

## Contact Information

Department of Accounting and Business Analytics  
Alberta School of Business  
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University of Alberta  
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Website: <https://apps.ualberta.ca/directory/person/cribben>

## Academic Experience

### Alberta School of Business, University of Alberta

Associate Professor (with tenure), Department of Accounting and Business Analytics	2019 –
Xerox Faculty Fellow	2019 – 2020
Associate Professor (with tenure), Department of Finance and Statistical Analysis	2018 – 2019
Assistant Professor, Department of Finance and Statistical Analysis	2012 – 2017
Canadian Utilities Faculty Fellow	2016 – 2017
Pearson Faculty Fellow	2015 – 2016
Xerox Faculty Fellow	2013 – 2014

### University of Alberta

Adjunct Professor, Department of Mathematical and Statistical Sciences	2013 –
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### University of Alberta

Member, Neuroscience and Mental Health Institute	2014 –
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## Visiting Positions

### Centre of Mathematics of the University of Porto (CMUP), Portugal

Visiting Researcher	Sept–Dec, 2018
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### Department of Statistics, Ludwig Maximilian University of Munich, Germany

European Union Erasmus+ Visiting Scholar	Jun, 2016
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### Statistical and Applied Mathematical Sciences Institute (SAMSI), Research Triangle Park, North Carolina, USA

New Research Fellow	Jan–May, 2016
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### Department of Statistics, Macquarie University, Sydney, Australia

Endeavour Fellow	Mar–Jun, 2015
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### Department of Statistics, University of California, Irvine, USA

Visiting Scholar	Apr, 2014
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### Isaac Newton Institute for Mathematical Sciences, University of Cambridge, UK

Visiting Fellow	Jan–Feb, 2014
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### Haas School of Business, University of California, Berkeley, USA

Visiting Scholar, Neuroeconomics Laboratory	Apr–Jun, 2013
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## Education

### Columbia University

Ph.D. in Statistics, 2012

M.Phil. in Statistics, 2010

M.A. in Statistics, 2008

Advisor: Martin A. Lindquist

### University College Dublin

M.Sc. in Applied Statistics, First Class Honours

Thesis: Parties, Politics and Democracy using Multivariate Cointegration

Advisor: Patrick Murphy

### University of Dublin, Trinity College

B.A. in Mathematics, First Class Honours

## Research Grants

“Multilayer networks for modern complex systems” 2021–2022  
Support for the Advancement of Scholarship (EFF-SAS) CAD\$ 7,800  
Role: Principal Investigator

“Censorship in China” 2021  
China Institute Faculty Research Grant CAD\$ 5,000  
Role: Principal Investigator

“Sports Analytics” 2021–2024  
Canadian Statistical Sciences Institute (CANSSI) Collaborative Research Team Project CAD\$ 200,000  
Role: Collaborator

“Networks for Multivariate Time Series” 2020–2021  
Natural Sciences and Engineering Research Council (NSERC) Discovery Grant (DG) Supplement  
CAD\$ 2,880  
Role: Principal Investigator

“Multilayer networks for modern complex systems” 2020–2021  
SSHRC Supplemental Institutional Grant (SIG) CAD\$ 5,000  
Role: Principal Investigator

“Networks for Multivariate Time Series” 2018–2024  
Natural Sciences and Engineering Research Council (NSERC) Discovery Grant (DG) CAD\$ 108,000  
Role: Principal Investigator

“High-dimensional time series” 2019–2020  
Alberta School of Business Xerox Faculty Fellowship CAD\$ 15,000  
Role: Principal Investigator

“Time Series Analysis” 2018  
Centre of Mathematics of the University of Porto (CMUP) Fellowship EUR 2,650

Role: Principal Investigator

“Role of Information Control and Propaganda in China” 2018  
China Institute Faculty Research Grant CAD\$ 4,700  
Role: Principal Investigator

“Extremal Dependence in Electricity Markets and Climate” 2016–2017  
Alberta School of Business Canadian Utilities Faculty Fellowship CAD\$ 15,000  
Role: Principal Investigator

“Stress Testing in the Alberta Business Environment” 2015–2016  
Mitacs Accelerate Fellowship CAD\$ 60,000  
Role: Co-Principal Investigator with Valentina Galvani

“Challenges in Computational Neuroscience” 2016  
SAMSI New Research Fellowship USD\$ 16,700  
Role: Principal Investigator

“Financial Networks” 2015–2016  
Alberta School of Business Pearson Faculty Fellowship CAD\$ 15,000  
Role: Principal Investigator

“Estimating Time Varying Networks” 2015  
Endeavour Executive Fellowship AUD\$ 18,500 Role: Principal Investigator

“Anomaly Detection in Time Series Data” 2014–2015  
HeadCount Grant CAD\$ 20,000 Role: Co-Principal Investigator with Michele Samorani

“Addiction and Mental Health Strategic Clinical Network” 2014–2016  
Alberta Health Services (AHS) Grant CAD\$ 30,000  
Role: Principal Investigator

“Statistics, Genetics and Preferences” 2013–2014  
Alberta School of Business Xerox Faculty Fellowship CAD\$ 12,000  
Role: Principal Investigator

## Editorial Board

Associate Editor, Data Science for Science 2021 –

## Honors

Canada Research Chair (Tier 2) in Banking Analytics (declined) 2018  
Best Paper Award Finalist, 16<sup>th</sup> International Business and Economy Conference 2017  
Yeh Family Fellowship, Columbia University 2011–2012  
Faculty Fellowship, Columbia University 2006–2011  
Howard Levene Outstanding Teaching Award, Columbia University 2008  
Research Demonstratorship Scholarship, University College Dublin 2004–2005  
Entrance Exhibition Award, Trinity College Dublin 1999–2001  
Gallaher Scholarship, Gallaher Group 1997–2003

## Travel Awards

Killam Research Fund Travel Award, University of Alberta	2019
Killam Research Fund Travel Award, University of Alberta	2017
Eastern North American Region/International Biometric Society Travel Award	2017
European Union Erasmus+ Mobility Programme, Ludwig Maximilian University of Munich	2016
Pacific Institute for the Mathematical Sciences (PIMS) Travel Award	2015
Institute of Mathematical Statistics (IMS) New Researchers Conference Travel Award	2015
Pacific Institute for the Mathematical Sciences (PIMS) Travel Award	2014
Institute of Mathematical Statistics (IMS) New Researchers Conference Travel Award	2014
Isaac Newton Institute for Mathematical Sciences Travel Award, University of Cambridge	2014
SAMSI Low-dimensional Structure in High-dimensional Systems Workshop Travel Award, National Science Foundation (NSF)	2013
Killam Research Fund Travel Award, University of Alberta	2013
Institute Mathematical Statistics (IMS) New Researchers Conference Travel Award	2013
Developing Statistical Methods for NeuroImaging Workshop Travel Award, NSF	2012

## Software

[5] `vccp`, an R package to detect change points in functional connectivity by the Vine Copula Change Point Model (2021). Available on CRAN.

[4] `fabisearch`, an R package for a new change point detection method in the network structure of multivariate high-dimensional time series (2021). Available on CRAN.

[3] `ccid`, an R package for a new change-point method for estimating dynamic functional connectivity (2021). Available on CRAN.

[2] `extremogram`, an R package for estimating extreme value dependence within and across time series (2015). Available on CRAN.

[1] `NCPD`, an R package for network change point detection using spectral clustering (2015).

## Publications

[36] Han, L., Cribben, I., Trück, S. (2022) Extremal Dependence in Australian Electricity Markets (Under review). Available on arxiv.

[35] Ondrus, M., Cribben, I. (2021) `fabisearch`: A Package for Change Point Detection in and Visualization of the Network Structure of Multivariate High-Dimensional Time Series in R (Under review). Available on arxiv.

[34] Zhang, W., Cribben, I., Petrone, S., Guindani, M. (2022) Bayesian Time-Varying Tensor Vector Autoregressive Models for Dynamic Effective Connectivity (Under review). Available on arxiv.

[33] Ondrus, M., Old, E., Cribben, I. (2022) Factorized Binary Search: change point detection in the network structure of multivariate high-dimensional time series (Under review). Available on arxiv.

[32] Ding, L., Cribben, I., Ingolfsson, A., Tran, M. (2022) Do NHL goalies get hot in the playoffs? A multilevel logistic regression analysis (Under review). Available on arxiv.

[31] Pietrasik, W., Cribben, I., Olsen, F., Malykhin, N.V. (2022) Diffusion Tensor Imaging of Superficial Prefrontal White Matter in Healthy Aging. *Brain Research* (Accepted on 31 Oct 2022).

[30] Xiong, X., Cribben, I. (2022) The state of play of reproducibility in Statistics: an empirical analysis. *The American Statistician* (Accepted on 26 Sept 2022).

[29] Xiong, X., Cribben, I. (2022) Beyond linear dynamic functional connectivity: a vine copula

change point model. *Journal of Graphical and Computational Statistics* (Accepted on 9 Sept 2022).

- [28] Anastasiou, A., Cribben, I., Fryzlewicz, P. (2022) Cross-covariance isolate detect: a new change-point method for estimating dynamic functional connectivity. *Medical Image Analysis* **75**, 102252.
- [27] Brown, M.R.G., Pazderka, H., Agyapong, V., Greenshaw, A.J., Cribben, I., et al. (2021) Mental health symptoms unexpectedly increased in students aged 11-19 years during the 3.5 years after the 2016 Fort McMurray Wildfire: Findings from 9,376 survey responses. *Frontiers in Psychiatry* **12**, 682.
- [26] Ofori-Boateng, D., Gel Y.R., Cribben, I. (2021) Nonparametric anomaly detection on time series of graphs. *Journal of Graphical and Computational Statistics*, **30**, 756–767.
- [25] Hrybouski, S., Cribben, I., McGonigle, J., Olsen, F., Carter, R., Seres, P., Madan, C.R., Malykhin, N.V. (2021) Investigating the effects of healthy cognitive aging on brain functional connectivity using 4.7 T resting-state functional Magnetic Resonance Imaging. *Brain Structure and Function* **226**, 1067–1098.
- [24] Xu, M., Reiss, P., Cribben, I. (2021) Generalized reliability based on distances. *Biometrics* **77**, 258–270.
- [23] Pietrasik, W., Cribben, I., Olsen, F., Huang, Y., Malykhin, N.V. (2020) Diffusion Tensor Imaging of the Corpus Callosum in Healthy Aging: Investigating Higher Order Polynomial Regression Modelling. *NeuroImage* **213**, 116675.
- [22] Brown, M.R.G., Agyapong, V., Omeje, J., Cribben, I., et al. (2019) Significant PTSD and other mental health effects present 18 months after the Fort McMurray Wildfire: Findings from 3,070 Grade 7-12 Students. *Frontiers in Psychiatry* **8**, 81.
- [21] Brown, M.R.G., Agyapong, V., Greenshaw, A.J., Cribben, I., et al. (2019) After the Fort McMurray wildfire there are significant increases in mental health symptoms in Grade 7-12 students compared to controls. *BMC Psychiatry* **19**(1), 18.
- [20] Cribben, I. (2019) Change points in heavy tailed multivariate time series: methods using precision matrices. *Applied Stochastic Models in Business and Industry* **35**(2), 299–320.
- [19] Hart, B., Cribben, I., Fiecas, M. (2018) A longitudinal model for functional connectivity using resting-state fMRI. *NeuroImage* **178**, 687–701.
- [18] Hamza, D.M., Bercov, M., Suen, V.Y.M., Allen, A., Cribben, I., et al. (2018) School-Based Screening, Brief Interventions and Referral to Treatment (SBIRT) Significantly Decreases Long-Term Substance Abuse in 6,227 Students Aged 11-18. *Journal of Addictive Behaviors and Therapy* **2**:6.
- [17] Rezaei, M., Cribben, I., Samorani, M. (2018) A clustering-based feature selection method for automatically generated relational attributes. *Annals of Operation Research* (forthcoming).
- [16] Zhu, Y., Cribben, I. (2018) Sparse graphical models for functional connectivity networks: best methods and the autocorrelation issue. *Brain Connectivity* **8**, 139–165.
- [15] Chouinard, B., Volden, V., Cribben, I., Cummine, J. (2017) Neurological evaluation of the selection stage of metaphor comprehension in individuals with and without autism spectrum disorder. *Neuroscience* **361**, 19–33.
- [14] Bakhtiari, R., Cummine, J., Reed, A., Fox, C.M., Chouinard, B., Cribben, I., Boliek, C.A. (2017) Changes in brain activity following intensive voice treatment in children with cerebral palsy. *Human Brain Mapping* **38**(9), 4413–4429.
- [13] Silverstone, P.H., Bercov, M., Suen, V.Y.M., Allen, A., Cribben, I., et al. (2017) Long-term results from the empowering a multimodal pathway toward healthy youth program, a multimodal school-based approach, show marked reductions in suicidality, depression, and anxiety in 6,227 students in Grades 6-12 (aged 11-18). *Frontiers in Psychiatry* **8**, 81.

- [12] Suen, V., Brown, M. R., Morck, R. K., Cribben, I., Silverstone, P. H. (2017). Risk Tolerance, Impulsivity, and Self-esteem: Differences and Similarities between Gamblers and Non-Gamblers in a Pilot Study. *Advances in Social Sciences Research Journal*, 4(4), 173–186.
- [11] Silverstone, P.H., Rittenbach, K., Suen, V.Y.M., Moretzsohn, A., Cribben, I., et al. (2017) Depression outcomes in Adults attending Family Practice were not improved by screening, Stepped-care, or on-line CBT during a 12-week study when compared to controls in a randomized trial. *Frontiers in Psychiatry* 8, 32.
- [10] Cribben, I., Yu, Y. (2017) Estimating whole brain dynamics using spectral clustering. *Journal of the Royal Statistical Society, Series C* 66, 607–627.
- [9] Fiecas, M., Cribben, I., Bahktiari, R., Cummine, J. (2017) A variance components model for statistical inference on functional connectivity networks. *NeuroImage* 149, 256–266.
- [8] Yu, Y., Cribben, I. (2017) Invited discussion of ‘Should we sample a time series more frequently?: decision support via multirate spectrum estimation’ by Nason et al. (2017). *Journal of the Royal Statistical Society, Series A* 180(2), 384–386.
- [7] Suen, V. Y. M., Brown, M. R. G., Cribben, I., Morck, R. K., Silverstone, P. H. (2016) Frequent Sub-Threshold Gamblers Display Unique Pattern of Brain Activation during Investment Decision-Making Task. *Journal of Psychiatry and Mental Health* 1(1).
- [6] Westbury, C.F., Cribben, I., Cummine, J. (2016) Imaging imageability: Behavioral effects and neural correlates of its interaction with affect and context. *Frontiers in Human Neuroscience* 10, 346.
- [5] Cummine, J., Cribben, I., Luu, C., Kim, E., Bahktiari, R., Georgiou, G., Boliek, C.A. (2016) Understanding the Role of Speech Production in Reading: Evidence for a Print-to-Speech Neural Network using Graphical Analysis. *Neuropsychology* 30(4), 385–397.
- [4] Silverstone, P.H., Bercov, M., Suen, V.Y.M., Allen, A., Cribben, I., et al. (2015) Initial Findings from a Novel School-Based Program, EMPATHY, Which May Help Reduce Depression and Suicidality in Youth. *PLoS ONE* 10(5): e0125527.
- [3] Cribben, I., Wager, T.D., Lindquist, M.A. (2013) Detecting functional connectivity change points for single-subject fMRI data. *Frontiers in Computational Neuroscience* 7:143.
- [2] Cribben, I., Haraldsdottir, R., Atlas, L., Wager, T.D., Lindquist, M.A. (2012) Dynamic Connectivity Regression: Determining state-related changes in brain connectivity. *NeuroImage* 61(4), 907–920.
- [1] Davis, R.A., Mikosch, T., Cribben, I. (2012) Towards Estimating Extremal Serial Dependence via the Bootstrapped Extremogram. *Journal of Econometrics* 170(1), 142–152.

## Technical Reports

- [1] Davis, R.A., Mikosch, T., Cribben, I. (2012) Estimating Extremal Dependence in Univariate and Multivariate Time Series via the Extremogram. arXiv:1107.5592 [stat.ME]

## Book Chapters

- [1] Cribben, I., Fiecas, M. (2016) Functional Connectivity Analyses for fMRI Data. *Handbook of Statistical Methods for Brain Signals and Images* (eds. Ombao, H., Lindquist, M., Thompson W., and Aston, J.).

## Working papers (in preparation)

- [8] Cribben, I., Esarey, A., Han, R., Qiang, X. Reexamining Chinese Information Control: The Preferences Motivating State “Interventions” in Chinese Cyberspace.
- [7] Ofori-Boateng, D., Gel Y.R., Cribben, I. Tensor graphical lasso for weakly dependent data.
- [6] Zeinali, Y., Cribben, I. Machine forecasting learning methods for Management Science.

- [5] O'Reilly, B., Cribben, I. Forecasting Points Totals in the NHL.
- [4] Diao, G., Vidyashankar, A., Cribben, I. High dimensional covariate-adjusted semiparametric transformation gaussian graphical models.
- [3] Cribben, I., Zhu, Y. Sparse graphical models and thresholding for fMRI network data.
- [2] Frolova, N., Cribben, I. Various measures of extremal dependence in Australian electricity markets.
- [1] Anastasiou, A., Cribben, I. Tensor change point models with application to cryptocurrency.

## Conference Talks (\* = Invited)

* 15 <sup>th</sup> International Conference of the ERCIM WG on Computational and Methodological Statistics, King's College London, UK (virtual)	2022
* 5 <sup>th</sup> International Conference on Econometrics and Statistics, Kyoto, Japan (virtual)	2022
* 14 <sup>th</sup> International Conference of the ERCIM WG on Computational and Methodological Statistics, London, UK (virtual)	2021
Eastern North American Region/International Biometric Society Annual Meeting, Nashville, USA (virtual)	2020
* 12 <sup>th</sup> International Conference of the ERCIM WG on Computational and Methodological Statistics, London, UK	2019
* 62 <sup>nd</sup> ISI World Statistics Congress, Kuala Lumpur, Malaysia	2019
* Big Data Analysis of Neuroimaging & Genetics: Advanced Statistical & Machine Learning Methods for Human Brain Connectomics, Universiti Teknologi Malaysia, Kuala Lumpur, Malaysia	2019
Conference on current trends in survey statistics, Institute for Mathematical Sciences National University of Singapore, Singapore	2019
* Workshop Change Point Detection: Limit Theorems, Algorithms, and Applications in Life Sciences, Greifswald, Germany	2019
* AI, Ethics and Society Conference, University of Alberta, Edmonton, Canada	2019
Computationally-intensive methods for the robust analysis of non-standard data (CRoNoS) meetings, Limassol, Cyprus	2019
10 <sup>th</sup> EMR-IBS and Italian Region conference, Jerusalem, Israel	2018
* Joint Statistical Meeting, Vancouver, Canada	2018
* XXIX <sup>th</sup> International Biometric Conference, Barcelona, Spain	2018
* Frontiers in Forecasting, Institute for Mathematics and its Applications (IMA) University of Minnesota, Minneapolis, USA	2018
* Health Care Analytics, Lunchalytics, Edmonton, Canada	2018
European Meeting of Statisticians, Helsinki, Finland	2017
* 7 <sup>th</sup> International Workshop on Perspectives on High-dimensional Data Analysis (HDDA-VII), CIMAT, Guanajuato, Mexico	2017
* 9 <sup>th</sup> EMR-IBS and Italian Region conference, Thessaloniki, Greece	2017
* International Business & Economy Conference (IBEC), Puerto Montt, Chile	2017
* 9 <sup>th</sup> International Conference of the ERCIM WG on Computational and Methodological Statistics, Seville, Spain	2016
* Robustness Theory and Methodology: Recent Advances and Future Directions Conference, Banff, Canada	2016

* International Indian Statistical Association (IISA) Conference, Corvallis	2016
* Big Data and Models, Tinos, Greece	2016
Forum of Neuroscience (FENS), Copenhagen, Denmark	2016
Organization for Human Brain Mapping, 22 <sup>nd</sup> Annual Meeting, Geneva, Switzerland	2016
* Novel Statistical Methods in Neuroscience, University of Magdeburg, Germany	2016
* Management International Conference (MiC), Pula, Croatia	2016
* 6 <sup>th</sup> International Workshop on the Perspectives on High-Dimensional Data Analysis (HDDA-VI), Fields Institute, Toronto, Canada	2016
* New York R Conference, New York City, USA	2016
Eastern North American Region/International Biometric Society Annual Meeting, Austin, USA	2016
* 3 <sup>rd</sup> Caribbean Biomedical Research Days, Rodney Bay, St Lucia	2016
* Mathematical and Statistical Challenges in Neuroimaging Data Analysis, Banff, Canada	2016
* 8 <sup>th</sup> International Conference of the ERCIM WG on Computational and Methodological Statistics, London, UK	2015
Society for Neuroscience Annual Meeting, Chicago, USA	2015
* Applied Topology and High-Dimensional Data Analysis Meeting, Victoria, Canada	2015
* Joint Statistical Meeting, Seattle, USA	2015
* 17 <sup>th</sup> Institute for Mathematical Statistics New Researchers Conference, University of Washington, Seattle, USA	2015
* International work-conference on Time Series Analysis (ITISE), Granada, Spain	2015
* Morning Workshop, Organization for Human Brain Mapping, 21 <sup>st</sup> Annual Meeting, Honolulu, USA	2015
* Statistical Methods in Imaging Conference, Department of Biostatistics, University of Michigan, Ann Arbor, USA	2015
* 7 <sup>th</sup> International Conference of the ERCIM WG on Computational and Methodological Statistics, Pisa, Italy	2014
Joint Statistical Meeting, Boston, USA	2014
* 16 <sup>th</sup> Institute for Mathematical Statistics New Researchers Conference, Harvard University, Boston, USA	2014
Organization for Human Brain Mapping, 20 <sup>th</sup> Annual Meeting, Hamburg, Germany	2014
* Statistical Society of Canada Annual Meeting, Toronto, Canada	2014
* SIAM Conference on Imaging Science, Hong Kong	2014
* International Symposium on Business and Management, Nagoya, Japan	2014
* New York Open Statistical Programming Meetup, New York, USA	2014
* Eastern North American Region/International Biometric Society Annual Meeting, Baltimore, USA	2014
* Inference for Change-Point and Related Processes: Isaac Newton Institute for Mathematical Sciences, University of Cambridge, UK	2014
* 35 <sup>th</sup> Annual Meeting of Alberta Statisticians, Calgary, Canada	2013
* Statistics in Imaging Invited Session, Joint Statistical Meeting, Montreal, Canada	2013
* 15 <sup>th</sup> Institute for Mathematical Statistics New Researchers Conference, Montreal, Canada	2013
Organization for Human Brain Mapping, 19 <sup>th</sup> Annual Meeting, Seattle, USA	2013
Cognitive Neuroscience Society Annual Meeting, San Francisco, USA	2013
* 34 <sup>th</sup> Annual Meeting of Alberta Statisticians, Edmonton, Canada	2012
* Frontiers in Finance Conference, Banff, Canada	2012



Joint Statistical Meetings, Miami, USA	2011
Organization for Human Brain Mapping, Quebec City, Canada	2011
Imaging, Communication and Finance: Stochastic Modeling of Real-World Problems, Columbia University, New York City, USA	2011
Modeling Multivariate Dependence and Extremes in Finance, Oxford-Man Institute, Oxford, UK	2008
25 <sup>th</sup> Conference on Applied Statistics in Ireland, Enniskillen, Ireland	2005

## Department Seminars

Data Science Centre, School of Population Health, Royal College of Surgeons in Ireland (virtual)	2022
Faculty of Statistics, TU Dortmund, Germany	2022
Department of Statistics, Federal University of Bahia, Brazil (virtual)	2021
Department of Industrial Engineering, Sharif University of Technology, Iran (virtual)	2021
Institute for Mathematical Stochastics, Otto-von-Guericke University, Germany (virtual)	2021
Department of Statistics, Charles University, Czech Republic (virtual)	2021
School of Mathematics, University of New South Wales, Australia (virtual)	2021
Department of Statistics, Southern Methodist University, USA (virtual)	2021
School of Statistics and Management, Shanghai University of Finance and Economics, China	2019
Canada Health Solutions, Saint John, Canada	2019
Department of Mathematics, Aarhus University, Denmark	2019
Centre of Mathematics (CMUP), University of Porto, Portugal	2018
Department of Statistics, University of California, Irvine, USA	2018
Department of Statistical and Actuarial Sciences, Western University, Canada	2018
School of Mathematical and Computational Sciences, University of Prince Edward Island, Canada	2018
Brain and Mind Institute, Western University, Canada	2018
Department of Applied Mathematics and Computer Science, Technical University of Denmark (DTU), Denmark	2017
School of Mathematics and Statistics, University of Canterbury, New Zealand	2017
Statistical Shape Analysis & Modeling Group, Florida State University, USA	2017
Cognitive Neuroscience Seminar, University of Alberta, Canada	2017
School of Computer Science and Statistics, Trinity College Dublin, Ireland	2016
Department of Mathematics & Statistics, University of Otago, New Zealand	2016
School of Mathematics, University of Bristol, UK	2016
Department of Statistics, Ludwig Maximilian University of Munich, Germany	2016
Statistical and Applied Mathematical Sciences Institute (SAMSI), USA	2016
Department of Statistics, George Mason University, USA	2016
Department of Mathematics & Statistics, McMaster University, Canada	2015
Department of Decision Sciences, HEC Montréal, Canada	2015
Department of Economics, Macquarie University, Australia	2015
School of Mathematics and Applied Statistics, University of Wollongong, Australia	2015
Department of Statistics, Macquarie University, Australia	2015

School of Mathematical Sciences, Monash University, Australia	2015
Neuroscience and Mental Health Institute, University of Alberta, Canada	2015
Department of Mathematics and Statistics, University of Victoria, Canada	2015
Neuroimaging Statistics Research, University of Warwick, UK	2015
IISS Seminar, Haas School of Business, University of California, Berkeley, USA	2014
Department of Statistics, Chinese University of Hong Kong, Hong Kong	2014
Space-Time Group, Department of Statistics, University of California, Irvine, USA	2014
Department of Mathematical and Statistical Sciences, University of Alberta, Canada	2014
Neuroeconomics Laboratory, Haas School of Business, University of California, Berkeley, USA	2013
Department of Child and Adolescent Psychiatry, New York University, USA	2012
Division of Biostatistics and Epidemiology, Department of Public Health, Weill Medical College of Cornell University, USA	2012
Department of Statistics, Southern Methodist University, USA	2012
Department of Mathematics, San Jose State University, USA	2012
Department of Finance and Statistical Analysis, Alberta School of Business, University of Alberta, Canada	2012
Department of Decision Sciences, Lundquist College of Business, University of Oregon, USA	2012
Department of Mathematics, Bowdoin College, USA	2012
Centre for Research in Statistical Methodology (CRiSM), The University of Warwick, UK	2012
Department of Statistics, Virginia Polytechnic Institute and State University, USA	2012
Department of Information Systems, Statistics, and Management Science, Culverhouse College of Commerce, University of Alabama, USA	2012
Department of Mathematics and Statistics, Villanova University, USA	2012
Department of Mathematics and Statistics, Williams College, USA	2012
Department of Statistics and Probability, University of Queensland, Australia	2011

### **Conference Discussant (\* = Invited)**

* 62 <sup>nd</sup> ISI World Statistics Congress, Kuala Lumpur, Malaysia	2019
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### **Workshops**

Junior Researchers Workshop, Eastern North American Region/International Biometric Society Annual Meeting, Washington D.C., USA	2017
Recent Advances in Survey Sampling Techniques, Banff International Research Station (BIRS), Banff, Canada	2014
PIMS Summer School on the Economics and Mathematics of System Risk and the Financial Networks, Sauder School of Business, University of British Columbia, Vancouver, Canada	2014
Inference for Change-Point and Related Processes: Isaac Newton Institute for Mathematical Sciences, University of Cambridge, UK	2014
Low-dimensional Structure in High-dimensional Systems (LDHD): Statistical and Applied Mathematical Sciences Institute (SAMSI), Research Triangle Park, North Carolina, USA	2013
Developing Novel Statistical Methods in NeuroImaging: University of California, San Diego, USA	2012

The UCLA Advanced Neuroimaging Summer program: Los Angeles, USA	2011
Applied Time Series Analysis in Scientific Computing: Oberwolfach, Germany	2008

## Teaching

### Instructor

**Alberta School of Business, University of Alberta**

MGTSC 405 – Forecasting for Planners and Managers (Undergrad):

Fall 2012, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Fall 2017, Fall 2019, Fall 2020

MGTSC 705 – Multivariate Data Analysis I (PhD):

Winter 2013, Fall 2014, Fall 2015, Fall 2017, Fall 2019, Fall 2020

MGTSC 707 – Applied Business Analysis of Time Series and Panel Data (PhD):

Fall 2014, Fall 2016, Fall 2017

MGTSC 706 – Multivariate Data Analysis II (PhD):

Fall 2013

OM 710 – Individual Research (PhD):

Fall 2020, Winter 2021, Fall 2021

OM 495 - Individual Research Project I (Undergrad):

Fall 2015, Fall 2016, Winter 2017, Winter 2020, Fall 2020, Winter 2021

**Alberta School of Business, University of Alberta (Shenzhen, China)**

MGTSC 501 – Data Analysis and Decision Making (MBA):

Fall 2018, Summer 2019

*Nominated for the 2017 and 2018 Provost's Award for Early Achievement of Excellence in Undergraduate Teaching, University of Alberta*

**Neuroscience and Mental Health Institute, University of Alberta**

NEURO 451 - Honors Research Project in Neuroscience:

Fall 2016

NEURO 452 - Honors Research Project in Neuroscience:

Winter 2017

**Ludwig Maximilian University of Munich**

High-dimensional methods for neuroimaging data:

Summer 2016

**Columbia University**

W1111 – Introduction to Statistics:

Spring 2008, Fall 2008, Fall 2009

### Guest Instructor

**Department of Biomedical Engineering, University of Alberta**

BME 510 – Neuroimaging in Neuroscience:

Fall 2014, Fall 2016, Fall 2017, Fall 2019, Fall 2020, Fall 2021, Fall 2022

BUS 101/201 – Foundations in Business:

Fall 2022

## **Teaching Assistant**

### **Columbia University**

Non-Parametric Statistics (MA/Undergraduate), Spring 2011

Data Mining (MA/Undergraduate), Fall 2011

Stochastic Methods in Finance (MA/PhD), Fall 2010

Stochastic Processes for Finance (MA/PhD), Spring 2010

Statistical Methods in Finance (MA), Spring 2009

Introduction to Statistics (Undergraduate), Fall 2007

Probability (MA/Undergraduate), Spring 2007

Theory of Interest (MA), Fall 2006

## **Other Experience**

### **Statistics without Borders, American Statistical Association**

Statistical Consultant

2018 –

### **Goldman Sachs Group, Inc., New York City**

Summer Associate, Investment Strategy Group, Tactical

Summer 2009

Summer Associate, Investment Strategy Group, Strategic

Summer 2008

### **Department of Statistics, Columbia University**

Statistical Consultant

2007 – 08

## **Computer skills**

Proficient in MS Office, R, Matlab, S-Plus, Minitab, SAS, Stata, C,  $\text{\LaTeX}$

Operating Systems: Unix/Linux, Windows

## **Professional Activities**

### **Grant Reviewer**

Mitacs Accelerate Fellowship, Canada

Fonds Wetenschappelijk Onderzoek – Vlaanderen (FWO), Research Foundation - Flanders, Belgium

Medical Research Council, UK

Swiss National Science Foundation (SNSF), Division MINT (Mathematics, Informatics, Natural Sciences and Technology)

Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant, Canada

### **Journal Referee**

Annals of Applied Statistics

Annals of Statistics

Applied Stochastic Models in Business and Industry

Bayesian Analysis

Biometrics

Biostatistics

Brain Imaging and Behavior  
Communications for Statistical Applications and Methods  
Computational Statistics and Data Analysis  
Digital Signal Processing  
Human Brain Mapping  
IEEE Journal of Biomedical and Health Informatics  
IEEE Transactions on Biomedical Engineering  
Journal of Machine Learning Research  
Journal of Quantitative Analysis in Sports  
Journal of Sports Analytics  
Journal of the American Statistical Association  
Journal of the Royal Statistical Society, Series B  
Journal of the Royal Statistical Society, Series C  
Mathematical Sciences  
Medical Image Analysis  
Metron  
NeuroImage  
PLOS Computational Biology  
PLOS One  
Psychiatry Research: Neuroimaging  
Statistics and its Interface  
Statistics and Probability Letters  
Statistical Papers  
Statistics Surveys  
Technometrics  
WIREs Computational Statistics

**Book Referee**

Routledge  
Sage Publications

**Book Volume Referee**

Springer  
Taylor & Francis Group

**Abstract Reviewer**

Organization for Human Brain Mapping, 25<sup>th</sup> Annual Meeting, Rome (2019)  
Organization for Human Brain Mapping, 24<sup>th</sup> Annual Meeting, Singapore (2018)  
Organization for Human Brain Mapping, 23<sup>th</sup> Annual Meeting, Vancouver (2017)  
Organization for Human Brain Mapping, 22<sup>th</sup> Annual Meeting, Geneva, Switzerland (2016)  
Organization for Human Brain Mapping, 21<sup>th</sup> Annual Meeting, Honolulu (2015)  
Organization for Human Brain Mapping, 20<sup>th</sup> Annual Meeting, Hamburg, Germany (2014)  
Organization for Human Brain Mapping, 19<sup>th</sup> Annual Meeting, Seattle (2013)

## **Student Supervision**

### **University of Alberta**

#### **Graduate**

Martin Ondrus (PhD), Neuroscience and Mental Health Institute (Spring 2022 –)  
Mehrnaz Behrooz (PhD), Department of Accounting and Business Analytics (Winter 2021 – )  
Bo Han (PhD), Department of Accounting and Business Analytics (Fall 2020 – )  
Yasser Zeinali (PhD), Department of Accounting and Business Analytics (Fall 2020 – )  
Martin Ondrus (MSc), Neuroscience and Mental Health Institute (Winter 2021 – 2022)  
Elnaz Nabiyyi (PhD), Department of Accounting, Operations and Information Systems (Fall 2018 – 2020)  
Alex Lewandowski (MSc), Department of Mathematical and Statistical Sciences (2016 – 2018)  
Nadezda Frolova (MSc), Department of Mathematical and Statistical Sciences (2014 – 2016)  
Yunan Zhu (MSc), Department of Mathematical and Statistical Sciences (2014 – 2015)

#### **Undergraduate**

Xinyu Gu (Visiting student, China Council Scholarship), Department of Computer Science, China Agricultural University (Summer 2022)  
Patrick Wyrod, Alberta School of Business (Winter 2021)  
Martin Ondrus, Alberta School of Business (Winter, Summer, and Fall 2020)  
Filip Sadurski, Jagiellonian University (Summer 2020)  
Emily Olds, Alberta School of Business (Winter 2020)  
Hanlin Zhang (Visiting student, China Council Scholarship), Department of Computer Science, South China University of Technology (Summer 2019)  
Xin Xiong (Visiting student, China Council Scholarship), Department of Statistics, Beijing Normal University (Summer 2019)  
Shiying Yang, Neuroscience and Mental Health Institute (Fall 2018 – )  
Tianwei She (Visiting student, China Council Scholarship), Department of Computer Science, Renmin University of China (Fall 2017)  
Matthew Krill, Neuroscience and Mental Health Institute (Fall 2016 – Winter 2017)  
Joel Voss, Alberta School of Business (Winter 2017)  
Kristin Langeste, Alberta School of Business (Fall 2016)  
Braedan O'Reilly, Alberta School of Business (Fall 2015)  
Xiaotong Lin (Visiting student), Tsinghua University (2014)  
Scott Stone (UARE Summer Intern), University of Lethbridge (Summer 2014)

## **External Examiner**

PhD thesis, Department of Mathematics and Statistics, Macquarie University, Australia (2021)  
PhD thesis, Department of Mathematics and Statistics, The University of Western Australia (2020)  
Master's thesis, College of Science and Engineering, Flinders University, Australia (2018)

## **PhD Committees**

### **University of Alberta**

Xiaowen Zhang, Department of Finance (2021 –)  
Arash Asgari, Department of Accounting and Business Analytics (2020 –)  
Likang Ding, Department of Accounting and Business Analytics (2018 –)

Mostafa Rezaei, Department of Accounting, Operations and Information Systems (2017–2019)

## **PhD Exam Committees**

### **University of Alberta**

Xiaowen Zhang, Department of Finance (2022)

Amir Reza Alizad-Rahvar, Department of Electrical and Computer Engineering (2014)

Victoria Suen, Department of Psychiatry (2014)

## **PhD Candidacy Exam Committees**

### **University of Alberta**

Berhanu Wubie, Department of Mathematical and Statistical Sciences (2022)

Arash Asgari, Department of Accounting and Business Analytics (2022)

Weisu Yu, Department of Finance (2022)

Maryam Zakeri Hosseinabadi, Department of Accounting and Business Analytics (2020)

Likang Ding, Department of Accounting and Business Analytics (2020)

Xiaowen Zhang, Department of Finance and Statistical Analysis (2019)

Bordin Bordeerath, Department of Finance and Statistical Analysis (2017)

Mostafa Rezaei, Department of Accounting, Operations and Information Systems (2017)

James Benoit, Department of Psychiatry (2016)

Chenxing Shou, Department of Finance and Statistical Analysis (2016)

Violeta Kovacev-Nikolic, Department of Mathematical and Statistical Sciences (2016)

Victoria Suen, Department of Psychiatry (2013)

## **MSc Exam Committees**

### **University of Alberta**

Yi Zhou, Department of Mathematical and Statistical Sciences (2016)

Farhood Mohammadi, Department of Mathematical and Statistical Sciences (2014)

Imran Hasan, Department of Mathematical and Statistical Sciences (2014)

Qian Shi, Department of Mathematical and Statistical Sciences (2014)

Julia Esch, Department of Speech Pathology and Audiology (2013)

## **Conference Organizer**

‘2021 Canadian Computational Neuroscience Symposium’, University of Lethbridge, Lethbridge, Canada (2021)

## **Conference Session Organizer**

‘Tensor and multilayer networks’ – Organized Session, 5<sup>th</sup> International Conference on Econometrics and Statistics, Kyoto, Japan (2022)

‘Advances in sports statistics’ – Organized Session, 13<sup>th</sup> International Conference of the ERCIM WG on Computational and Methodological Statistics, Virtual (2020)

‘Statistics methods for sports’ – Organized Session, 12<sup>th</sup> International Conference of the ERCIM WG on Computational and Methodological Statistics, London, UK (2019)

‘High dimensional methods for complex data’, Computationally-intensive methods for the robust analysis of non-standard data (CRoNoS) meetings, Limassol, Cyprus (2019)

‘Statistics in sports: Some recent developments’ – Organized Session, 11<sup>th</sup> International Conference of the ERCIM WG on Computational and Methodological Statistics, Pisa, Italy (2018)

‘Statistics in sports: some new insights’ – Topic Contributed Session, Joint Statistical Meetings, Vancouver (2018)

‘High dimensional time series analysis and its applications’ – Invited Session, Joint Statistical Meetings, Vancouver (2018)

‘Statistics: real life decisions’ – Topic Contributed Session, Joint Statistical Meetings, Seattle (2015)

‘Estimating time varying connectivity’ – Morning Workshop, Organization for Human Brain Mapping Annual Meeting, Honolulu (2015)

‘The Graphical Modeling and Longitudinal Analysis of fMRI data’ – Topic Contributed Session, Joint Statistical Meetings, Boston (2014)

‘Recent Developments in Statistical Modeling of Brain Imaging Data’ – Invited Session, International Biometric Conference, Florence, Italy (2014)

‘New Methods for Analyzing Brain Imaging data’ – Invited Session, Statistical Society of Canada Annual Meeting, Toronto (2014)

‘Recent Developments in the Statistical Modeling of Brain Imaging Data’ – Invited Session, SIAM Conference on Imaging Science, Hong Kong (2014)

‘Advanced Methods in Brain Imaging Research’ – Invited Session, Joint Statistical Meetings, Montreal (2013)

### **Conference Session Chair**

‘Tensor and multilayer networks’ – Organized Session, 5<sup>th</sup> International Conference on Econometrics and Statistics, Kyoto, Japan (2022)

‘Statistical methods in cancer research’, Eastern North American Region/International Biometric Society Annual Meeting, Nashville, USA (2020)

‘Statistics methods for sports’ – Organized Session, 12<sup>th</sup> International Conference of the ERCIM WG on Computational and Methodological Statistics, London, UK (2019)

‘High dimensional methods for complex data’, Computationally-intensive methods for the robust analysis of non-standard data (CRoNoS) meetings, Limassol, Cyprus (2019)

‘Machine Learning and Brain Science’, 10<sup>th</sup> EMR-IBS and Italian Region conference, Jerusalem, Israel (2018)

‘Statistics in sports: some new insights’, Joint Statistical Meetings, Vancouver, Canada (2018)

‘Economics’, International Business & Economy Conference (IBEC), Puerto Montt, Chile (2017)

‘Energy Markets’, Management International Conference, Pula, Croatia (2016)

‘Graphical Models’, Eastern North American Region/International Biometric Society Annual Meeting, Austin, USA (2016)

‘Institutions’, Northern Finance Association Conference, Lake Louise, Canada (2015)

‘Statistics: real life decisions’, Joint Statistical Meetings, Seattle, USA (2015)

‘Application in Time Series Analysis/Forecasting’, International work-conference on Time Series Analysis (ITISE), Granada, Spain (2015)

‘High Dimension and Complex/Big Data’, International work-conference on Time Series Analysis (ITISE), Granada, Spain (2015)

‘Statistical Analysis of MRI/fMRI data’, Joint Statistical Meetings, Boston, USA (2014)

‘Recent Advances in Image Analysis’, Joint Statistical Meetings, Montreal, Canada (2013)

### **Other service**

#### **University of Alberta**

Provost’s Representative on Department Chair Selection/Review Committees 2020–2023

**Alberta School of Business, University of Alberta**



School of Business Representative on the Faculty of Science Council, University of Alberta (2020 – 2023)

PhD Policy Committee Member, Alberta School of Business (2020 – )

Department of Accounting and Business Analytics CPA Chair Search Committee, Alberta School of Business (2021/2022)

Department of Accounting and Business Analytics ATS Search Committee, Alberta School of Business (2021/2022)

Department of Accounting and Business Analytics ATS Search Committee, Alberta School of Business (2020/2021)

Panel member of “Cross-disciplinary and Multi-Methods Research”, Business Research Conference, Alberta School of Business (2020)

Department of Accounting, Operations and Information Systems Faculty Search Committee, Alberta School of Business (2015/2016, 2016/2017, 2019/2020)

Judge for Three Minute Thesis (3MT) presentations, Alberta School of Business (2018)

Judge for Student Conference on Operations (S.C.O.P.E), Alberta School of Business (2017)

Panel member of “Job Market Process”, PhD student research conference, Alberta School of Business (2016)

Department of Finance and Statistical Analysis Faculty Search Committee, Alberta School of Business (2015/2016)

### **External**

Joint Statistical Meeting (JSM) Docent Program, Vancouver, Canada (2018)

Joint Statistical Meeting (JSM) Docent Program, Seattle, USA (2015)

Program Committee member for Machine Learning Track, International Joint Conference on Artificial Intelligence (IJCAI), Buenos Aires, Argentina (2015)

Panel member for the ASA Section on Statistical Learning and Data Mining (SLDM) Student Award (2014)

The Statistical Society of Canada (SSC) New Investigators Committee (2013 – 2016)

### **Professional Societies**

Member, Eastern North American Region/International Biometric Society (ENAR)

Member, The Statistical Society of Canada (SSC)

Member, Organization for Human Brain Mapping (OHBM)

### **Governance and Advisory Experience**

Hospitals & Community Day Care, Chair of Board	2022–
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Hospitals & Community Day Care, Vice Chair of Board	2020–2021
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Hospitals & Community Day Care, Board Member	2019–2020
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