailed regression modeling with spliced distributions," by G. Gan and E.A. Valdez, *North American Actuarial Journal*, vol. 22, iss. 4, pp. 554-573.

"Predictive Analytics of Insurance Claims Using Multivariate Decision Trees," by Z. Quan and E.A. Valdez, *Dependence Modeling*, iss. 6, pp. 377-407.

"Nested stochastic valuation of large variable annuity portfolios: Monte Carlo simulation and synthetic datasets," by G. Gan and E.A. Valdez, *Data*, vol. 3, iss. 31, pp. 1-21.

"Association Rules for Understanding Policyholder Lapse," by H. Jeong, G. Gan and E.A. Valdez, *Risks*, vol. 6, iss. 69, pp. 1-18.

"Regression modeling for the valuation of large variable annuity portfolios," by G. Gan and E.A. Valdez, *North American Actuarial Journal*, vol. 22, iss. 1, pp. 40-54.

2017 "Modeling partial Greeks of variable annuities with dependence," by G. Gan and E.A. Valdez, *Insurance: Mathematics and Economics*, vol. 76, pp. 118-134.

"Valuation of large variable annuity portfolios: Monte Carlo simulation and synthetic datasets," by G. Gan and E.A. Valdez, *Dependence Modeling*, iss. 5, pp. 354-374.

"Unlocking reserve assumptions using retrospective analysis," by J. Vadiveloo, G. Niu, E.A. Valdez and G. Gan, *Actuarial Sciences and Quantitative Finance*, ICASQF2016, Cartagena, Colombia, June 2016 (Springer Proceedings in Mathematics and Statistics), pp. 25-48.

2016 "An empirical comparison of some experimental designs for the valuation of large variable annuity portfolios," by G. Gan and E.A. Valdez, *Dependence Modeling*, Special Issue: Recent Developments in Quantitative Risk Management, iss. 4, pp. 382-400.

"The Tail Sten's Identity with Applications to Risk Measures," by Z. Landsman and E.A. Valdez, *North American Actuarial Journal*, vol. 20, iss. 4, pp. 313-326.

2015 "A Black-Litterman Asset Allocation Model under Elliptical Distributions," by Y. Xiao and E.A. Valdez, *Quantitative Finance*, vol. 14, iss. 3, pp. 509-519.

2014 "Empirical Investigation of Insurance Claim Dependencies using Mixture Models," by E.A. Valdez, *European Actuarial Journal*, July 2014, vol. 4, iss. 1, pp. 155-179.

"Longitudinal Modeling of Insurance Claim Counts with Jitters," by P. Shi and E.A. Valdez, *Scandinavian Actuarial Journal*, vol. 2014, no. 2, pp. 159-179, http://dx.doi.org/10.1080/03461238.2012.670611

"Multivariate Negative Binomial Models for Insurance Claim Counts," by P. Shi and E.A. Valdez, *Insurance: Mathematics and Economics*, vol. 44, iss. 1, pp. 18-29

2012 "Testing Adverse Selection with Two-Dimensional Information: Evidence from Singapore Auto Insurance Market," by P. Shi, W. Zhang and E.A. Valdez, *Journal of Risk and Insurance*, vol. 79, no. 1, pp. 1-28.

"Statistical Concepts of *a priori* and *a posteriori* Risk Classification in Insurance," by K. Antonio and E.A. Valdez, Special Issue on Actuarial Statistics, *AsTA Advances in Statistical Analysis*, vol. 96, no. 2, pp. 187-224.

"Optimal Capital Allocation Principles," by J. Dhaene, A. Tsanakas, E.A. Valdez and S. Vanduffel, *Journal of Risk and Insurance*, vol. 79, no. 1, pp. 1-28. This paper won the 2011 Lloyd's of Science Risk Prize, category winner on Insurance Operations and Markets.

2011 "On the Distortion of a Copula and its Margins," by E.A. Valdez and Y. Xiao, *Scandinavian Actuarial Journal*, no. 4, pp. 292-317.

"Global Mortality Improvement Experience and Projection Techniques," by M. Purushotham, E.A. Valdez and H. Wu, Society of Actuaries, June 2011 report.

"Lower Convex Order Bound Approximations for Sums of Log-Skew Normal Random Variables," by O.I Roch and E.A. Valdez, *Applied Stochastic Models in Business and Industry*, vol. 27, no. 5, pp. 487-502.

"A Copula Approach to Test Asymmetric Information with Applications to Predictive Modeling," by P. Shi and E.A. Valdez, *Insurance: Mathematics and Economics*, vol. 49, no. 2, pp. 226-239.

2010 "A Multilevel Analysis of Intercompany Claim Counts," by K. Antonio, E.W. Frees and E.A. Valdez, *ASTIN Bulletin*, vol. 40, no. 1, pp. 151-177.

2009 "Actuarial Applications of a Hierarchical Insurance Claims Model," by E.W. (Jed) Frees, P. Shi, and E.A. Valdez, *ASTIN Bulletin*, vol. 39, no. 1, pp. 165-197. This paper won the 2010 Hachemeister Prize.

"Bounds and Approximations for Sums of Dependent Log-Elliptical Random Variables," by E.A. Valdez, J. Dhaene, M. Maj and S. Vanduffel, *Insurance: Mathematics and Economics*, vol. 44, no. 3, pp. 385-397.

"Multivariate Probit Models for Conditional Claim Types," by G. Young, E.A. Valdez and R. Kohn, *Insurance: Mathematics and Economics*, Special issue on modeling and measurement of multivariate risk in insurance and finance, vol. 44, no. 2, pp. 214-228.

2008 "Hierarchical Insurance Claims Modeling," by E.W. (Jed) Frees and E.A. Valdez, *Journal of the American Statistical Association*, vol. 103, no. 484, pp. 1457-1469. This paper won the 2011 David G. Halmstad Prize.

"Securitization of Longevity Risk in Reverse Mortgages," by L. Wang, E.A. Valdez and J. Piggott, *North American Actuarial Journal*, vol. 12, no. 4, pp. 345-371.

"Analytic Bounds and Approximations for Annuities and Asian Options," by S. Vanduffel, Z. Shang, L. Henrard, J. Dhaene and E.A. Valdez, *Insurance: Mathematics and Economics*, vol. 42, no. 3, pp. 1109-1117.

"CAPM and Option Pricing with Elliptically Contoured Distributions," by M. Hamada and E.A. Valdez, *Journal of Risk and Insurance*, vol. 75, no. 2, pp. 387-409.

2007 "Simulating from Exchangeable Archimedean Copulas," by F. Wu, E.A. Valdez, and M. Sherris, *Communications in Statistics: Simulation and Computation*, vol. 36, no. 5, pp. 1019-1034.

2006 "Demand and Adverse Selection in a Pooled Annuity Fund," by E.A. Valdez, J. Piggott and L. Wang, *Insurance: Mathematics and Economics*, vol. 39, no. 2, pp. 251-266.

"Claim Dependence with Common Effects in Credibility Models," by K.L. Yeo and E.A. Valdez, *Insurance: Mathematics and Economics*, vol. 38, no. 3, pp. 609-629.

"Economic Capital and the Aggregation of Risks Using Copulas," by A. Tang and E.A. Valdez, *Proceedings of the 28th International Congress of Actuaries*, Paris, France. This paper was the recipient of the Ernst & Young Best Paper Award at this congress.

2005 "The Simple Analytics of a Pooled Annuity Fund," by J. Piggott, E.A. Valdez and B. Detzel, *Journal of Risk and Insurance*, vol. 72, pp. 497-520.

"Tail Conditional Expectations for Exponential Dispersion Models," by Z. Landsman and E.A. Valdez, *ASTIN Bulletin*, vol. 35, no. 1, pp. 189-210.

"Tail Conditional Variance for Elliptically Contoured Distributions," by E.A. Valdez, *Belgian Actuarial Bulletin*, vol. 5, pp. 26-36.

"Longevity Insurance: the Missing Market," by A. Creighton, J. Piggott, H.H. Jin and E.A. Valdez, *Singapore Economic Review*, vol. 50, pp. 417-435.

"Closed-Form Approximations for Constant Continuous Annuities," by S. Vanduffel, J. Dhaene and E.A. Valdez, Department of Applied Economics Research Report OR 0518, Katholieke Universiteit - Leuven.

2004 "Stochastically Determined Retirement Income Replacement Ratios," by E.A. Valdez and A. Chernih, *Australian Actuarial Journal*, vol. 10, iss. 3, pp. 593-615.

2003 "Tail Conditional Expectations for Elliptical Distributions," by Z. Landsman and E.A. Valdez, *North American Actuarial Journal*, vol. 7, pp. 55-71.

"Wang's Capital Allocation Formula for Elliptically-Contoured Distributions," by E.A. Valdez and A. Chernih, *Insurance: Mathematics and Economics*, vol. 33, pp. 517-532.

"Empirical Estimation of Dependence in a Portfolio of Insurance Claims," by E.A. Valdez and A. Chernih, *Proceedings of the First Brazilian Conference on Statistical Modelling in Insurance and Finance*, Ubatuba, Brazil, pp. 202, 211.

2002 "Broken-Heart Syndrome," by E.A. Valdez, *Actuary Australia*, iss. 70, p. 70.

2001 "Bivariate Analysis of Survivorship and Persistency," by E.A. Valdez, *Insurance: Mathematics and Economics*, vol. 29, pp. 357-373.

2000 "Funding Long-Term Care in Singapore," by E.A. Valdez, T.K. Chong, and W.Y. Wai, *Hallym International Journal of Aging*, vol. 2, no. 1, pp. 70-84.

"Dependent Causes of Death," by E.A. Valdez, *Actuarial Research Clearing House*, Proceedings of the 34th Actuarial Research Conference, Des Moines, Iowa, no. 1, pp. 543-569.

"The Distribution of Insurance and Annuity Benefits with Frailty," by E.A. Valdez and G. Wong, *Actuarial Research Clearing House*, Proceedings of the 34th Actuarial Research Conference, Des Moines, Iowa, no. 1, pp. 571-590.

"Developing a General Law of Mortality for Singapore," by E.A. Valdez, *Singapore International Insurance and Actuarial Journal*, June 2000, vol. 4, no. 1, pp. 1-17.

"Life Insurance Mortality and Lapsation," by E.A. Valdez, *The Journal of Risk Management and Insurance*, 2000 edition, vol. 5, pp. 15-43.

"Actuarial Analysis of Retirement Income Replacement Ratios," by R. Lian, E.A. Valdez, and L.C. Kee, *Journal of Actuarial Practice*, vol. 8, nos. 1&2, pp. 147-176. This paper was one of the most outstanding paper at the 4th APRIA Conference in Perth, Australia.

1998 "Understanding Relationships Using Copulas," by E.W. Frees and E.A. Valdez, *North American Actuarial Journal*, vol. 2, no.1, pp. 1-25. This paper won the 1998 Edward A. Lew Award for best research in actuarial modeling.

1996 "Annuity Valuation with Dependent Mortality," by E.W. Frees, J. Carriere, and E.A. Valdez, *Journal of Risk and Insurance*, vol. 63, no. 2, pp. 229-261. This paper won the 1998 Halmstad Prize for best actuarial research.

Other notable publications

2018 "The ASTIN Section of the International Actuarial Association," by F. Cuypers, Y. Krvavych and E.A. Valdez, to appear in *General Insurance INSIGHTS*.

2011 "Discussion on: Inference in Multivariate Archimedean Copula Models," by E.A. Valdez, a discussion of paper published in *TEST, official journal of the Spanish Society of Statistics and Operations Research*, vol. 20, no. 2, pp. 257-262.

"Book Review: Stochastic Modeling: Theory and Reality from an Actuarial Perspective," by E.A. Valdez, *Annals of Actuarial Science*, vol. 5, iss. 2, September 2011, pp. 313-315.

Invited talks, lectures and workshops

2020 Workshop on "Actuarial risk modeling and data analysis with R", Turkish Insurance Institute, 19-27 February 2020.

2019 Academic advisor for "Interaction terms in metamodels", Financial Mathematics Competition and Workshops, 23 July - 3 August 2019

Workshop on "Data Analytics for Actuarial and Financial Modeling - Case Studies with R", sponsored by READI project, University of Pelita, Harapan, Tangerang, Indonesia, 1-5 July 2019.

Workshop on "A short course on data mining for actuaries", Third International Congress on Actuarial Science and Quantitative Finance, 19-22 June 2019.

Presented the work on “Metamodels and the valuation of large variable annuity portfolios”, First Annual UCSB InsurTech Summit, University of California, Santa Barbara, 3 May 2019.

Presented the work on “Understanding driver’s behavior with telematics for usage-based insurance”, Telematics workshop, Université du Québec à Montréal (UQAM), Canada, 12 April 2019.

Presented the work on “Data Analytics for Actuarial and Financial Modeling”, VNU University of Science, Hanoi, Vietnam, 3 January 2019.

2018 Presented the work on “Ratemaking application of Bayesian LASSO with conjugate hyperprior”, University of Illinois at Urbana-Champaign, 26 October 2018.

Workshop on “Advances in Statistical and Risk Modeling for Actuaries”, hosted by Charles University and Czech Society of Actuaries, Prague, Czech Republic, 25-26 June 2018.

Presented the work on “Ratemaking application of Bayesian LASSO with conjugate hyperprior”, 10th Conference in Actuarial Science and Finance on Samos, Greece, 30 May - 3 June 2018.

Presented the work on “Joint modeling of customer loyalty and risk in personal insurance”, Snell Actuarial Science and Risk Management Seminar Series, Department of Finance, College of Business, University of Nebraska - Lincoln, 20 April 2018.

Presented the work on “Data mining techniques for actuaries”, special session on Recent Advances in Actuarial Mathematics, *AMS Western Sectional Meeting*, Portland State University, 14-15 April 2018.

Presented the work on “Joint modeling of customer loyalty and risk in personal insurance”, Non-Life Insurance Workshop, organized by *Quantact*, Université du Québec à Montréal (UQAM), Canada, 6 April 2018.

Presented the work on “Joint modeling of customer loyalty and risk in personal insurance”, Actuarial Science Seminar, Department of Mathematics, University of Connecticut, Storrs, 26 March 2018.

2017 Presented the work on “Generalized linear mixed models for dependent compound risk models”, Department of Statistics, Yonsei University, 15 May 2017.

Presented the work on “Efficient valuation of large variable annuity portfolios”, The Institute of Actuaries of Korea and Hanyang University, Seoul, Korea, 12-13 May 2017.

Presented the work on “Efficient valuation of large variable annuity portfolios”, Department of Risk and Insurance, University of Wisconsin - Madison, 31 March 2017.

Presented the work on “Regression modeling for the valuation of large variable annuity portfolios”, College of Economics, Central South University of Forestry and Technology Changsha, Hunan, China, 14 March 2017.

Presented the work on “Efficient valuation of large variable annuity portfolios”, School of Business Administration, Hunan University, Changsha, Hunan, China, 13 March 2017.

2016 Presented the paper “Hierarchical Insurance Claims Modeling”’, Seminar for the Predictive Analytics Study Group, Travelers, Hartford, 12 April 2016.

Presented the paper “Multivariate Loss Frequency Regression Models”’, Chubb Symposium, School of Risk Management, Insurance and Actuarial Science, St John’s University, New York, 18 March 2016.

Presented the paper “Multivariate Loss Frequency Regression Models”’, RMI Research Seminar, Department of Risk Management and Insurance, Georgia State University, Atlanta, 11 March 2016.

Presented the paper “Multivariate Loss Frequency Regression Models”, Actuarial Science Seminar, Department of Mathematics, University of Connecticut, Storrs, 22 February 2016.

2014 Presented the paper “Multivariate Negative Binomial Models for Insurance Claim Counts” (joint work with P. Shi, U of Wisconsin), Risk Management in Insurance 2014, Universidad de Barcelona, Spain, 16 July 2014.

Presented the work “Probabilistic Concepts of Risk Classification in Insurance” (joint work with K. Antonio, KU Leuven), International Workshop on Applied Probability, Antalya, Turkey, 16-19 June 2014.

Presented the work “A Revisit of the Hierarchical Insurance Claims Modeling” (joint work with E.W. Frees, U of Wisconsin), Statistical Society of Canada (SSC) Conference, University of Toronto, Canada, 25-28 May 2014.

Presented the paper “Life Insurance Policy Termination and Survivorship” (joint work with J. Vadiveloo and U. Dias, U of Connecticut), during an academic site visit at Sunway University, Kuala Lumpur, Malaysia, 5-7 May 2014.

Presented a series of lectures on “Curso de Avances en Análisis de Datos para Aplicaciones”, Workshop, Nacional Universidad de Colombia, Bogota, Colombia, 21-25 April 2014.

Presented the paper “Correlated Loss Triangles for Multiple Lines of Business” (joint work with P.H. Katuwandeniyage , U of Connecticut), Seminar talk at the China Center for Insurance and Risk Management, Tsinghua University, Beijing, China, 9 January 2014.

Presented the paper “Life Insurance Policy Termination and Survivorship” (joint work with J. Vadiveloo and U. Dias, U of Connecticut), Seminar at the School of Statistics, Renmin University of China, Beijing, China, 7 January 2014.

Presented the paper “Correlated Loss Triangles for Multiple Lines of Business” (joint work with P.H. Katuwandeniyage , U of Connecticut), International Workshop on High-Dimensional Copulas: Theory, Modeling and Applications, Beijing, China, 3-5 January 2014.

2013 Presented the paper “Multivariate Negative Binomial Models for Insurance Claim Counts” (joint work with P. Shi, NIU), University of Amsterdam, The Netherlands, 20 December 2013.

Presented a special lecture on “US Health Care Issues and Reform”, K.U. Leuven, Belgium, 18 December 2013.

Presented the paper “Securitization of Longevity Risks in Reverse Mortgages” (joint work with L. Wang and J. Piggott, UNSW), XXIII Seminario Internacional de Seguros y Fianzas, sponsored and hosted by CNSF (financial regulatory body of Mexico), Mexico City, Mexico, 14-15 November 2013.

Presented the paper “Multivariate Negative Binomial Models for Insurance Claim Counts” (joint work with P. Shi, NIU), Non-Gaussian Multivariate Statistical Models and their Applications, workshop at the Banff International Research Station, Alberta, Canada, 19-24 May 2013.

Presented the paper “Multivariate Negative Binomial Models for Insurance Claim Counts” (joint work with P. Shi, NIU), and talk on “Health Care Issues and Reform”, Actuarial Science Distinguished Lectures, Department of Mathematical Sciences, Middle Tennessee State University, Murfreesboro, TN, 21-22 March 2013.

Presented the paper “Health Care Issues and Reform”, Actuarial Science Seminar, Department of Mathematics, University of Connecticut, Storrs, 22 February 2013.

2012 Presented the paper “Multivariate Negative Binomial Models for Insurance Claim Counts” (joint work with P. Shi, NIU), Department of Risk, Insurance, and HealthCare Management, Temple University, Philadelphia, 30 November 2012.

Presented the paper “Multivariate Negative Binomial Models for Insurance Claim Counts” (joint work with P. Shi, NIU), Montréal Seminar of Actuarial and Financial Mathematics, Université de Montréal, Canada, 9 November 2012.

Presented a series of lectures on ”Advances in Panel Data for Actuarial Applications”, Barcelona Insurance and Risk Management Summer School 2012, Barcelona, Spain, 16-18 July 2012.

Presented the paper “Multivariate Longitudinal Data Analysis for Actuarial Applications” (joint work with P.H. Katuwandeniyage), Invited Speaker, International Conference on Actuarial Science and Risk Management, Xiamen University, China, 24-26 June 2012.

Presented the papers “Global Mortality Improvement: Experience and Trends” (joint work with M. Purushotham, H. Wu of Towers Watson), and “Longitudinal Analysis of Mortality Risk Factors for Actuarial Valuation” (joint work with U. Dias), Invited Speaker, Northern Illinois University, DeKalb, Illinois, 26-27 April 2012.

Presented the paper “Longitudinal Modeling of Claim Counts using Jitters” (joint work with P. Shi, NIU), The Ronald H. and Mary E. Simon Actuarial Science Lecture, Michigan State University, East Lansing, 12-13 April 2012.

Presented a series of lectures on “Principles and Methods of Capital Allocation for Enterprise Risk Management”, The Spring School on Risk Management, Insurance, and Finance, European University at St. Petersburg, Russia, 2-4 April 2012.

Presented the paper “Longitudinal Modeling of Claim Counts using Jitters” (joint work with P. Shi, NIU), Seminar at the Department of Statistics and Actuarial Science, University of Waterloo, Canada, 30 March 2012.

2011 Presented the paper “Longitudinal Modeling of Claim Counts using Jitters” (joint work with P. Shi, NIU), Invited Speaker, EURANDOM Satellite Meeting, Eindhoven, The Netherlands, 29-30 August 2011.

Presented the paper “A Copula Approach to Test Asymmetric Information with Applications to Predictive Modeling” (joint work with P. Shi, NIU), Invited Paper, session on Analysis of Risk Models with Dependence, 58th Congress of the International Statistical Institute, Dublin, Ireland, 21-26 August 2011.

Presented the paper“Statistical Concepts of a priori and a posteriori Risk Classification in Insurance” (joint work with K. Antonio, K.U. Leuven), Keynote Speaker, The 5th Brazilian Conference on Stochastic Modelling in Insurance and Finance, Maresias Beach, Brazil, 10-15 April 2011.

Presented the paper “Statistical Modeling of Life Insurance Policy Termination and Survivorship” (joint work with U. Dias and J. Vadiveloo), Seminar Colloquium, Department of Statistics, U. of Connecticut, 16 February 2011.

2010 Presented the paper ”On the Distortion of a Copula and its Margins” (joint work with Y. Xiao, Renmin U., China), invited research scholar and External Examiner, Department of Statistics and Actuarial Science, The U. of Hong Kong, 24 May 2010.

Presented work “Using Micro-Level Automobile Insurance Data for Macro-Effects Inference” (joint work with E.W. Frees, P. Shi, U. of Wisconsin; and K. Antonio, U. of Amsterdam), invited actuarial speaker, Applications of Statistics and Probability in Energy, Finance and Actuarial Science, University of the Free State, Bloemfontein, South Africa, 4-5 March 2010.

2009 Presented the paper “Statistical Analysis of Life Insurance Policy Termination and Survivorship” (joint work with J. Vadiveloo and U. Dias), invited speaker at the Mathematical Sciences colloquia, U. of Wisconsin, Milwaukee, 13 November 2009.

Presented the paper “Optimal Capital Allocation Principles” (joint work with J. Dhaene, A. Tsanakas, and S. Vanduffel), invited talk to the actuarial research group at K.U. Leuven, 9 June 2009.

Presented work on “Using Micro-Level Automobile Insurance Data for Macro-Effects Inference” (joint work with E.W. Frees, P. Shi, U. of Wisconsin; and K. Antonio, U. of Amsterdam), Invited Speaker, The 13th International Congress on Insurance: Mathematics and Economics, Istanbul, Turkey, 27-29 May 2009.

Presented work “Using Micro-Level Automobile Insurance Data for Macro-Effects Inference” (joint work with E.W. Frees, P. Shi, U. of Wisconsin; and K. Antonio, U. of Amsterdam), Universidade de Sao Paulo, Brazil, 9 January 2009.

Presented work on "Models of Dependencies for Assessing Solvency", Workshop Internacional de Solvencia e Supervisao Baseada em Risco (International Workshop on Solvency and Risk-Based Supervision), sponsored by FIPECAFI (Cultura Contabil, Atuarial e Financeira), Sao Paulo, Brazil, 8 January 2009.

2008 Presented the paper "A Multilevel Analysis of Intercompany Claim Counts" (joint work with E.W. Frees, U. of Wisconsin and K. Antonio, U. of Amsterdam), The Wharton School, Department of Risk Management and Insurance, University of Pennsylvania, Philadelphia, USA, 11 September 2008.

Presented the paper "Actuarial Applications of a Hierarchical Insurance Claims Model" (joint work with E.W. Frees and P. Shi, U. of Wisconsin), Universitat de Barcelona, Spain, 1 July 2008.

Presented the paper "Actuarial Applications of a Hierarchical Insurance Claims Model" (joint work with E.W. Frees and P. Shi, U. of Wisconsin), Department of Mathematics and Statistics seminar, Université de Montréal, Quebec, Canada, 14 March 2008.

2007 Presented the paper "Hierarchical Insurance Claims Modeling" (joint work with E.W. Frees, U. of Wisconsin) at the actuarial studies research seminar, Australian National University, Canberra, Australia, 18 May 2007.

Presented the paper "Hierarchical Insurance Claims Modeling" (joint work with E.W. Frees, U. of Wisconsin) via video conferencing, Department of Mathematics seminar, U. of Connecticut, Storrs, Connecticut, February 2007.

2006 Presented the paper "Longitudinal Modeling of Singapore Motor Insurance" (joint work with E.W. Frees, U. of Wisconsin) at the Actuarial Studies Research Seminar, Macquarie University, Sydney, Australia, 6 April 2006.

2005 Presented the paper "Distortion of Multivariate Distributions: Uncertainty in Aggregating Risks" (joint work with S. Wang and R. Nelsen) at the Institute of Actuaries of Australia workshop on *New Developments in the Quantitative Modelling of Insurance and Financial Risks*, Sydney, Australia, 5 August 2005.

Presented the paper "Distortion of Multivariate Distributions: Uncertainty in Aggregating Risks" (joint work with S. Wang and R. Nelsen) at the *Extreme Values, Copulas and Applications Day Workshop* at the Universit e de Montréal, Canada, 4 July 2005.

Presented the paper "Longitudinal Modeling of Singapore Motor Insurance" (joint work with E.W. Frees) at the University of Wisconsin - Madison to faculty staff, research students, and local industry practitioners, June 2005.

Conducted a lecture workshop on "Copula Modelling in Insurance and Finance" at the Universitat de Barcelona, Spain, to actuarial/economics faculty staff and advanced doctoral students, April 2005.

Presented the paper "Optimal Capital Allocation Principles" (joint with J. Dhaene, A. Tsanakas, and S. Vanduffel) at the Universität Karlsruhe, Germany, to faculty staff and postgraduate students, February 2005.

2004 Conducted a short course on "Risk Measures and Optimal Portfolio Selection (with applications to elliptical distributions)" with Jan Dhaene at the 3rd Conference in Actuarial Science and Finance in Samos, Greece, 2-5 September 2004.

Conducted a workshop on "Copula (dependencies) Modelling in Insurance and Finance" together with Jan Dhaene (K.U. Leuven) and Maciej Sterzynski (Poland) as part of the First Ukrainian Actuarial Workshop, Actuarial Education and Reference Centre, Lviv, Ukraine, 3-4 June 2004.

Invited talk on "Pooling Longevity Risks through Group Self-Annuitization", as part of the *Managing Retirement Assets* symposium organized by the Society of Actuaries and LIMRA, in Las Vegas, Nevada, USA, 31 March - 2 April 2004.

2003 Conducted a series of lectures on "Modelling Dependence with Copulas in Insurance and Finance" and "On Group Self-Annuitization" for members of the KVBA-ARAB, Brussels, Belgium, 8-15 December 2003.

Conducted a short course on "Elliptical Distributions in Insurance and Finance" at The First Brazilian Conference on Stochastic Modelling in Insurance and Finance, Ubatuba, Sao Paulo, Brazil, 1-6 September 2003.

Invited Speaker, The First Flemish Actuarial and Financial Mathematics Day, Leuven, Belgium, 5 February 2003. Presented the paper "An Economic Model for Relative Importance".

Conducted a lecture on "Copula Modelling in Insurance and Finance" for the staff in the risk management area of Fortis Investment Management, Brussels, Belgium, February 2003.

2002 Invited lecturer on "Copulas", seminar on *Risk Measurement and Control*, organized by Professor Giorgio Szegö, managing editor of the Journal of Banking & Finance, Universita di Roma "La Sapienza", Rome, Italy, 3-8 June 2002.

Conference presentations

2019 Presented the work on "Metamodels and the valuation of large variable annuity portfolios", Society of Actuaries 2019 Annual Meeting and Exhibit, 27-30 October 2019.

Presented the work on "Joint modeling of customer loyalty and risk in personal insurance", Dependence Modelling with Applications in Finance and Insurance, Island of Agristi, Greece, 16-17 September 2019.

Presented the work on "Joint modeling of customer loyalty and risk in personal insurance", Seminar, Department of Statistics, University of Haifa, Israel, 29 May 2019

Presented the work on "Predictive Analytics of Insurance Claims Using Multivariate Decision Trees", IAA Section Colloquium, Cape Town, South Africa, 2-5 April 2019.

2017 Presented the work on "Data mining for actuaries: an overview", Advances in Predictive Analytics (APA) Conference, University of Waterloo, Waterloo, Ontario, Canada, 1-2 December 2017.

Presented the work on "Generalized linear mixed models for dependent compound risk models", ASTIN/AFIR-ERM Colloquium, Panama City, Panama, 20-24 August 2017.

Presented the work on "Generalized linear mixed models for dependent compound risk models", The 52nd Actuarial Reserach Conference, Georgia State University, Atlanta, Georgia, 26-29 July 2017.

Recent Developments in Dependence Modelling with Applications in Finance and Insurance - 4th edition, The Island of Aegina, Greece, 22-23 May 2017. Presented the paper "Modeling partial Greeks of variable annuities with dependence".

2016 The 10th International Conference on Computational and Financial Econometrics (CFE 2016), University of Seville, Spain, 9-11 December 2016. Presented the paper "Regression Modeling for the Valuation of Large Variable Annuity Portfolios".

The 51st Actuarial Research Conference, University of Minnesota, Minneapolis, 27-30 July 2016. Presented the paper "Unlocking Reserve Assumptions based on the Retrospective Loss Random Variable".

20th International Congress on Insurance: Mathematics and Economics, Georgia State University, Atlanta, 24-27 July 2016. Presented the paper "Unlocking Reserve Assumptions based on the Retrospective Loss Random Variable".

2nd International Congress on Actuarial Science and Quantitative Finance, Cartagena, Colombia, 14-18 June 2016. Presented the paper "Unlocking Reserve Assumptions based on the Retrospective Loss Random Variable".

2015 The 50th Actuarial Research Conference, University of Toronto, 5-8 August 2015. Presented the paper "The Tail Stein's Identity with Actuarial Applications," during an Organized Session on "Risk Measures".

2013 The 6th International Conference of the ERCIM WG on Computational and Methodological Statistics, University of London, 14-16 December 2013. Presented the paper "Life Insurance Policy Termination and Survivorship" during an Organized Session on "Statistics in Actuarial Sciences".

2012 2012 ASTIN/AFIR Mexico Colloquium, Mexico City, Mexico, 1-4 October 2012. Presented the papers "Multivariate Longitudinal Data Analysis for Actuarial Applications" and "Multivariate Negative Binomial Models for Insurance Claim Counts".

The 16th International Congress on Insurance: Mathematics and Economics, U. of Hong Kong, Hong Kong, 28-30 June 2012. Presented the paper "Longitudinal Modeling of Claim Counts using Jitters".

2011 40th ASTIN Colloquium, Madrid, Spain, 19-22 June 2011. Presented the paper "On the Distortion of a Copula and its Margins".

The 15th International Congress on Insurance: Mathematics and Economics, Trieste, Italy, 14-17 June 2011. Presented the paper "Life Insurance Policy Termination and Survivorship".

2009 The 2009 Joint Statistical Meetings, Washington, DC, 1-6 August 2009. Presented the paper "Hierarchical Insurance Claims Modeling".

The 44th Actuarial Research Conference, U. of Wisconsin, Madison, 30 July 30 - 1 August 2009. Presented the paper "A Hierarchical Model for Micro-Level Stochastic Loss Reserving".

2008 The 43rd Actuarial Research Conference, U. of Regina, Saskatchewan, Canada, 14-16 August 2008. Presented the paper "A Multilevel Analysis of Intercompany Claim Counts".

2007 The 1st IAA Life Colloquium, Stockholm, Sweden, 10-13 June 2007. Presented the paper "Securitization of Longevity Risks in Reverse Mortgages".

The 16th International AFIR Colloquium, Stockholm, Sweden, 12-15 June 2007. Presented the paper "Multivariate Probit Models for Conditional Claim-Types".

2006 The 41st Actuarial Research Conference, Universit e de Montréal, Montréal, Canada, 10-12 August 2006. Presented the paper "GB2 Regression with Insurance Claim Severities".

The 8th International Congress of Actuaries, Paris, France, 28 May - 2 June 2006. Presented the paper "Economic Capital and the Aggregation of Risks using Copulas".

The 2006 Financial Services Forum, Institute of Actuaries of Australia, Brighton-Le Sands, Sydney, Australia, 11-12 May 2006. Presented the paper "Mixture Models for Understanding Dependencies of Insurance and Credit Risks".

2005 The 36th International ASTIN Colloquium, Zurich, Switzerland, 4-7 September 2005. Presented the paper "Probability Transforms with Elliptical Generators".

The 9th International Congress on Insurance: Mathematics and Economics, Ëcole d'actuariat of Université Laval, Quebec City, Canada, 6-8 July 2005. Presented the paper "Optimal Capital Allocation Principles".

2004 The 8th International Congress on Insurance: Mathematics and Economics, The University Luiss "Guido Carli", Rome, Italy, 14-16 June 2004. Presented the paper "On Tail Conditional Variance and Tail Covariances".

The XXXV-th International ASTIN Colloquium, Bergen, Norway, 6-9 June 2004. Presented the paper "Tail Conditional Expectations for Exponential Dispersion Models".

2003 The First Brazilian Conference on Stochastic Modelling in Insurance and Finance, Ubatuba, Sao Paulo, Brazil, 1-6 September 2003. Presented the paper "Empirical Estimation of Dependence in a Portfolio of Insurance Claims - Preliminaries".

The 7th International Congress on Insurance: Mathematics and Economics, I.S.F.A., Lyon, France, 25-27 June 2003. Presented the paper "Bounds for Sums of Non-Independent Log-Elliptical Random Variables".

The 20th International Conference of French Finance, I.S.F.A., Lyon, France, 23-25 June 2003. Presented the paper "Tail Conditional Expectations for Elliptical Distributions".

2002 The 2nd Conference in Actuarial Science and Finance, Samos, Greece, 16-22 September 2002. Presented paper "Ruin Probabilities with Dependent Claims".

The 6th International Congress on Insurance: Mathematics and Economics, Technical University of Lisbon, Portugal, 15-17 July 2002. Presented the paper "On Retirement Income Replacement Ratios".

2001 The 36th Actuarial Research Conference, Ohio State University, Columbus, Ohio, 9-11 August 2001. Presented paper "Measuring the Risk of Bond Default".

2000 The 4th International Congress on Insurance: Mathematics and Economics, Universitat de Barcelona, Barcelona, Spain, 24-26 July 2000. Presented the paper "Bivariate Analysis of Survivorship and Persistency".

1999 The 34th Actuarial Research Conference, Drake University, Des Moines, Iowa, 8-11 August 1999. Presented two papers "Dependent Causes of Death" and "The Distribution of Insurance and Annuity Benefits with Frailty".

The 6th Asia/Oceania Regional Congress of Gerontology, Seoul, South Korea, 8-11 June 1999. Presented paper "Funding Long Term Care: The Case of Singapore".

1998 The 32nd Actuarial Research Conference, U. of Calgary, Alberta, Canada, 6-8 August 1997. Presented the paper "Understanding Relationships Using Copulas".

The Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting, Dallas, Texas, 26-29 October 1997. Presented the work on "Applications of Copulas in Actuarial Science".

List of students supervised

2020 Himchan Jeong, PhD, Mathematics, University of Connecticut, Thesis: Applications of random effects in dependent compound risk models.

Shuang Yin, PhD, Statistics, University of Connecticut, Thesis: Bayesian Analysis for Imbalanced Datasets. Co-adviser with Professor D. Dey

2019 Zhiyu Quan, PhD, Mathematics, University of Connecticut, Thesis: Insurance Analytics with Tree-Based Models.

2014 Priyantha Kumara, PhD, Mathematics, University of Connecticut, Thesis: Multivariate Longitudinal Data Analysis for Actuarial Applications.

Ushani Dias, PhD, Mathematics, University of Connecticut, Thesis: Longitudinal Analysis of Mortality Risk Factors for Actuarial Valuation.

2007 Gary Young, BCom (Honours), Economics, UNSW, Thesis: Discrete Choice Modelling of Motor Insurance Claims.

2006 Liang Wang, MCom by Research, Actuarial Studies, UNSW, Thesis: Securitization of Longevity Risks in Reverse Mortgages.

Yeo Keng Leong, PhD, UNSW, Thesis: Claim Dependence in Credibility Models.

2004 Andrew Tang, BCom (Honours), Actuarial Studies, UNSW, Thesis: Economic Capital and the Aggregation of Risks, now employed at Price Waterhouse–Coopers, Sydney, Australia.

2002 Kelvin Mo, BCom (First Class Honours), Actuarial Studies, UNSW, Thesis: Ruin Probabilities with Dependent Claims, currently employed at the Commonwealth Bank, Sydney, Australia.

2001 George Wong, Masters by Thesis, Nanyang Business School, Nanyang Technological University, Singapore, Thesis: Actuarial Calculations with Frailty Models.

PhD thesis external review/committee

2015 Macquarie University, N.H. Asmuni, Thesis: Essays on Annuities and their Economic Value for Retirees.

2014 University of Toronto, L. Gong, Thesis: Insurance Risk Modeling and Applications.

2012 Université de Montréal, I. Groparu-Cojocaru, Thesis: A Class of Bivariate Erlang Distributions and Ruin Probabilities in Multivariate Risk Models.

2011 University of the Free State, K. N. Bekker, Thesis: Actuarial Risk Management of Investment Guarantees in Life Insurance.

2009 Katholieke Universiteit–Leuven, Belgium, X. Chen, Thesis: Super-Replicating Exotic Options, Allocating Capital and Approximating Aggregate Distributions Using the Comonotonic Approach.

Université de Montréal, A.H. Zadeh, Thesis: Applications of Phase-Type Distributions to Fitting Bivariate Losses and Exact Credibility.

Australian National University, G.K. Hayes, Thesis: Stochastic Solvency Testing in Life Insurance.

2008 Universitat de Barcelona, O.R. Roch, Thesis: Copula-based Techniques for Risk Aggregation Models.

Peer reviewer/referee

Dependence Modelling
North American Actuarial Journal
ASTIN Bulletin
Scandinavian Actuarial Journal
Journal of Actuarial Practice
Bulletin of the Swiss Association of Actuaries
Annals of Actuarial Science
Computational Statistics and Data Analysis
Stochastic Models
ACTEX Publications
Australian Research Council
Journal of Multivariate Analysis
Applied Stochastic Models in Business and Industry
Insurance: Mathematics and Economics
Journal of Banking and Finance
Variance
Lifetime Data Analysis
Journal of Pension Economics and Finance
Belgian Actuarial Bulletin
Journal of Probability and Statistics
Wiley textbook publications
CRC Press
FWO Belgium – Research Grants
Singapore Int'l Actuarial and Insurance Journal
Risks

Other activities

2020 Guest Editor, *Risks*, Special Issue on Data Mining in Actuarial Science: Theory and Applications

Guest Editor, *Revista de Administração Contemporânea*, Special Issue on Data Mining in Actuarial Science: Theory and Applications

2019–present Member, SOA Catastrophe and Climate Strategic Research Advisory Group

2019 Member of the Scientific Committee, Third International Congress on Actuarial Science and Quantitative Finance, Manizales, Colombia, June 19-22, 2019

2018–2020 Elected member, ASTIN Board, International Actuarial Association

2018 Co-organizer, Statistics in Insurance Workshop, Celebrating the Retirement of Professor Edward W. (Jed) Frees, University of Wisconsin - Madison, October 12-13, 2018

2017–present Member, Exam SRM Committee, Society of Actuaries

2017–2020 Served on different committees for the Department of Mathematics: Graduate Program Committee, PTR/Dossier Committee, Actuarial Hiring Committee

Chair, Working Groups for the ASTIN Committee, International Actuarial Association

2017–2019 Chair, Society of Actuaries Centers of Actuarial Excellence (CAE) Research Grant Committee

Member, Society of Actuaries Centers of Actuarial Excellence (CAE) Grant Committee

2017	Member, Scientific Committee, Advances in Predictive Analytics (APA) Conference, University of Waterloo, Canada, December 1-2, 2017
	Member, Scientific Committee, The 52nd Actuarial Research Conference, Georgia State University, Atlanta, Georgia, July 26-29, 2017
2016–present	Member, Society of Actuaries General Insurance (GI) Research Committee
2016	Member, Scientific Committee, 20th International Congress on Insurance: Mathematics and Economics, Georgia State University, Atlanta, Georgia, July 24-27, 2016
	Member, Scientific Committee, Second International Congress on Actuarial Science and Quantitative Finance, Cartagena, Colombia, June 2016
	External Examiner, Graduate and Undergraduate Programs in Statistics, Biostatistics, Financial Mathematics and Actuarial Science, University of Waterloo, Canada, April and August 2016
2016–2018	Member, Promotion, Tenure and Reappointment (PTR) Committee, Department of Mathematics
2016–2017	Member, Organizing Committee, Special Semester in Actuarial and Financial Mathematics, Fall 2016, Department of Mathematics, University of Connecticut.
	Chair, Promotion, Tenure and Reappointment (PTR) Committee, Department of Mathematics
	Member, Project Oversight Group, Delta Boosting in Predictive Modeling, Society of Actuaries
2015–2017	Member, Graduate Program Committee, Department of Mathematics
2015	Co-Organizer, 5-day Workshop on "Recent Developments in Actuarial Mathematics", Casa Matematica Oaxaca (affiliate of the Banff International Research Station), Mexico, 21-25 October 2015
	Member, Scientific Committee, The 50th Actuarial Research Conference, University of Toronto, Canada, 5-8 August 2015
	Guest Editor, Special Issue on "Recent Advances in Mathematical Modeling of the Financial Markets", *Risks*
2015–2017	Elected council member and Secretary, Actuaries without Borders, International Actuarial Association
2015–2016	Member, Hiring Committee, Actuarial and Financial Mathematics
2014–2017	Member, Exam S Committee, Casualty Actuarial Society
	Elected council member, Education and Research Section, Society of Actuaries
2014–2015	Member of the Undergraduate Student Committee, Department of Mathematics, Michigan State University
2013–2015	Appointed External Examiner for the BSc (Actuarial Science) Programme of Sunway University, Malaysia
2013–2017	Member, Exam QFI-Core Committee, Society of Actuaries
2013–2014	Member, Evaluation Group, Mathematics and Statistics, Natural Sciences and Engineering Research Council (NSERC) of Canada
2012–2015	Faculty Advisor, Centers of Actuarial Excellence Evaluation Committee (CEC), Society of Actuaries
2009–present	Academic Consultant, Exam MLC/LTAM (Long-Term Actuarial Mathematics) Committee, Society of Actuaries
2013	Member, Scientific Committee, The 48th Actuarial Research Conference, Temple University, Philadelphia, July 31 - August 3, 2013
	Helped organize a session on "Statistics in Insurance and Actuarial Science", The 27th New England Statistical Symposium, University of Connecticut, Storrs, April 27, 2013
2012–2013	Dean's Advisory Council, College of Liberal Arts and Sciences (CLAS), University of Connecticut
2011	Chaired the Actuarial Search Hiring Committee, Department of Mathematics, University of Connecticut
	Chair, Scientific Committee, The 46th Actuarial Research Conference, University of Connecticut, Storrs, August 11-13, 2011

Member of the Memorable Actuarial Research Conference (MARC) Scientific Committee, conference in honor of the retirement of Professor M. Goovaerts, K.U. Leuven, Belgium, June 13, 2011

2009–2013 Member of the Promotion, Tenure and Reappointment Committee, Department of Mathematics, University of Connecticut

2009–2010 Member of the Joint Accreditation Committee, Society of Actuaries

2008–2013 Member of the Advisory Committee, the Actuarial Science Program Committee and the Financial Mathematics Program Committee, Department of Mathematics, University of Connecticut

2008–2012 Appointed External Examiner for the BSc (Actuarial Science) Programme of the University of Hong Kong

Organizer, Actuarial Science Seminar, Department of Mathematics, University of Connecticut

2008 Member, Program Committee, The 44th Actuarial Research Conference, University of Wisconsin, Madison

2007 Associate Head of School, Actuarial Studies, Faculty of Business, UNSW

2006 Panel member of the committee to review actuarial programs for accreditation of the Institute of Actuaries of Australia. This year, we did mid-term review of the Macquarie University and the Australian National University (ANU) actuarial programs

Organizer of the UNSW Actuarial Research Symposium 2006, November 9, 2006, Sydney, Australia

2005 Member of the Scientific Committee, The 10th International Congress in Insurance: Mathematics and Economics, Katholieke Universiteit–Leuven, Belgium, July 18-20, 2006

Organizer of the UNSW Actuarial Research Symposium 2005, November 11, 2005, Sydney, Australia

Visiting researcher/scholar, Katholieke Universiteit–Leuven, Belgium and University of Wisconsin–Madison, USA for the period January–June 2005

2004–2007 Core member of the Financial Integrity Research Network, an Australian Research Council (ARC) funded network of internationally renowned academics in Australia

2003 KVBA-ARAB International Chair position, Royal Society of Belgian Actuaries

Member of the Scientific Committee, First Brazilian Conference on Stochastic Modelling in Insurance and Finance, Ubatuba, Brazil, September 2003

2003–2007 Member of the Exemptions Committee, Institute of Actuaries of Australia

2001–2007 School representative in the faculty research committee, and postgraduate/honours/Ph.D. committee

2001 Representative of the Nanyang Business School, 20th Anniversary Celebration Exhibition Committee

2000–2001 Representative of the Nanyang Business School, Alumni and Endowment Committee

1999–2001 Member of the Newsletter Committee, Nanyang Business School

1999–2000 Member of the Millennium Celebration Committee, Nanyang Technological University

1999–2000 Member of the Millennium Celebration Committee, Nanyang Technological University

1998–1999 Member of the Project Oversight Group to review the research project titled "Pricing Practices for Joint Last Survivor Insurance" and funded by the Society of Actuaries

1993–1999 Member of the examination committees for Course 151 (Risk Theory) and Course 230 (Principles of Asset/Liability Management), Society of Actuaries

References

Available upon request