



Christopher Ferrall

Professor of Economics

CV

Current

Position: Professor, [Department of Economics, Queen's University](#)

Research Interests: Computational economic policy analysis.

Citizenship: USA; Permanent Resident of Canada

Personal: Married; 3 children.

Education

Ph.D., [Economics, University of Minnesota](#), 1990.

Thesis: [Agents Becoming Principals: Theory And Estimation of a Tournament Model Of Promotions In Partnerships](#). Advisor: [Kenneth I. Wolpin](#)

B.A., [Economics](#) and [Computer Science, University of Wyoming](#), 1984.

Publications

Refereed Publications

[Object Oriented \(Dynamic\) Programming: Closing the "Structural" Estimation Coding Gap](#), accepted for publication, *Computational Economics*, January, 2022.

The Role of University Characteristics in Determining Post-Graduation Outcomes: Panel Evidence from Three Canadian Cohorts, with [Julian Betts](#) and Ross Finnie, [Canadian Public Policy](#) 39, 81-106, May, 2013.

[Explaining and Forecasting Results of The Self-Sufficiency Project](#), [Review of Economic Studies](#), 79(4), 2012, 1495-1526. doi:10.1093/restud/rds008.

[Modeling the value of strategic actions in the Superior Colliculus](#), by Dhushan Thevarajah, Ryan Webb, Christopher Ferrall and Michael C. Dorris, **Frontiers in Behavioral Neuroscience**, 3, 57, February, 2010, 14 pages, doi: 10.3389/neuro.08.057.2009.

[Solving Finite Mixture Models: Efficient Computation in Economics under Serial and Parallel Execution](#), [Computational Economics](#), 25, 4 (June), 343-379, 2005

[*Unemployment Insurance and the Business Cycle*](#), with [Laura Brown](#), [International Economic Review](#), 44, 3 (August), 863-894, 2003.

[*Wage and Test Score Dispersion: Some International Evidence*](#), with [Kelly Bedard](#), [Economics of Education Review](#), 22, 1 (February), 31-43, 2003.

[*A Sequential Game Model of Sports Championship Series: Theory and Estimation*](#), with [Anthony A. Smith, Jr.](#), [Review of Economics and Statistics](#), LXXXI, November 1999, 704-19.

[*Incentives and Transactions Costs Within the Firm: Estimating an Agency Model Using Payroll Records*](#), with [Bruce Shearer](#), [Review of Economic Studies](#), 66, 2, 309-338, 1999.

[*Endogenous Work Hours and Practice Patterns of Canadian Physicians*](#), with [Allan Gregory](#) and William Tholl, [Canadian Journal of Economics](#), 31, 1, 1-27, 1998.

[*Unemployment Insurance Eligibility and the Transition from School to Work in Canada and the United States*](#), [Journal of Business and Economic Statistics](#) 15, 2, April, 1997, 115-129.

[*Empirical Analysis of Occupational Hierarchies*](#), [Journal of Human Resources](#) 32, 1, 1-34, Winter 1997.

Routines to Maximize a Function in Stata, [Stata Technical Bulletin](#), 38, July, 1997, 22-26.

[*Promotions and Incentives in Partnerships: Evidence from Major U.S. Law Firms*](#), [Canadian Journal of Economics](#) 29, 4, 1996, 811-827.

Interactive Statistics Tutorials in Stata, [Journal of Statistics Education](#), Vol 3, 3, 1995.

[*Levels of Responsibility in Jobs and the Distribution of Earnings Among U.S. Engineers, 1961-1986*](#), [Industrial and Labor Relations Review](#), Vol. 49, No 1, October 1995, 150-169.

Other Publications

[niqlow](#) software package.

[*C⁴E: Computation for Economists*](#), online textbook.

[*Should I Stay or Should I Go ... North? First Job Location of U.S. Trained Doctorates 1957-2005*](#), with Natalia Mishagina, QED working paper 1194, January 2009, (updated July 2010).

[*Wages and Seniority When Coworkers Matter: Estimating a Joint Production Economy Using Norwegian Administrative Data*](#), with Kjell Gunnar Salvanes and Erik Ølif Sørensen, QED working paper 1200, April 2009.

[*Estimation and Inference in Social Experiments*](#), 2004, 55 pages.

[*The Transition to Work for Canadian University Graduates: Time to First Job, 1982-1990*](#) with Julian Betts and Ross Finnie, Statistics Canada research report #141, 2000.

[*Human Capital Theory and the Life-Cycle Pattern of Learning and Earning, Income and Wealth*](#), with David Andolfatto and Paul Gomme, working paper, May, 2000.

Policies for Improving Public Schools, with Julian R. Betts, **Policy Options** 18, 6, July/August, 1997, 35-39.

Non-linearity in Rates of Assimilation Among Canadian Immigrants, with Stella Cheung and Gregory Matthews, in **North American Labour Markets in Transition**, M. Abbott, C. Beach, and R. Chaykovsky (eds.): Industrial Relations Centre and John Deutsch Institute, Queen's University, 1997.

[*A Review of Stata 3.1*](#), **Journal of Applied Econometrics**, vol. 9, 1994, 469-477.

Pay-for-Performance in Mining: An Analysis of Historical Data on Production Bonuses, with Bruce Shearer, **CRS Perspectives**, 46 September/October, 1993, 2-12.

Work in Progress

[*Was Harold Zurcher Myopic After All? Replicating Rust's Engine Replacement Estimates*](#), QED Working Paper 1467, 2021, revision requested, January 2022.

[*College Choice, Credit Constraints and Educational Attainment*](#)," manuscript, with Michael Barber, manuscript, July 2021.

Post-secondary Programs, Progress and Payment in Canada, with Melanie Yin.

Is Learning Its Own Reward? Estimating an Agency Model of Teaching, Testing and Incentives.

Supervision

PhD Students

NOTES: *: awarded the annual Curtis Prize for best QED thesis within the last two years. +: Designated Social Sciences Outstanding Thesis.

Bruce Shearer

Professor, [Department of Economics](#), Laval University. Ph.D., December 1994.

Title: *Empirical Models of Labour Market Incentives: Applications to the Britannia Copper Mine*. (co-supervisor: [Charles Beach](#)).

Lisa Powell

Professor and Director of Health Policy and Administration, [Institute for Health Research and Policy](#), University of Illinois at Chicago. Ph.D., July 1995.

Title: *Child Care and Female Labour Supply* (co-supervisors: [Charles Beach](#) and [Tom Crouhene](#)).

Kelly Bedard

Professor, [Department of Economics](#), University of California at Santa Barbara. Ph.D., September 1996.

Title: *The Structure of Education and the Distribution of Wages**

Laura Brown

Associate Professor, [Department of Economics](#), University of Manitoba. Ph.D., December 1996.

Title: *An Equilibrium Model of Unemployment Insurance in a Cyclical Economy*.

Christopher Auld

Associate Professor, [Department of Economics](#), University of Victoria. Ph.D. June, 1999. Title: *Three Essays on the Economics of Health-Related Behaviour**

Raymond Yeung

Chief China Economist, [ANZ Banking Group](#). Ph.D. September 1999.

Title: *Towards a Family Model of the Labour Market Behaviour of Immigrants: Estimates of a Discrete Choice Dynamic Programming Model*.

Andrew Leach

Associate Professor, School of Business, University of Alberta. Ph.D. December 2003. Title: *Three Papers on the Economics of Climate Change**

Kathleen Rybczynski

Associate Professor, [Department of Economics](#), University of Waterloo. Ph.D. December 2005.

Title: *Gender Differences In Self-Employment: The Contribution of Credit Constraints and Risk Aversion to Self-Employment Entry, Duration, and Earnings in Canada*.

Erik Ø. Sørensen

Associate Professor, [Department of Economics](#), Norwegian School of Economics and Business Administration (NHH), dr. øcon January 2006.

Title: *Essays on the production of human capital* (supervisory committee member).

J. F. Houde

Associate Professor, [Department of Economics](#), University of Wisconsin, Ph.D. July 2006.

Title: *An Empirical Investigation of Spatial Differentiation and Price Floor Regulations in Retail Markets for Gasoline*⁺ (co-supervisor Susumu Imai).

Natalia Mishagina

Research Director, [Institute for Research on Public Policy](#), Ph.D. September 2009.

Title: [Labor Market Behavior of Sciences and Engineering Doctorates: Three Essays](#). (co-supervisor Susumu Imai).

Pamela Cardozo

Researcher, [Central Bank of Colombia](#), Ph.D. December 2009.

Title: [Bidders' Behaviour and Theory of Share Auctions with Applications to the Colombian Primary Bond Market](#).

David Byrne

Associate Professor, Department of Economics, University of Melbourne, Ph.D., December 2010.

Title: *An Empirical Study of the Causes and Consequences of Mergers in the Canadian Cable Television Industry*^{*} (co-supervisor Susumu Imai).

Ryan Webb

Associate Professor, Rotman School of Business, University of Toronto, Ph.D., June 2011.

Title: *Towards a Neural Measure of Value and the Modelling of Choice in Strategic Games*, (co-supervisor Michael C. Dorris).

Michael Barber

Adjunct Lecturer, Department of Economics, Queen's, Ph.D., December 2018.

Title: *Inequalities in Educational Choice and Outcomes*

Other Supervision

Queen's Visiting Research Student

Nibene Habib Some, Laval, 2013-4

Modibo Sidibe, Lyon, 2009-10

Erik Ø. Sørensen, NHH, 2001-1

M.A. Essays (with last known position)

Melanie Yin (2021, Treasury Board); Kyle Owens (2020); Andrew Balcom (2019); Rosemary Cockshutt (2018, ESDC); Steven Whitlow (2018, PhD Student, Queen's); Diana Manzi (2017, Columbia Pacific Consulting); Kartikeya Sinha (2017); Jennafer Hartman (2017, ESDC); Firrisaa Abdugarim (2017) ;

Eric Richert (2016, PhD Student, Queen's) ; Alex Sernoskie (2016) ; Sinduja Vivekananthan (2015) ; Francis Bergeron (2015) ; Calvin Pritchard (2014) ; M-A Bisailon (2014) ; Haiyun Du (2014) ; Jenny Watt (2013, Stats Can) ; Danqing Yao (2013, PhD student, BU) ;

Liam Mulligan (2010) ; Christopher Jones (2010, TD Canada Trust) ; Michael Barber (2009, Adjunct Lecturer, Queen's) ; Patrick Day (2009, Gov. of British Columbia) ; Craig Galbraith (2008) ; Bernice Lau (2006, Industry Canada) ; Ying Shang (2006, PhD student, Queen's) ; Konrad Zmitrowicz (2006, Bank of Canada) ;
 Mishagina, Natalia (2002, Research Director, IRPP) ; Tim Prendergast (2002, Statistics Canada) ; Carrie Lee (2001) ; Michelle Reinsborough (2001, Environment Canada) ; Adam Slade (2001) ; Karen Buhr (2000, Asst. Professor, U. of Maine) ; Kevin Gale (2000) : Francois Goulet (2000, Industry Canada) ; Emmanuel Asiedu (1999, Government of Ghana) ; Ronald Oertel (1999, Visiting Professor, Western Washington) ; Jerome Mercier (1999, HRSDC) ;
 Shawn Peddie (1996, Government of Alberta), ; Adrienne Ten Cate (1996, HRSDC) ; Stella Cheung (1994, Bank of Canada), ; Scott Daniels (1994) ; Christine Hinchley (1994, Statistics Canada), ; M. Christopher Auld (1993, Professor, U. Victoria) ; Kelly Bedard (1993, Professor, UC-Santa Barbara) ; Matt Cumberworth (1992).

Honours B.A. Theses

Kate Burnett (BaH 2010), co-supervisor; Jefferson Dougherty (BaH 1995); Greg Matthews (BaH 1995)

Ph.D. Comprehensive Exam Committee Membership (*=chair)

Public Finance (F90, S91)

Labour (F91, *S92, *F94, *S96, F97)

Micro Theory (S94)

Econometrics (S96, S97)

Oral Exam Committee Membership (*=chair)

External Ph.D.

Oskar Blom Vastberg, Transportation Science, KTH Stockholm (2018). Erik Ø. Sørensen, Norwegian School of Economics (2006).

Ph.D. at Queen's

Paula Peare; David Scoones; Nicolaus Marceau; Wendy Louise Pirie (Management); Myles Corak; Urvashi Dhawan; Irene Chan; *X. Lu (Management); Ryan Davies; Xin Zhang (Management); *Matthew Williams (Political Studies); Jason Allen; David Milstein (Neuroscience); Dorte Heger; Jeffrey Penney; Richard Isaac; *Francis Atampore (CISC); *Michael Wynes (Management)

MA/MS

Don Franklin (Psychology); Hyunmo Pang (Psychology); Dhushyanthan Thevarajah (Centre for Neuroscience Studies); *Jacques Menard (Law); *C. F. Green (Political Studies); *Lucinda Fisher (Law)

B.A. / M.A. Essay Reader

Rohan Gaghadar; Jashan Singh Narhan (SIR); C. Paradis; A. Sfeir-Camarena; Loren Vazquez-Zubieta; Marcell Cormier; Jeong Im Kim; Maria Muir; Daniel Kearns; colette Kaminsky; Eric Stephens; Maria Gubaydullina; Ravi Amarnath; David Goodwin; Micahel Medvedoski, Isabella

Mira

Experience

Current

Professor of Economics, Queen's University, 2012.

Previous

Director, John Deutsch Institute for the Study of Economic Policy, 2009-16.

Associate Professor of Economics, Queen's University, 1999-2012.

Adjunct Associate Professor of Economics, [New York University](#), Fall 2001.

Research Fellow, [SNF](#), Bergen, Norway, 1998-00.

Guest Professor, Dept. of Economics, [Norwegian School of Economics](#), F2000.

Assistant Professor, Queen's University, July, 1991 - June, 1999.

Guest Professor, Dept. of Economics, [Norwegian School of Economics](#), 1997-98.

Visiting Assistant Professor, [GSIA, Carnegie Mellon University](#), 1992-93.

Lecturer, Queen's University, 1990-1991.

Summer Research Fellow, [Mitsui Marine](#) Research Institute, Tokyo, Japan, 1991.

Teaching Assistant, Univ. of Minnesota, 1985-1990

Consultant, [World Bank](#), 1988, [see Rosenzweig and Wolpin, JPE 1993](#)

Visiting Scholar, Department of Economics, Univ. of Michigan, 1987

Research Assistant, [Univ. of Michigan](#) and [NBER](#), 1987

Research Assistant, Department of Economics, Univ. of Wyoming, 1985, [see Brookshire and Coursey, AER 1987](#)

Instructor, Department of Computer Science, Univ. of Wyoming, 1985

Research Assistant, Department of Agricultural Engineering, Univ. of Wyoming, 1984, [see Pochop et al. \(1984\)](#).

Conference and Seminar Presentations

2021

Dynamic Structural Econometrics (online), Canadian Econometric Study Group (online)

2019

Guelph

2014

Dalhousie

2013

Federal Reserve Bank of Minneapolis, U. Minnesota

2012

UC-Santa Barbara

2011

Summer Institute for Theoretical Economics ([Segment 2](#)).

2010

Seminars: Federal Reserve Bank of New York

2009

Seminars: McMaster, Western Ontario, NYU

2008

[Joint CLSRN and HRSDC Workshop](#), Toronto

Seminars: Calgary, Oslo

2007

Seminars: Penn, Wisconsin, ITAM, Bank of Canada, Duke.

2005

Structural Models in Labor, Aging, and Health, Duke;

2004

Labor Market Policy Evaluation, Seville;

Seminars: CEMFI (Madrid), Northwestern, Northern Illinois, HEC-Montreal, Federal Reserve Bank of Chicago, Minnesota, Concordia.

2003

Econometrics Society, Washington; Human Capital, Productivity And The Labour Market, Western Ontario;

Seminars: Chicago.

2002

Society for Economic Dynamics, New York; Canadian Econometrics Study Group, Quebec; Seminars: Federal Reserve Bank of Chicago, Brown, Concordia.

2001

[Society for Computational Economics](#), Yale; [Canadian Economics Association](#), Montreal; [HPCVL Symposium](#), Kingston;

Seminars: Penn State, Laval, NYU, SUNY-Stony Brook.

2000

[The Econometrics of Strategy and Decision Making](#), Yale; [EALE/SOLE World Labor Conference](#), Milan; "Economic Analysis of Linked Employee-Employer Data", Aarhus; Labour Market and Employment (plenary session), Oslo;

Seminars: Iowa, Minnesota, Oslo, Tinbergen Institute

1999

[North American Winter Econometric Society Meeting](#), New York.

1998

CERF Conference on Labour Market Transitions, Ottawa;

Seminars: Bergen, IIES Stockholm, Uppsala, NYU.

1997

Seminars: Tilburg, Amsterdam, Edinburgh, Leeds, Stirling, Aberdeen, Glasgow, Norwegian School of Economics.

1996

International Health Economics Association, Vancouver;
Seminars: McMaster, Carnegie Mellon - Pittsburgh Applied Micro Workshop, University of California-San Diego.

1995

North American Labour Markets in Transition, Fettschrift for Steve Kaliski, Kingston; Summer Institute for Theoretical Economics, Stanford; Econometrics Society Meetings San Francisco; Seminars: Guelph, Laval, UQAM, U. Western Ontario.

1994

Canadian Employment Research Forum (Calgary); Econometrics Society Meetings (Quebec); Seminars: Wilfrid Laurier, Lakehead

1993

Canadian Employment Research Forum (Vancouver); Econometrics Society Meetings (Boston); Seminars: Michigan

1992

Incentives and Contracts: Theory and Evidence, (U. of Montreal); Seminars: Toronto, McMaster, Carnegie Mellon

1991

Canadian Econometrics Study Group (Quebec); Seminars: Concordia, McGill

1990

Empirical Application of Structural Models, University of Wisconsin; Seminars: Queen's, Toronto.

Grants and Research Contracts

SSHRC/CIHR

SSHRC Strategic Joint Initiatives, no. 840-2010-0001, "Canadian Research Data Centre Network: Integrating New Initiatives for a Stronger Future", 2010-2014, approximately \$25,000 per year to Queen's; Role: co-investigator.

CIHR Grant, Canadian initiative on social statistics (CISS) data training schools and research training centres, 2010-2014, approximately \$25,000 per year to Queen's; Role: co-investigator.

Initiative on the New Economy Research Grant, no. 501-2002-0123, "Public Policy Implications of Workplace and Household Interactions in the New Economy," \$172,620, 2003-05; Role: PI
Research Grant, "Econometrics of labour-market incentive contracts," \$57,994; Role: Collaborator; (PI: Bruce Shearer).

Research Grant, no. 410-99-1533, "Matching Models and Matched Data Sets," \$39,330, 1999-02; Role: PI

Strategic Grant, no. 884-95-0002, "School Quality, Educational Attainment, and Success in the Labour Market," \$94,626, 1995-99; Role: PI

Research Grant, no. 410-92-0791, "Structural Estimation: Information and Labour Market Incentives," \$33,211, 1992-96.

Other Agencies

Canada Foundation for Innovation (Innovation Fund) (\$12,836,440) and *Ontario Ministry of Economic Development and Trade* (matching grant \$12,836,440), "A Secure Multidisciplinary High Performance Computing Virtual Laboratory for Innovative Research," (one of 10 principal investigators), 2004.

Research Contracts

HRSDC, Labour Market Outcomes and Determinants of Success for the Integration of Internationally-educated Immigrants in the Canadian Labour Market: A Quantitative Study, 2014.

Canadian Labour Market and Skills Researcher Network, "This is Cranial Tap: Canadian Outsourcing of Doctorate Education Since 1958," \$15,000.

Human Resource Development Canada and Social Research Demonstration Corporation, "The Dynamics of Income Assistance," 2 years, \$11,500.

Statistics Canada, "The Role of University Quality in Determining Post-Graduate Outcomes: Panel Evidence from Three Recent Canadian Cohorts," with Julian Betts (principal investigator) and Ross Finnie, 1 year.

Statistics Canada, "The Transition to Work for the Canadian Graduate: Time to First Job, 1982-1990," with Julian Betts and Ross Finnie, 1 year, \$5000.

Queen's

Fund to Create Open Textbook, "Computation for Economics," \$7500, 2019-2020.

Principal's Development Fund, "A HyperText Course in Econometrics," \$2500, 1995-96.

Centre for Resource Studies, "Incentives, Risk and Optimal Extraction in the Mining Firm," with Bruce Shearer, \$4800, 1991.

Advisory Research Council and Principal's Development Fund, "Empirical Analysis of Occupational Hierarchies," \$2300, 1990.

Teaching

Current

- [Applied Econometrics](#)
- [C4E](#)
- [Phd-Econ-Boot Camp](#)

Previous Teaching

Graduate

Econ 999: PhD Seminar (1/2 98-00, 03-05, (Full 06), 1/2 07-08, F18

Econ 960: Advanced Topics in Labour Economics (F90-91, F93-94, 1/2 F95)

Econ 950/1/4: Advanced Topics in Econometrics / Quantitative Economics (1/2 F95, NHH F00, F02, W99, W01, W09, F11, F12, W14)

Econ 916: Advanced Topics in Macroeconomics (W07)

Econ 882: Research Problems and Methodology (W13, W14)

Econ 860/1: Labour Economics (W91-92, 1/2 in F94, W94-96, NHH W98, F98, W00-02, NYU F01, W06, F14, W16- W18)

Methods Review (MA \& PhD): F01, F03-04, F07-18

Undergraduate

Econ 483/6: Seminar in Microeconomics (W03, W06, W08, W09)

Econ 360: Labour Economics (W99, W00, W03)

Econ 452: Applied Econometrics (F99, W00, W01, F14, F15, W17-18)

Econ 354: Computational Methods (W16, F16, F17, F18)

Econ 351: Introductory Econometrics (F90-91, FW94-95, W96, F09-10, W10-11)

Econ 212: Intermediate Microeconomics (F93, CMU F92 W93)

Administration and Service

Community

Member, Ontario Graduate Schools Scholarship Committee (2008-9)

Member, Sun Microsystems / [HPCVL](#) Scholarship Committee, 2001-4.

University

Member, Senate Committee on Cyclical Program Review (2015-8)

Member, Executive Committee, Data Analytics and Computing Research Group

Member, Steering Committee, Queen's Research Data Centre (2013-)

Member, Graduate School Awards Committee (2010)

Acting Director, Queen's Collaborative Graduate Program in Computational Science and Engineering (2009)

Arts and Sciences Award Committee (Member, 2008-11, Chair 2009-11)

Chair, Internal Academic Review Committee, School of Computing (2006-7)
Academic Director, Queen's Research Data Centre (2004-11)
Member, Steering Committee, Queen's Research Data Centre (2012-)
Member of High Performance Computing Review Committee (2006-)
Member of Management Committee & Departmental Representative, Queen's Collaborative Graduate Specialization in Computational Science and Engineering (QCSE) (2005-10)
Organizing Committee, QCSE (2002-4)
Chancellor's Award Committee (2004,06,07,12,14)
Arts & Sciences Computing Committee (2001-4, Chair 2001-4)
Economics Headship Search Committee (1999-00)
Dean's Library Advisory Committee (1997)
Document Library Data User Group (1997)
Review of Faculty of Education Committee (1996)
Sub-committee on Numerically Intensive Computing (1994-95)
Queen's Numerically Intensive Computing Group (1996-)
School of Industrial Relations Advisory Board (1993-)
Task Force on Student Notebook Computing (1996)

Department

Chair, Scarthingmoor Prize Committee (2012-3)
Member, Visitors Committee (2011)
Director, John Deutsch Institute (2009-2016)
Member, Curtis Prize Committee (2009, 2015, 2017)
Director, PhD Placement (2005-2009, 2014-2015)
Member, Graduate Admissions (2018)
Faculty Appointments Committee (1998-00, 2006, 2013-14)
QNS in Neuroeconomics Search Committee (2017-18)
Computing Committee (1994-2002, Chair 95-96)
Undergraduate Studies (1995-97)
Quantitative Workshop (1993-94,98-00)
Undergraduate Advisor (1993-94, 2001-2)