URRICULUM VITAE

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Queen's University
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EDUCATION:

Ph. D in Finance, 2002, Rotman School of Management, University of Toronto

Ph. D. in Applied Mathematics, 1994, University of British Columbia

M. Sc. in Mathematics, 1985, Hebei University, China

B. Sc. in Mathematics, 1982, Hebei University, Baoding, Hebei, China

WORKING EXPERIENCE:

Teaching

- **Associate Professor (Tenured):** School of Business, Queen's University (tenured, 2007-present).
- **Assistant Professor:** School of Business, Queen's University (since July 2000).
  Instructor: Rotman School of Management, Univ. of Toronto.
- **Instructor:** Department of Mathematics (1988 -- 1994), UBC.
- **Lecturer:** Department of Mathematics (1985 -- 1988), Hebei Univ., China.

Visiting

- Rotman School of Management, University of Toronto: September 2007 – August 2008 (Sabbatical leave)

Industry

Part-time 1997-2000:

- Trading Risk Management -- Royal Bank of Canada: Implementation of interest rate models and exotic option pricing models.
- Balance-Sheet Management, Treasury Department of RBC: Model implementation for fund transfer pricing; valuation of non-maturity accounts and credit card balances; interest rate hedging and risk management

Postdoctoral Fellow

- 1994 -- 1996: Faculty of Management, Univ. of Toronto

Consultant

- Trading Risk Management -- Royal Bank of Canada (2008)
- Quantitative Auditing – Royal Bank of Canada (2004)
- Canadian Housing and Mortgage Corporation (on risk-based pricing)

RESEARCH INTERESTS:

- Asset pricing theory and continuous-time finance
- Valuation and hedging of derivative securities, term structure of interest rate modeling
- Application of asset pricing to executive compensations
- Financial risk management
- Credit risk and valuation of defaultable securities
- Mathematical finance, computational finance

PUBLICATIONS:

In Refereed Journals

- Explaining Debt recovery Using an Endogenous Bankruptcy Model (with Wei Wang and Qi Zhang), Journal of Fixed Income, Vol 23, Number 2, Fall 2013, pp114-131
- An Empirical Comparison of Option Pricing Models in Hedging Exotic Options (with Yunbi An) *Financial Management*, No 4, 2009, pp889-914
- Assessing Credit Quality from the Equity Market: Can Structural Approach Forecast Credit Ratings? (with Yu Du), *Canadian Journal of Administrative Studies,* 24 (2007-09) pp. 212-228
- The Compatibility of Market Models in Cap and Swaption Markets: Evidence from Their Dynamic Hedging Performance (with Yunbi An), *Journal of Futures Markets*, 28 (2007), pp. 109-130
- Volatility surfaces: theory, rules of thumb, and empirical evidence (with John Hull and Toby Daglish), *Quantitative Finance* 7 (2007), pp.507-534
- Are Strategic Alliance Always Value-Creating? A Real Option Analysis, *Finance Letters*, 3 (2005), pp.30-37 (with Lew Johnson)
- A methodology for assessing model risk and its application to the implied volatility function model, *Journal of Financial and Quantitative Analysis* 37 (2002), pp297-318 (with J. Hull)
- Existence of singular optimal control laws for stochastic differential equations, *Stochastics* 48 (1994), pp.249-272 (with U.G. Haussmann)
- Singular stochastic controls I: Existence of optimal controls, *SIAM J. Control and Optimization* 33 (1995), pp.916-936 (with U.G. Haussmann)
- Singular stochastic controls II: The dynamic programming principle and applications, *SIAM J. Control and Optimization* 33 (1995), pp.937-959 (with U.G. Haussmann)
- Optimal production planning in a stochastic manufacturing system with long-run average cost, *Journal of Optimization Theory and Application*, 92 (1997), pp.161-188 (with S.P. Sethi, M.I. Taksar, and Q. Zhang)
- Producing in a manufacturing system with minimum average cost, *Nonlinear Analysis, Theory, Methods & Applications*, 30 (1997), pp.4357-4363 (with S.P. Sethi, M.I. Taksar, and Q. Zhang)
- Optimal feedback production planning in a stochastic N-machine flow-shop with internal buffers, *Automatica*, 33 (1997), pp.189-193 (with E. Presman, S.P. Sethi)
- Optimal Production Planning in a Multi-Product Stochastic Manufacturing System with Long-Run Average Cost. *Journal of Discrete Events and Dynamic Systems,* 8 (1998), pp. 37-54 (with S.P. Sethi, M.I. Taksar, and H.Yan)

- Optimal feedback production planning in a stochastic dynamic job-shop, *Lectures in Applied Mathematics*, 33 (1997), American Mathematical Society, pp.235-252 (with E. Presman, S.P. Sethi)

In Refereed Book Chapters

- Hedging Options With Transaction Costs, in "*Stochastic Processses, Optimization, and Control Theory: Applications in Financial Engineering, Queueing Networks, and Manufacturing Systems (*A volume in Honor of Suresh Sethi), International Series in Operation Research & Management Science, Vol 94, H. Yan, G. Yin and Q. Zhang (Eds), Springer-Verlag, Ney York, 2006

In Conference Proceedings

- Singular optimal control for stochastic differential equations, *Proc. of the 33rd IEEE Conference on Decision and Control*, Lake Buena Vista, FL, December, 1994, pp.496-500
- Minimum Average-cost production plan in a multi-product stochastic manufacturing system, *Proceedings of the 5th International Conference on Emerging Technologies and Factory Automation*, Kauai, Nov. 18-21, 1996 (with S.P. Sethi, M.I. Taksar, and H. Yan)

Working Papers

- The risk of of turbo call options, 2019
- Design of Contingent Convertibles abd Their Price Sentivities, 2015
- An Analysis of Hedge Fund Returnds (with Lew Johnson), 2006
- Assessing Default Probabilities from Structural Credit Risk Models (with Wei Wang), 2005
- An Empirical Study on Credit Rating Change Behavior (with Yu Du), 2004
- Barrier Option Pricing (technical notes), August, 1997

Work-In-Progress

- Machine learning in option pricing
- Building the Black-Scholes volatility surface through machine learning.

Other Works

- Translated "Options Futures, and Other Serivatives" by John C. Hull into Chinese (with Yong Wang), published in 2009， 2011， 2014, 2018, 2021 期权、期货及其它衍生产品 （译著， 第七版，第八版, 第九版, 第十版, 第十一版 。 机械工业出版社） （with Yong Wang），

CONFERENCE/SEMINAR PRESENTATIONS:

- Assessing Default Probabilities from Structural Credit Risk Models, 2007 Interdisciplinary Mathematical and Statistical Techniques, May 20-23, Shanghai, China
- Assessing Credit Quality from the Equity Market: Is Structural Approach a Better Approach? 2007 China International Conference in Finance, July 9-12, Chengdu, China

- Assessing Default Probabilities from Structural Credit Risk Models, 2006 Financial Management Association, October 11-14, Salt Lake City, Utah
- Assessing Default Probabilities from Structural Credit Risk Models, 2006 Northern Finance Association, September 15-17, Montreal
- Hedge Fund Performance, 2006 Northern Finance Association, September 15-17, Montreal
- Assessing Default Probabilities from Structural Credit Risk Models, 2006 China International Conference in Finance, July 17-20, Xi'An, China
- Stochastic Process in Finance, Invited speaker for Hebei Mathematics Society, July 29-30, ShiJiaZhang, China
- Estimating Default Probabilities, International Conference Honors Suresh P. Sethi, School of Management, University of Texas at Dallas, May 20-22, 2006
- Assessing Credit Quality from Equity Markets , Stochastic Modeling Symposium, Canadian Institute of Actuaries, Toronto, April 2006,
- An Empirical Study on Credit Rating Change Behavior, Northern Finance Association Annual Meeting, Vancouver, BC, September 2005.
- An Empirical Study on Credit Rating Change Behavior, McGill University, April, 2005
- The Performance of Option Pricing Models in Hedging Exotic Options, Financial Management Association Annual Meeting, New Orleans, October, 2004
- Volatility Surfaces: Theory, Rules of Thumb, and Empirical Evidence, Asian Financial Management Association Annual Meeting, Taipei, July, 2004
- Assessing Credit Quality from Equity Markets: Is Structural Model a Better Approach? Second Annual Risk Management and Insurance Conference, Waterloo, June, 2004
- The Empirical Performace of Options Pricing Models, Schulich School of Management, York Univrtsity, November 2003
- Volatility Surfaces: Theory, Rules of Thumb, and Empirical Evidence, Financial Management Association Annual Meeting, Denver, Colorado, Ocotober, 2003
- The Empirical Performace of Options Pricing Models on Hedging Exotic Options, Quebec City, Northern Finance Assocation Annual Meeting, Banff, Alberta, September, 2003 (With Yunbi An)
- Hedging Options With Transaction Costs, Northern Finance Assocation Annual Meeting, Banff, Alberta, September, 2002
- Modelling Implied Black-Scholes Volatilities, Northern Finance Assocation Annual Meeting, Halifx, Nova Scotia, Ocotoer, 2001. *The paper won the "Best Derivative Paper" award at this conference*
- Pricing Errors in Implied Volatility Models, Northern Finance Assocation Annual Meeting, Waterloo, Ontario, September, 2000
- Existence of Singular Optimal Control Laws, *West Pacific Optimization Seminar*, University of Washington, Seattle, WA, February 25, 1994
- Singular Optimal Control for Stochastic Differential Equations, *33rd IEEE Conference on Decision and Control*, Lake Buena Vista, FL, December 14, 1994

EDITORIAL SERVICES:

Ad Hoc Reviewer for

Journal of Banking and Finance, Mathematical Finance, Canadian Journal of Administrative Sciences, Mathematical Analysis and Applications, Quantitative Finance, International Economic Journal, The European Physical Journal B, Siam Journal On Control and Optimization, Management Science, Journal of Business Finance and Accounting， Annual of Operation Research

GRADUATE STUDENT SUPERVISION:

- Ph.D Thesis Committee Chair
  - Qi Zhang (Graduated，April 2013)
  - Wei Wang (Graduated, 2006)
  - Yunbi An (Graduated, 2005)
  - Yu Du (Graduated, 2004)
- M.A. / M.Sc Thesis Supervisor
  - Ghufran Tarin (2013)
  - Dong Shen (2013)
  - Rahil Valiani (2013)
  - Robert Hayes (2013)
  - Abir Paula (2009)
  - Chong Lio (2009)
  - Fangpeng Dong (2009)
  - Di Ma (2007)
  - Ramon William (2007)
  - Weiwei Li (2007)
  - Ewen Miller (2007)
  - Genshen Yang (2007)
  - Yi Luo (2006)
  - Bin Hu (2006)
  - Lili Xie (2006)
  - Wei Yu (2006)
  - Qi Zhang (2005)
  - Jian Zhou (2004)
  - Bin Chang (2002)
  - Shiheng Wang (2002)
  - Yu Dong (2001)