

**Christopher Ferrall**

Professor of Economics

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## 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

*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.

*C<sup>4</sup>E: 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. Chaykowsky (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.

[\*Object Oriented \(Dynamic\) Programming: Replication and Innovation in Structural Estimation\*](#), QED working paper 1432, June 2020, revision submitted, November 2021.

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

*Post-secondary Programs, Progress and Payment in Canada.*

*The Empirical Dynamic Programming Replication Project.*

*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 Crouchene](#)).

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 Abdulkarim (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)