Gordon Arthur Sick
Curriculum Vitae

Office

Haskayne School of Business
University of Calgary
Calgary, Alberta
Canada T2N 1N4

Website

http://people.ucalgary.ca/~sick/

EMail

sick@ucalgary.ca

Personal

Born: Calgary, Alberta
Married, wife Carmel, with three children
Nationality: Canadian

Areas of Research Interest

Corporate finance, valuation, taxation and security market returns, real options, bank cost functions, futures market return seasonalities, asymmetric information models, hedging, determinants of beta

Academic Positions

Emeritus Professor of Finance, Haskayne School of Business, University of Calgary, 2018 – present

Visiting Professor, Monash University, Melbourne, Winter 2011.

Professor, University of Calgary, 1993 — 2017 (Capital budgeting, Introductory and Advanced Financial Management, Futures and Options, Financial Market Trading and Market Data Management, Ph.D. Seminar in Theory of Financial Decisions, Ph.D. Seminar in Game Theory))

Associate Fellow, CIRANO (Centre interuniversitaire de recherché en analyse des organization) 2005 – present

Fellow-In-Residence, Netherlands Institute for Advanced Study in the Social Sciences (sabbatical Winter 1999)

Visiting Professor, Yale School of Management (1994-95) (Investments)

Associate Professor, University of Calgary, Faculty of Management, 1988 – 1993
(Capital budgeting, Financial Management, Ph.D. Seminar in Finance)

Visiting Associate Professor, University of British Columbia, Faculty of Commerce and Business Administration, 1986 – 1988
(Cases in corporate finance, introductory corporate finance)

Associate Professor, University of Alberta, Faculty of Business, 1983 – 1986
(Introductory corporate finance, advanced corporate finance, capital budgeting)

Assistant Professor, University of Alberta, Faculty of Business, 1982 – 1983
(Introductory corporate finance, investments)

Assistant Professor, Yale University, School of Organization and Management, 1979 – 1982 (Introductory corporate finance, investments, financial markets and institutions)

Lecturer, University of British Columbia, Faculty of Commerce and Business Administration, 1976 – 1978 (Introductory corporate finance)

Teaching Assistant, University of Toronto, Department of Mathematics, 1971 – 1974 (Calculus, logic and model theory)

Teaching Assistant, University of Calgary, Department of Mathematics, 1970 – 1971 (Computer science)

Education

Ph.D. (Business administration), Finance, University of British Columbia, 1981.
Thesis title: "Preferences, Endowments and Beliefs as Revealed in Market Prices".

M.Sc. (Business Administration), Finance, University of British Columbia, 1977.
Thesis title: "A Till Cash Management Model".

All but doctoral dissertation (Mathematics), Game Theory, University of Toronto.

M.Sc. (Mathematics), University of Toronto, 1972.

B.Sc. (Mathematics, First Class Honours), University of Calgary, 1971.

Books

Principles of Corporate Finance, Second Canadian Edition, with R.A. Brealey, S.C. Myers and R.M. Giammarino, McGraw-Hill Ryerson, Toronto, 1992.

Instructor's Manual to Accompany Principles of Corporate Finance, Second Canadian Edition, with P.R. Perry, R.M. Giammarino, McGraw-Hill Ryerson, Toronto, 1992.

Principles of Corporate Finance, First Canadian Edition, with R.A. Brealey, S.C. Myers and R.E. Whaley, McGraw-Hill Ryerson, Toronto, 1986.

Instructor's Manual to Accompany Principles of Corporate Finance, with R. A. Brealey, S.C. Myers and R.E. Whaley, McGraw-Hill Ryerson, Toronto, 1986.

Study Guide to Accompany Principles of Corporate Finance, with C.A. D'Ambrosio, S.D. Hodges and R.E. Whaley, McGraw-Hill Ryerson, Toronto, 1986.

Monograph

Capital Budgeting with Real Options, Monograph 1989-3, Series in Finance and Economics, Salomon Brothers Center for the Study of Financial Institutions, Leonard N. Stern School of Business, New York University.

Published Papers

"Greek Sovereign Debt: Addressing Economic Distress and Growth in the Euro Area" with Panayotis Alexakis, Gikas Hardouvelis, Dean Paxson and Lenos Trigeorgis, *Multinational Finance Journal,* pages 1-33, v22, 1/2, 2018.

"Valuation of a spark spread: an LM6000 power plant." *The European Journal of Finance*, pages 689-714, v19, 7-8, October, 2011.

"Some Important Issues Involving Real Options: An Overview," with Andrea Gamba, *Multinational Finance Journal*, March/June 2010, 14:1/2: 73-123

"Investment under uncertainty, debt and taxes." with Andrea Gamba and Carmen Aranda Léon, *Economic Notes*, 37(1-2008):31–58, 2008.

"Pricing Interactions of Baseload Supply Changes and Electricity Demand Shocks," with Robert

Elliott and Michael Stein, Chapter 12 in *Real Options and Energy Management*, ed. Ehud Ronn, Risk Books, London, 2002, 371-391.

"Valuing Proven Undeveloped Petroleum Reserves Using Real Options," with John McCormack and Dan Calistrate, Chapter 16 in *Real Options and Energy Management*, ed. Ehud Ronn, Risk Books, London, 2002, 485-503.

"Real Options and Leader-Follower Strategies" with Tom Cottrell, *Engineering Economist*, 2002, 47(3) 232-263.

"First Mover (Dis)Advantage and Real Options" with Tom Cottrell, *Journal of Applied Corporate Finance*, Summer 2001 14(2), 8-18.

"Valuing Real Options: Can Risk Adjusted Discounting Be Made to Work?" with James Hodder and Antonio Mello, *Journal of Applied Corporate Finance*, Summer 2001 14(2).

"Valuing PUD Reserves: A Practical Application of Real Option Techniques" with John McCormack, *Journal of Applied Corporate Finance*, Winter 2001 13(4) 8-13.

"Real Options in the Aerospace Industry" in *Real Options Applications*, ed Alberto Micalizzi and Lenos Trigeorgis, SDA Bocconi Business School, 1999, 127-158.

"A long term examination of the turn-of-the-month effect in the S&P500," with Chris Hensel and William Ziemba, Chapter 9 *in Security Market Imperfections in World Wide Equity Markets* ed. By Donald Keim and William Ziemba, Cambridge University Press, 2000.

"Real Options," Chapter 21 in *Finance*, ed. by R. Jarrow, V. Maksimovic and W.T. Ziemba, Handbooks in Operations Research and Management Science, North Holland 1995, 631-691.

"Scale Economies and Cost Complementarities in Commercial Banks: On- and Off-Balance-Sheet Activities," with A. Nathan and J. Jagtiani, *Journal of Banking and Finance*, 19 #6, 1995. 1175-1189.

"The Turn-of-the-Month Effect in the U.S. Stock Index Futures Markets, 1982-1992," with C.R. Hensel and W.T. Ziemba, *The Review of Futures Markets*, 13 #3: 827-856,1994.

"The Risk Structure of Land Markets," with Dennis Capozza, *Journal of Urban Economics*, 35: 297-319, 1994. Also reprinted in *The International Library of Critical Writings in Economics*, ed by Mark Blaug.

"Valuing Long-Term Leases: The Option to Redevelop," with Dennis R. Capozza, *The Journal of Real Estate Finance and Economics*, 4: 209-223, 1991.

"Tax-Adjusted Discount Rates," *Management Science*, 36 #12, 1432-1450, December 1990.

"The Timing of Cash Flows and Related Taxes," with Glen A. Mumey, *Financial Management,* 19 #4, 14-15 December 1990.

"Diversifying with Gold Stocks", with Jess Chua and Richard Woodward, *Financial Analysts Journal,* 76-79. July/August 1990.

"Comment on Forward markets, stock markets and the theory of the firm," *Journal of Finance*, 44 #2, 525-528, with V. Maksimovic and J. Zechner, June 1989.

"Multi-period Risky Project Valuation: A Mean-covariance Certainty-equivalent Approach," *Advances in Financial Planning and Forecasting,* Vol. 3, 1-36, ed. by C.F. Lee, JAI Press, 1989.

"A Certainty-equivalent Approach to Capital Budgeting," *Financial Management*, Winter 1986.

"Forecasting Cash Flows at a Credit Union," Section 7.7 in *Current Asset Management*, by J.G. Kallberg and K. Parkinson, Wiley-Interscience, New York, 1984.

Discussion: "Asymmetric Information, Signalling and Corporate Financial Decisions," *Journal of Financial and Quantitative Analysis*, 16, November 1981.

"Distinguishing Beliefs and Preferences in Equilibrium Prices," with Alan Kraus, *Journal of Finance*, 25, May 1980.

"Communication of Aggregate Preferences through Market Prices," with Alan Kraus, *Journal of Financial and Quantitative Analysis*, 14, November 1979.

Unpublished Papers

"Real Options and Facilities Access Regulation", with Mark Cassano, April 2008

"Real Options, Sequential Bargaining Game and Network Effects in Natural Gas Production" with Yuming Li, March 2007

"Estimation of Volatility of Cross Sectional Data: A Kalman Filter Approach" with Cristina Sommacampagna, June 2004

"A Reply To 'The Value Of Tax Shields Is NOT Equal To The Present Value Of Tax Shields'", April 2003 with .Nicholas X. Wonder,Joseph Tham & Ignacio Vélez-Pareja

"Pricing Electricity Calls," March 2003 with Robert Elliott and Michael Stein.

"Real Options for Managing Risk: Using Simulation to Characterize Gain in Value," April 1998 with Dan Calistrate and Marc Paulhus.

"Integrated Taxation of Debt and Equity Markets: Implications for the Cost of Capital," May 1997.

"Private Information and Security Prices: A non-Walrasian Rational Expectations Model," with Philip H. Dybvig, November 1981.

Technical Reports

"Pharmaceutical Industry R&D and the Cost of Capital," report prepared for the Office of Technology Assessment of the United States Congress, 15 pages, February 1992.

Published Proceedings

"Maintaining Excess Capacity," with Daya Gaur, Arvind Gupta, Greg Robel et al, Chapter 1 in *Proceedings of the Second PIms Industrial Problem Solving Workshop, Ed. M. Lamoreux,* Pacific Institute of Mathematical Studies, Calgary, June 1998

"Inventory Optimization using a Renewal Model of Sales," with Dan Calistrate, Marc Paulhus, Miro Powojowski, Chapter 2 in *Proceedings of the Second PIms Industrial Problem Solving Workshop, Ed. M. Lamoreux,* Pacific Institute of Mathematical Studies, Calgary, June 1998

"Economies of Scale and Economies of Scope Amongst On-Balance-Sheet and Off-Balance-Sheet Activities of Large U.S. Banks," with J. Jagtiani and A. Nathan, *Finance*, ASAC Proceedings, 13, 1992. (Honourable Mention for Best Paper).

"The Pricing of Leased and Fee-Simple Land," with Dennis Capozza, *Finance*, ASAC Proceedings, 12, 29-38, 1991.

"Marginal Tax Rates Implied in Financial Security Prices," with David Downie, *Finance,* ASAC Proceedings, 11, 43-52, 1990. (Honourable Mention for Best Paper).

"The Timing of Cash Flows and Related Taxes," with Glen A. Mumey, *Finance,* ASAC Proceedings, 11, 151-158, 1990.

Book Reviews

Real Options. By Lenos Trigeorgis. MIT Press, Cambridge, Mass. *Journal of Finance*, December 1996.

Capital Budgeting Under Uncertainty. By Raj Aggarwal. Prentice Hall, Englewood Cliffs, New Jersey, 1993, *Journal of Finance*, 49(2), June 1994, 747-750.

Corporate Finance. By Stephen A. Ross and Randolph W. Westerfield. Times Mirror/Mosby, St. Louis, Missouri, 1988, *Journal of Finance*, 43(2), June 1988.

Arbitrage Theory: Introductory Lectures on Arbitrage-Based Financial Asset Pricing by Jochen E.M. Wilhelm, Volume 245 in Lecture Notes in Economics and Mathematical Systems, Springer, Berlin, 1985. Reviewed with William T. Ziemba for *European Journal of Operational Research*, 27(2), November, 1986.

Paper Presentations

"Firms' Interactive Capital Investment Decisions with Network Effects", with Yuanshun Li, 19th Annual International Real Options Conference, Athens, June 2015

"Real Options Timing: How Risk Assessments Affect Project Timing" Calculating Risk Symposium, School of Public Policy, University of Calgary, June 2014

"Exercise of Real Development Options and Corporate Risk Measures" with Yuanshun Li, 17th Annual International Real Options Conference, Tokyo, July 2013

"Valuation and Optimal Operation of a Peaking Gas-Fired Power Generator", 17th Annual International Real Options Conference, Tokyo, July 2013

"Real Options and Consumer Technology Development Decisions", 17th Annual Real Options Conference, Tokyo, July 2013

"Structural Changes in Commodity Markets", Alberta Finance Institute Conference, July 2012, with Mark Cassano

"Real Options Applications in Energy & Natural Resources: An Overview", 16th Annual Real Options Conference, London, England, June 2012

"Cooperative and Competitive Gas Processing", 16th Annual Real Options Conference, London, England, June 2012, with Yuanshun Li

"Modeling Real Options with Applications in Natural Resources and Real Estate", 15th Annual Real Options Conference, Turku, Finland, June 2011

"Investment under Uncertainty: Equilibrium between Competition and Cooperation", 15th Annual Real Options Conference, Turku, Finland, June 2011, with Yuanshun Li

"Modelling Electricity Prices and Managing a Spark Spread", University of Technology, Sydney, April 2011

"Valuation of an LM6000 Power Plant", Monash University, Melbourne, April 2011

"Valuation of an LM6000 Power Plant", University of Melbourne, April 2011

"Valuation of an LM6000 Power Plant", University of Adelaide, March 2011

"Valuation of an LM6000 Power Plant", University of South Australia, March 2011

"The Equilibrium of a Real Options Bargaining and Exercise Game: Evidence from the Natural Gas Industry", Northern Finance Association Annual Conference, Winnipeg, September 2010, with Yuanshun Li.

"Real Options Applications in Natural Resources and Energy", 14th Annual Real Options Conference, Rome, Italy, June 2010

"Real Options in Real Estate and Infrastructure", 14th Annual International Real Options Managerial Conference, Rome, Italy, June 2010

"Equilibrium of a Real Options Bargaining Game: Evidence from Natural Gas", 14th Annual Real Options Conference, Rome, Italy, June 2010, with Yuanshun Li

"Valuation of an LM6000 Power Plant", Dalhousie University, March 2010

"Valuation of an LM6000 Power Plant", University of Calgary, September 2009

"Valuation of an LM6000 Power Plant", University of Saskatchewan, August 2009

"Real Options and Facilities Access Regulation", Northern Finance Association Annual Conference, Niagara-on-the-Lake, September 2009.

"Valuation of a Spark Spread: an LM6000 Power Plant", 13th Annual Real Options Conference, Braga, Portugal, June 2009

"Real Options Applications in Natural Resources and Energy", 13th Annual Real Options Conference, Braga, Portugal, June 2009

"Real Options and Facilities Access Regulation", University of British Columbia Summer Finance Conference, Whistler BC, July, 2008.

"Real Options and Facilities Access Regulation", 12th Annual International Real Options Academic Conference, Rio de Janeiro, July, 2008.

"Real Options in Real Estate and Infrastructure", 12th Annual International Real Options Managerial Conference, Rio de Janeiro, July, 2008.

"Real Options", Keynote presentation at the Multinational Financial Society Conference in Orlando, July 2008.

"Real Options and Facilities Access Regulation", University of Alberta/University of Calgary Banff Conference, April, 2008.

"Real Options and Facilities Access Regulation", University of Wyoming, March, 2008.

"Real Options and Regulation", Melbourne Financial Centre, January, 2008.

"Equlibrium Investment Decsions in a Real-Options Sequential Bargaining Game with Network Effects" Northern Finance Association, Toronto, with Yuanshun Li, September 2007

"Overview of Real Options", National Association of Chartered Valuation Analysts (NACVA) Conference, Washington, DC, June 2007

"Real Options, Games and Network Effects in Natural Gas Production" Financial Management Association Conference, Salt Lake, with Yuanshun Li, October 2006

"Real Option Analysis for Adjacent Gas Producers to Choose Optimal Operating Strategy", 9th Annual International Real Options Conference, Paris, with Yuanshun Li, June 2005.

"Investment under Uncertainty, Debt, and Taxes" Simon Fraser University, November 2004.

"Investment under Uncertainty, Debt, and Taxes" Second Annual UBC Summer Conference in Finance, Tofino, August 2004.

"Real Options with Commodity and Energy Applications" 8th Annual International Real Options Conference, Montreal, June 2004.

"Real Options, Capital Structure, and Taxes" Quantitative Methods in Finance Conference, University of Technology, Sydney, with Andrea Gamba and Carmen Aranda Léon, December 2003

"Real Options, Capital Structure, and Taxes" Northern Finance Association Conference, Laval University, with Andrea Gamba and Carmen Aranda Léon, September 2003

"Modeling Electricity Price Risk," Managing Credit and Market Risk, Center for Studies in Actuarial and Financial Economics/ Engineering, (SAFE Centre, University of Verona), June 2003.

"Pricing Electricity Calls," Keynote/Plenary Address, International Finance Conference, French Finance Association, Hammamet-Yasime, Tunisia, March 2003.

"Pricing Electricity Calls," Quantitative Methods in Finance, Sydney December 2002

"Will Real Options Ever Get the Respect they Deserve?", Keynote Address, 6th Annual Real Options Conference, Cyprus July 2002.

"Pricing Electricity Calls," University of Venice, Italy June 2002

"Pricing Electricity Calls," Centre for Interuniversity Research and Analysis on Organizations (CIRANO), Montreal 2002

"Applying Real Options to Assessing Proven Undeveloped Petroleum Reserves" 5th Annual Real Options Conference, UCLA 2001

“Real Options” Institute for International Research, Geneva, 2001.

"Integrating Real Options with Risk Management Strategies" International Quality and Productivity Centre, Chicago, 2000

"Pricing Electricity Calls" Northern Finance Association Conference, Wilfrid Laurier, 2000

"Pricing Electricity Calls" Fourth Annual Real Options Conference, Cambridge UK, 2000

"Real Options in Emerging Markets" Institute for International Research, London, 2000

"Real Option Analysis: Techniques for Valuation" International Quality and Productivity Centre, Toronto, 2000

"Using Spreadsheets to Evaluate Real Options" Real Options Group, New York, 2000

"Natural Hedging in Resource Industries" Institute for International Research, London, 2000

"Natural Hedging in Resource Industries" Institute for International Research, New York, 1999

"Natural Hedging in Resource Industries" UNICOM Seminars, London, 1999

"Real Options for Managing Risk" Central Bank of Cyprus Lecture, University of Cyprus, 1999

"Real Options for Managing Risk" Judge Institute for Management Studies, Cambridge University, 1999

"Real Options for Managing Risk" High Performance Computing in Finance Conference, Ischia Italy, 1999

"Real Options for Managing Risk" Erasmus University (Rotterdam), 1999

"Real Options for Managing Risk" Aarhus Univesity (Denmark), 1999

"Real Options for Managing Risk" Univesity of Alberta, 1999

"Real Options for Managing Risk" McMaster University, 1998

“Real Options for Managing Risk: Distributional Comparisons” at Real Options: Theory Meets Practice, Northwestern University and Ernst & Young LLP, 1998

"Real Options in the Aerospace Industry" SDA Bocconi University (Milan), December 1998

“Case on Real Options in the Aerospace Industry” at Real Options: Theory Meets Practice, Northwestern University and Ernst & Young LLP, 1998

“Real Options” Research and Technology Group, Boeing, 1997

“Real Options” presentation to Stern Stewart & Co., 1997

“Workshop on Binomial Option Valuation Spreadsheets and use of Real Options as a Risk Management Tool” at Real Options: Theory Meets Practice, Columbia University and Ernst & Young LLP, 1997

“Petroleum Project Options” at Real Options: Theory Meets Practice, Columbia University and Ernst & Young LLP, 1997

“Taxes and the Cost of Capital” at Ibbotson Associates Cost of Capital Conference, 1977

“Real Options” at Institute for Operations and Management Science (INFORMS), Singapore, 1995

“Real Options” at Canadian Operations Research Society, 1995

“Real Options” at Baruch College, 1994

“Real Options” at University of Connecticut, 1994

“The Turn-of-the-Month Effect in the U.S. Stock Index Futures Markets, 1982-1992” at Chicago Board of Trade Research Seminar,1993

“Economies of Scale and Economies of Scope Amongst On-Balance-Sheet and Off-Balance-Sheet Activities of Large U.S. Banks,” Administrative Sciences Association of Canada, 1992

“Economies of Scale and Economies of Scope Amongst On-Balance-Sheet and Off-Balance-Sheet Activities of Large U.S. Banks,” Financial Management Association, 1991

“Pricing Risky Land: The Option to Develop,” Western Finance Association, 1991

“Valuing Long-Term Leases: The Option to Redevelop,” University of Illinois (Chicago), 1991

"The Pricing of Leased and Fee-Simple Land," Administrative Science Association of Canada, 1991

"Marginal Tax Rates Implied in Financial Security Prices," "The Timing of Cash Flows and Related Taxes," Northern Finance Association, 1990.

"Marginal Tax Rates Implied in Financial Security Prices," "The Timing of Cash Flows and Related Taxes," Administrative Science Association of Canada, 1990.

"Real Options," Northern Finance Association, 1989

"Tax-Adjusted Discount Rates," TIMS/ORSA 1989

"Tax-Adjusted Discount Rates," Western Finance Association 1989

"Risk and Return in Land Markets," ARUEA (American Real Estate and Urban Economics Association), 1988

"Risk and Return in Land Markets," TRED (Committee on Taxation, Resources, and Economic Development), The Lincoln Institute of Land Policy, Cambridge, 1988

"Multi-period risky project valuation," University of Texas, Dallas, 1988

"Multi-period risky project valuation," University of Illinois, Champaign-Urbana, 1987

"Multi-period risky project valuation," Pennsylvania State University, 1987

"Multi-period risky project valuation," TIMS/ORSA, 1986

Western Finance Association Meetings, 1979, 1982

American Finance Association Meetings, 1979, 1982

York University, 1985

University of Waterloo, 1985

New York University, 1984

University of Washington, 1984

Yale School of Organization and Management, various occasions

University of British Columbia, various occasions

Honours and Awards Accepted

Selected as the keynote speaker for the Sixth Annual Real Options Conference, Cyprus, 2002

Lead Researcher on TransAlta research grant to Faculty of Management Asset Pricing Group (2001-2003)

Social Sciences and Humanities Research (SSHRC) Award 1994-1998.

Honourable Mention for Best Finance Division Paper, Administrative Sciences Association of Canada, 1992.

Future Fund Research Fellowship (U. of Calgary), 1991.

Honourable Mention for Best Finance Division Paper, Administrative Sciences Association of Canada, 1990.

AEC Research Fellowship (U. of Calgary), 1990.

AEC Research Grant (U. of Calgary), 1990-91, with J. Rungkasiri, P. Chang and A. Nathan.

Social Sciences and Humanities Research (SSHRC) Award, 1988-89, with W. T. Ziemba.

Humanities and social sciences research grant (UBC), 1987 – 1988.

International business studies grant (UBC) 1987 – 1988.

J.D. Muir research grant (U of Alberta), 1983 – 1986.

Canada Council and Social Sciences and Humanities Research Council Fellowships, 1976 – 1979.

Samuel Bronfman Award, 1975 – 1976.

University of British Columbia Graduate Fellowship, 1975 – 1976.

Ontario Graduate Fellowship, 1973 – 1974.

Home Oil Centennial Scholarship, 1967 – 1971.

Academic and Professional Activities

Coach of the U of Calgary Team at the Rotman International Trading Competition (RITC), 2004-2005, 2012-2016. Calgary placed 5th, 4th and 3rd out of 50 teams, from 2014-2016

Board Member, Calgary Portfolio Management Trust, 1995-2000, 2006-2016

Vice-President and Program Chair, Northern Finance Association, 2013-14

Co-founder, Northern Finance Association, as an incorporated society, September 2012

Chair, Finance Area, Haskayne School of Business, University of Calgary (January 2007 - June 2009)

Chair, Northern Finance Association 2008 Conference

Director of Calgary Society of Financial Analysts 2000

Book Review Editor, *Journal of Finance*, 1999-2003

Conference Co-Chair, Northern Finance Association 1999 Conference

Co-Director, Mathematical Finance Laboratory, University of Calgary (Mathematics Department and Mangement Faculty) 1997-1999.

Director of the Financial Management Association (1994-96).

Chair, Finance and Operations Management Area, Faculty of Management, University of Calgary (1990-1994).

Chair, Faculty of Management Employment Equity Committee, University of Calgary (1993-1994).

Research Advisory Committee, Faculty of Management, University of Calgary (1989-1991).

Associate editor of *Management Science* (1982-1997).

Director of the Western Finance Association (1989-91).

Finance Division Program Chair, Administrative Sciences Association of Canada (1991).

Referee for the *Journal of Financial Economics*, *Journal of Finance*, *Journal of Financial and Quantitative Analysis*, *Financial Management, Financial Review*, *Journal of Financial Research, American Economic Review*, *International Economic Review, Journal of Economic Theory, Journal of Real Estate Finance and Economics, Canadian Journal of Administrative Sciences, Contemporary Accounting Research, Information Systems and Operations Research, Canadian Journal of Agricultural Economics*.

Member of the program committee for the Western Finance Association Meetings (1983 – 1990, 1992, 1993).

Member of the program committee for the Financial Management Association Meeting (1994).

Member of the Undergraduate Program Review Task Force, Faculty of Business, University of Alberta (1984 – 1986).

Co-director of the Institute for Financial Research at the University of Alberta (1986).

Volunteer Activities

Inaugural Board Member of the Northern Finance Association 2013-2014

Treasurer, Equal Futures 2011

President, The Road Ahead Society of Calgary (2009-2010)

Vice President, The Road Ahead Society of Calgary (2005-09)

Photo Website and Photo/Video DVD Developer for Canada Wide Science Fair (2003)

President, Alberta Centre on Entrepreneurship and Disability (2000-2001)

Treasurer, Alberta Centre on Entrepreneurship and Disability (1998-2000)

Director, Developmental Disability Resource Centre, formerly Calgary Association for the Mentally Handicapped (CAMH), 1989-94; President, 1991-92.
Director, Alberta Institute for Mental Retardation (AIMR), 1992-93.
Director and/or Member of Executive Committee, Alberta Association for Community Living (AACL), 1992-94.
Director, Computer Learning Information Center (CLIC), Calgary 1990-91.

Graduate Student Supervision

External Examiner, Hanchao Liu, MSc (Mgt), U of Lethbridge, 2019
External Examiner, Ali Bashiri, PhD Thesis Defense, U of Toronto (Chemical Engineering), 2018
External Examiner, Temitope Onifade, Master of Laws Thesis Defense, U of Calgary, 2016
External Examiner, Kunlin Hao, MSc Thesis Defense, U of Calgary Mathematics, 2016
External Examiner, Elham Negahdary, PhD Thesis Defense, U of Calgary Mathematics, 2015 and 2016
External Examiner, Reas-us Salam Elias, PhD Thesis Defense, Ryerson University Engineering, 2015
Supervisory Committee, Mathew Couch, PhD Candidate, U of Calgary Mathematics, 2015
External Examiner, Zachary Moyer, MSc Thesis Defense, U of Calgary Mathematics, 2015
External Examiner, Dimbinirina Ramarimbahoaka, PhD Thesis Defense, U of Calgary Mathematics, 2014
External Examiner, Rui Wan, PhD Thesis Defense, U of Calgary Economics, 2014
External Examiner, Libo Xu, PhD Candidacy exam, U of Calgary Economics, 2013
External Examiner, Ali Jadidzadeh, PhD Candidacy exam, U of Calgary Economics, 2013
PhD Committee of Neal Gledhill (Interdisciplinary Studies, U of Calgary) 2013-2015)
PhD Committee, Andrew Butt (Interdisciplinary Studies, U of Calgary), 2008 to present
External Examiner, PhD Candidacy Examination of Jennifer Winter, U of Calgary Economics, March 2009
External Examiner, Xuequn Wang, PhD Candidate, University of Alberta, September 2007
Faculty Opponent, Francisco Alcraz Garcia (PhD Finance, Åbo Akademi University, Finland) December 2006.
External Committee Member, Cristina Sommacampagna (PhD Finance, U. Verona) September 2003 – 2005.
External Examiner, Lei Xiong (Msc Mathematics), August 2004.
Supervisor, Yuanshun Li (PhD Finance) September 2003 – 2009 (successful defense May 2009).
External Examiner, Patrick McDonald (MA Economics), University of Calgary, 2003
External Examiner, Emanuel Haven (PhD Finance), Concordia University, 2002
External Examiner, Ricardo Rangel-Ruiz (MA Economics), University of Calgary, 2000
PhD Committee, Karen Sharp (PhD, Finance), University of Calgary, 2000-2005
PhD Committee, Gordana Dmitrasinovic-Vidovic (PhD, Mathematics), University of Calgary, 1999-2004
External Examiner of Hilda Wong (MSc Thesis Defense, Mathematics), University of Calgary, 2000
External Examiner of Roger Mamon (PhD Thesis Defense, Mathematics), University of Alberta, 2000
Supervisor of Priya Parthasarathy, (Thesis MBA), University of Calgary, 1998-2000.
External Examiner of Periklis Gogas (PhD Thesis Defense, Economics), University of Calgary 2000.

External Examiner of Periklis Gogas (PhD Candidacy Examination, Economics), University of Calgary 1998.

External Examiner of Sean McGrath (MA, Economics), University of Calgary, 1998.

External Examiner of Richard Schorn (MA, Economics), University of Calgary, 1996.

Co-Supervisor of Yuriy Schkolnikov (Postdoctoral Fellow, Mathematical Finance), University of Calgary 1998

Co-supervisor of Darryl Stackhouse (PhD, Finance), University of Calgary, 1995-1999.

Supervisor of James Brown (PhD, Finance), University of Calgary, 1995-2002.

External Examiner of David Krause (MA, Economics), University of Calgary, 1995

External Examiner of Frances Lowe (MA, Economics), University of Calgary, 1995

Exernal Examiner of Shawn Liu (PhD Statistics), University of Calgary, 1994

External Examiner of Paul Dormaar, (MA, Economics), University of Calgary, 1993

Interim Supervisor of Guanping Du, Ph.D. candidate (Finance), University of Calgary, 1993-1994.

Interim Supervisor of Venkatesh Mohan, Ph.D. candidate (Finance), University of Calgary, 1993-1994.

External Examiner of Victor Kitange, (M. Economics), University of Calgary 1993.

Supervisor of Eric Kaul, MBA candidate (Finance), University of Calgary, 1992-present.

Interim Supervisor of Bing Shui, Ph.D. candidate (Finance), University of Calgary, 1991-1992.

External Examiner of Garth Renne, M.A. (Economics), University of Calgary, 1992.

External examiner of M. MacDougall, M.A. (Economics), University of Calgary, 1991.

External comprehensive examiner of K. Yuen, Ph.D. candidate (Statistics), University of Calgary, 1991.

Dissertation committee member of L. Sankarsubramanyam, Ph.D. (Finance), University of British Columbia, 1988.

Dissertation committee of Yuming Li, M.Sc. (Management Science), University of British Columbia, 1988.

Dissertation supervisor of D. Downie, M.Sc. (Finance), University of British Columbia, 1988.

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