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DEGREES:

PhD (Finance), University of Alberta, 1997  
PhD (Statistics), University of Alberta, 1991  
MSc, Simon Fraser University, 1986  
BSc (Honours), Simon Fraser University, 1982

RESEARCH INTERESTS:

Quantitative Finance, Derivative securities, Fixed Income securities and Interest Rate Derivatives, Risky debt, Financial Applications of Stochastic Calculus.

TEACHING HONOURS:

Dean's Commendation for Contributions to Teaching, 2009

PUBLICATIONS:

"A multi-factor model with time-varying and seasonal risk premiums for the natural gas market," with R. Bhar and C. Shao. *Energy Economics*. DOI: 10.1016/j.eneco.2015.04.013. (This journal is rated A\* by the ABDC.)

"Non-Transferable Non-Hedgeable Executive Stock Option Pricing," with D. Feldman and W. Hu. *Journal of Economic Dynamics and Control*, Vol. 53, April 2015, pp. 161-191. (This journal is rated A\* by the ABDC.)

"A Credit Risk Model with Switching Processes and Synchronous Jumps," with D. Hainaut. *European Journal of Finance*, Published online: 11 Jun 2014, DOI: 10.1080/1351847X.2014.924079. (This journal is rated B by the ABDC.)

"Risk Premium in Electricity Prices: Evidence from the PJM Market," with R. Bhar and Y. Xiao. *Journal of Futures Markets*, Published online : 3 JUL 2014, DOI: 10.1002/fut.21681. (This journal is rated A by the ABDC.)

"A Jump Diffusion Model for Spot Electricity Prices and Market Price of Risk," with R. Bhar and Y. Xiao. *Physica A*, vol 392, issue 15, pp. 3213-3222, August, 2013. (This journal is rated A by the ARC.)

"Regime Dependent Causality: Equity and Credit Markets," with R. Bhar and P. Wang. *International Journal of Financial Markets and Derivatives*, vol 3, no. 1, pp. 36-44, 2012. (This journal is rated C by the ABDC.)

“A Markov Chain Modulated Short-Term Interest Rate Model: Inference on Central Bank Transparency,” with R. Bhar and U. Peiris. Journal of Applied Statistical Science, vol 17, issue 3, 2009. (This journal is rated C by the ABDC.)

“The Effect of Investor Category Trading Imbalances on Stock Returns,” with J. Henker and T. Walter, International Review of Finance, Vol. 8, No. 3, 2008, : pp. 179–206. (This journal is rated A by the ABDC.)

“Hedging diffusion processes by local risk minimization with applications to index tracking,” with Nadima El-Hassan (UTS) and Oh Kang Kwon (formerly of USyd), Journal of Economic Dynamics and Control, Vol. 31 Issue 7 (July 2007), pp. 2135-2151. (This journal is rated A\* by the ABDC.)

“Real Options Valuation of Australian Gold Mines and Mining Companies.” With Thomas Henker, Kingsley Fong, and John Ho, The Journal of Alternative Investments, Summer, 2003. (This paper also has had 2042 downloads on the Social Science Research Network website, SSRN.com.) (This journal is rated B by the ABDC.)

“Discontinuous Asset Prices and Non-Attainable Contingent Claims.” With R.J. Elliott. Mathematical Finance, Vol. 3, No. 3 (July 1993), pp. 295-308. (This journal is rated A by the ABDC.)

“Martingale Representation and Non-Attainable Contingent Claims.” With R.J. Elliott. 15th IFIP Conference, (P. Kall ed.), Lecture Notes in Control and Information Sciences, Springer-Verlag: New York, Vol. 180 (1992), pp. 833-842.

“Martingale Representation and Hedging Policies.” With R.J. Elliott and P.E. Kopp. Stochastic Processes and Their Applications, Vol. 38, No. 2, (August 1991), pp. 335-345. (This journal is rated A by the ARC.)

“The Predictable Accessible and Totally Inaccessible Properties and the Single Jump Process.” With A.H.M. Tsoi. Applied Mathematics Notes, Vol. 13 (December 1988), pp. 1-9.

#### BOOK CHAPTERS:

I have co-authored seven chapters of the book Fundamentals of Futures and Options Markets. (First Australian Edition) With J.C. Hull, S. Treepongkaruna, R. Heaney, and D. Pitt. Pearson, 2013.

#### PhD SUPERVISION

Chengwu Shao, “Essays on Stochastic Models of the US Natural Gas Market,” with Ram Bhar. Completed 2014.

*Yan (Jackie) Liu, "A Study of Jump Risks in Asset Prices: An Investment Perspective." Completed 2014.*

*Matthias Thul, "Characterizations of and Closed-Form Solutions for Plain Vanilla and Exotic Derivatives," with David Feldman; Completed 2014.*

*Yuewen Xiao, "Stochastic Models of Electricity Prices and Risk Premium in the PJM Market," with Ram Bhar; Completed, 2012.*

*Wei Hu, "Valuation of Non-Transferable and Non-Hedgeable Contingent Claims and an Executive Stock Options Implementation," with David Feldman; Completed, 2012.*

*Peipei Wang, "Analysis and Pricing of Credit Default Swap Spreads," with Ram Bhar; Completed, 2009.*

*Bruce Arnold, "Ratings Transitions and Total Return on Defaultable Obligations," Completed 2008.*

*Michael Lee, "Pricing and Hedging Derivative Securities in a Regime-Switching Model with State-Dependent Jumps," Completed 2008.*

*Peter O'Brien, "Term Structure Modelling and the Dynamics of Australian Interest Rates," Completed 2007.*

*Julia Henker, "A Behavioural Finance Perspective on Trade Imbalance and Stock Prices," with Terry Walter, Completed 2006.*

#### MPhil or MCom (Hons) SUPERVISION

*Bao Huy Doan, "Copula-Based Methods in Financial Derivatives," 2015.*

*Brendan Lee, "Incorporating Discontinuities in Value-at-Risk via the Poisson Jump Diffusion Model and Variance Gamma Model," 2008.*

*Yan (Jackie) Liu, "An Analysis of Jumps and Jump Risk of Australasian Stock Market Indices From a Portfolio Management Perspective," with Toan Pham, 2005.*

*Cameron Gleeson, "Pricing and Hedging S&P 500 Index Options: A Comparison of Affine Jump Diffusion Models," 2005.*

#### UNDERGRADUATE HONOURS SUPERVISION

*James Prior, "Pricing Risky Debt Using Constant Elasticity of Variance Effects," 2005*

*Udara Peiris, "A Markov Chain Modulated Short-Term Interest Rate Model," 2004; with Ram Bhar.*

*Jasmine Burgess, "Assessing Diffusion Misppecifications in Credit Risk Models to Accurately Mark-to-Market Default Risk," 2001.*

*Eric Lam, "Hidden Markov Models and Volatility Forecasts," 2000.*

*Winnie Leung, "An Examination of Australian Equity Using Gaussian and Jump Distributions, and Their Effects on Value-at-Risk and Conditional Value-at-Risk Estimates," 2000.*

*Amy Thorburn, "S&P500 Jumps and Option Hedges," 2000.*

*John Ho, "Real Options in Australian Gold Mines and Companies," with Kingsley Fong; 1999.*

*Solene Arcus, "Jumps in the Australian Interest Rate Process and the Implications for Bond Option Pricing," 1999.*

*Evan Metcalfe, "To Examine Whether a Generalised Constant Elasticity of Variance Model can Explain the Volatility Smile Observed in S&P500 Index Options," 1999.*

WORKING PAPERS and PRESENTATIONS:

*"Commodity Modelling with Stochastic Volatility and Jumps," co-authored by Ram Bhar (UNSW) and Damien Lee (ANZ Bank), 2007.*

*"Option Pricing in a Regime-Switching Model with State-dependent Jumps," with Michael Lee (submitted).*

*"The Determinants of Credit Default Swap Spreads," with Ram Bhar and Peipei Wang.*

*"Hedging with Options in Regime-Switching Models," with Michael Lee.*

*"Some Results on the Rational Lognormal Model and its Jump Extension," with Peter O'Brien, Presented at the 20<sup>th</sup> Australasian Finance and Banking Conference, 2007.*

*"Component Structure of Credit Default Swap Spreads and Their Determinants," with Ram Bhar and Peipei Wang, Presented at the 20<sup>th</sup> Australasian Finance and Banking Conference, 2007.*

*"Generalised Poisson Jump Diffusion Models for Stock Market Returns: Genesis and Motivation," with Yan Liu, and Ah Boon Sim.*

*“Systemic Jump Neutral Optimal Portfolios,” with Yan Liu, and Ah Boon Sim.*

*“Measures of Discontinuity for Stock Returns,” with Yan Liu, and Ah Boon Sim.*

*“Analysis of Jumps in Australasian Stock Market Returns,” with Yan Liu, and Ah Boon Sim.*

*“A Study of Australasian Stock Markets on Asset Pricing and Jump Risk,” with Yan Liu, and Ah Boon Sim.*

*“Do Long Rates Behave Like Short Rates—Some Australian Evidence,” with Peter O’Brien. Presented at the 20<sup>th</sup> Australasian Finance and Banking Conference, 2007.*

*“Forward Measures in Jump Diffusion HJM Models with Deterministic Volatility,” with Solene Arcus and Oh Kang Kwon. (An earlier version of this paper has 308 downloads on the SSRN web site, and was presented at the QMF Conference, 2001, and the European FMA, 2001.)*

*“Barrier Crossing Times for CIR and CEV Processes.”*

*“A Note on the Minimal Martingale Measures in the Stochastic Volatility Framework.” With Carl Chiarella and Oh Kang Kwon. (Accepted for presentation at the European Financial Management Association conference, 2004). (This paper has had 404 downloads on the Social Science Research Network website, SSRN.com)*

*“News Releases when the Markets are Closed.” With Wayne del Corral, David Michayluk, and Li-Anne Woo. Presented at the Financial Management Association, Denver, 2003.*

*“A Simple Model of Risky Debt with CEV Effects.” With G. Barone-Adesi. Presented at the Australasian Finance and Banking Conference, September, 1998, also at the European FMA, 1999.*

*“A Simple Model of Risky Debt with Agency Effects.” With G. Barone-Adesi. Presented at the Northern Finance Association, September, 1996 and the Doctoral Consortium of the Financial Management Association Annual Conference, October, 1996.*

*“Dynamic Pricing and Consumer Expectations: A Proposed Model.” Presented at the Administrative Sciences Association of Canada Annual Conference, 1993.*

*“Martingale Representation and Non-Attainable Contingent Claims.” With R.J. Elliott. Presented at the 15th IFIP Conference on System Modelling and Optimization, Zurich, Switzerland, September 1991 and the Northern Finance Association, Montreal, Quebec, September 1991.*

AWARDS and GRANTS:

|            |  |
|------------|--|
| 2000       | <i>SPIRT Grant, with Dr. Michael Briers, Prof. Bill Birkett, Prof. Roger Simnett</i> |
| 1997       | <i>Faculty of Commerce and Economics Special Research Grant</i>                      |
| 1994       | <i>Andrew Stewart Memorial Graduate Prize</i>  |
| 1993       | <i>Mutual Life PhD Fellowship, University of Alberta</i>                             |
| 1991,92,93 | <i>Business PhD Award, University of Alberta</i>                                     |
| 1990,91,92 | <i>Poole PhD Fellowship, University of Alberta</i>                                   |
| 1988,89,93 | <i>Province of Alberta Graduate Fellowship</i>                                       |

TEACHING EXPERIENCE:

*University of New South Wales Lecturer, 1997-*

*Teaching Investments, Derivative Securities, Interest Rate Risk Management, and Continuous-Time Finance.*

*University of Alberta Instructor, 1993-96:*

*Taught Introductory Corporate Finance, Risk Management (Derivative Securities) and Management Science (Linear Regression)*

*University of Alberta Instructor, 1987-89:*

*Taught three sessions of Introductory Statistics*

REFERENCES:

*Upon request.*