Curriculum Vitæ
SAHIR RAI BHATNAGAR

A. DATE OF PREPARATION

February 19, 2019

B. BIOGRAPHICAL INFORMATION

Address	Department of Epidemiology, Biostatistics, and Occupational Health McGill University Purvis Hall, Room 37 1020 Pine Avenue West, Montréal (QC), Canada H3A 1A2
Work phone	514-398-2711
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Homepage	https://sahirbhatnagar.com/
Citizenship	Canada
Languages	English, French, Hindi

C. EDUCATION

2013–2018	**Ph.D. (Biostatistics)** McGill University, Montreal QC, Canada *Thesis:* Penalized regression methods for interaction and mixed-effects models with applications to genomic and brain imaging data *Advisors:* Dr. Celia Greenwood and Dr. Yi Yang Queen Elizabeth Scholar
2012–2013	**Master of Science (Biostatistics)** Queen's University, Kingston ON, Canada *Thesis:* Absolute risk estimation in a case cohort study of prostate cancer *Advisors:* Dr. Paul Peng and Dr. Devon Lin *Committee Members:* Dr. Dongsheng Tu and Dr. Wenyu Jiang
2011	**Associate of the Society of Actuaries**
2005–2008	**Bachelor of Science (Actuarial Mathematics)** Concordia University, Montreal QC, Canada

D. RESEARCH INTERESTS

Dimension reduction for predictive models, high-dimensional statistical inference, penalized regression, interaction selection, actuarial statistics, statistical genetics

E. APPOINTMENTS

July 1, 2018	Assistant Professor, McGill University Department of Epidemiology, Biostatistics and Occupational Health Department of Diagnostic Radiology

F. AWARDS

2017	UK Genetics Society Training Grant £1,000
2016	McGill University and Genome Quebec Innovation Centre (MUGQIC) Travel Award $1,000
2016	Graduate Research Enhancement and Travel (GREAT) Award $1,000
2016	Quantitative Biology and Medical Genetics for the World Queen Elizabeth II Scholarship $6,000
2016	Best Student Oral Presentation - 28th International Biometric Society Meeting
2016	SSC Biostatistics Section Travel Award $250
2015	Best Poster Presentation - 4th Annual Canadian Human and Statistical Genetics Meeting $1,000
2014	Genetic Analysis Workshop 19 Travel Award $1,000
2013	McGill Graduate Excellence Award $18,000
2012	MSc Queen's Graduate Studies Award $20,000

G. RESEARCH FUNDING

G.1 SUBMITTED

1. SSHRC New Frontiers in Research Fund - Exploring the Use of Deep Learning Image Analysis in Environmental Health at the Patient and Population Level (2019) as **co-principal investigator** (co-PI: Scott Weichenthal, McGill University).

2. CIHR Project Grant - Predicting High-Resolution Spatial and Temporal Variations in Summertime Air Temperatures to Support Public Health Interventions During Heat Emergencies (2019) as a co-applicant (PIs: Scott Weichenthal and Alexandra Schmidt, McGill University).

3. CIHR Travel Award - Integrated Transdisciplinary Surveillance of Ambient Outdoor Air Pollution Environmental Health and Outcomes (2019) as the **sole applicant**.

G.2 ONGOING

1. Rossy Cancer Network Cancer Quality & Innovation Research Grant - Impact of a Patient-Centered Program for Low Anterior Resection Syndrome: a Multicenter Randomized Controlled Trial, $96,404 (2018-2020) as a co-applicant (PI: Richard Garfinkle, McGill University).

2. Canadian Society of Colon and Rectal Surgeons (CSCRS) - Impact of a Patient-Centered Program for Low Anterior Resection Syndrome: a Multicenter Randomized Controlled Trial, $35,000 (2018-2019) as a co-applicant (PI: Richard Garfinkle, McGill University).

3. Rossy Cancer Network Research Fund - Radiogenomic models with artificial intelligence for detection of nodal micrometastases to reduce unnecessary neck dissections in head and

neck cancer patients, $100,000 (2018-2020) as a co-applicant (PI: Reza Forghani, Jewish General Hospital).

4. McGill University Research Allowance, $20,000 (2018-2021, start-up funds, non-peer reviewed)

G.3 COMPLETED

1. NVIDIA GPU Grant Program - Accelerating computation in high-dimensional penalized regression models, 1 Titan XP (2018), as the **sole applicant**.

H. PUBLICATIONS

Methodological and Statistical Papers

H.1 PREPRINTS

1. Bhatnagar SR, Oualkacha K, Yang Y, Greenwood CMT (2018+). A General Framework for Variable Selection in Linear Mixed Models with Applications to Genetic Studies with Structured Populations. *bioRxiv*. DOI 10.1101/408484.

2. Bhatnagar SR, Yang Y, Lovato A, Greenwood CMT (2018+). Sparse Additive Interaction Learning. *bioRxiv*. DOI 10.1101/445304.

H.2 PUBLISHED ARTICLES

3. Bhatnagar SR, Yang Y, Khundrakpam B, Evans A, Blanchette M, Bouchard L, Greenwood CMT (2017). An analytic approach for interpretable predictive models in high dimensional data, in the presence of interactions with exposures. *Genetic Epidemiology*. Apr 1;42(3):233-49. DOI 10.1101/102475.

4. Klein Oros K, Oualkacha K, Lafond M, Bhatnagar SR, Tonin PN, Greenwood CMT (2016). Gene coexpression analyses differentiate networks associated with diverse cancers harbouring TP53 missense or null mutations. *Frontiers in Genetics, section Statistical Genetics and Methodology*. Aug 3;7:137. DOI 10.3389/fgene.2016.00137.

5. Bhatnagar SR, Greenwood CMT, Labbe A (2016). Assessing transmission ratio distortion in extended families: a comparison of analysis methods. *BMC Proceedings*. 2016, 10(Suppl 7):12. DOI 10.1186/s12919-016-0030-0.

6. Sun J., Bhatnagar SR, Oualkacha K, Ciampi A, Greenwood CMT (2016) Joint analysis of multiple blood pressure phenotypes in GAW19 data by using a multivariate rare-variant association test. *BMC Proceedings*. 2016, 10(Suppl 7):14. DOI 10.1186/s12919-016-0048-3.

7. Wang Y, Murphy O, Turgeon M, Wang ZY, Bhatnagar SR, Schulz J, and Moodie EEM (2015) The perils of Quasi-likelihood Information Criteria. *Stat*. Feb 1;4(1):246-54. DOI: 10.1002/sta4.95.

8. Bhatnagar SR, Atherton J, Benedetti A (2015). Comparing alternating logistic regressions to other approaches to modelling correlated binary data. *Journal of Statistical Computation and Simulation*. Jul 3;85(10):2059-71. DOI 10.1080/00949655.2014.916707.

Substantive Papers

H.3 Published Articles

9. Tachmazidou I, Hatzikotoulas K, Southam L, Esparza-Gordillo J, Haberland V, Zheng J, Johnson T, Koprulu M, Zengini E, Steinberg, J, Wilkinson J, Bhatnagar S, Hoffman JD, Buchan N, Süveges D, Yerges-Armstrong L, Davey Smith G, Gaunt TR, Scott RA, McCarthy LC, Zeggini E (2019). Identification of new therapeutic targets for osteoarthritis through genome-wide analyses of UK Biobank. *Nature Genetics*. 51, pages 230–236. DOI 10.1038/s41588-018-0327-1.

10. Garfinkle R, Wong-Chong N, Petrucci A, Sylla P, Wexner S, Bhatnagar S, Morin N, Boutros M (2019). Assessing the readability, quality and accuracy of online health information for patients with Low Anterior Resection Syndrome following surgery for rectal cancer. *Colorectal Disease*. DOI 10.1111/codi.14548.

11. Kronfli N, Bhatnagar S, Hull M, Moodie EEM, Cox J, Walmsley S, Gill J, Cooper C, Martel-Laferriere V, Pick N, Klein MB for the Canadian Co-Infection Cohort Investigators (2019). Trends in cause-specific mortality in HIV-Hepatitis C co-infection following hepatitis C treatment scale-up. *AIDS*. In press. DOI 10.1097/QAD.0000000000002156.

12. Garfinkle R, Abou-Khalil M, Bhatnagar S, Wong-Chong N, Azoulay L, Morin N, Vasilevsky C, Boutros M (2019). A Comparison of Pathologic Outcomes of Open, Laparoscopic, and Robotic Resections for Rectal Cancer Using the ACS-NSQIP Proctectomy-Targeted Database: a Propensity Score Analysis. *Journal of Gastrointestinal Surgery*. 23:348–356. DOI s11605-018-3974-8.

13. Nadig A, Flanagan T, White K, Bhatnagar SR (2018). Results of a RCT on a transition support program for adults with ASD: Effects on Self Determination and Quality of Life (2018). *Autism Research*. 11 (12), 1712-1728. DOI 10.1002/aur.2027.

14. Steinberg J, Brooks R, Southam L, Bhatnagar SR, Roumeliotis T, Hatzikotoulas K, Zengini E, Wilkinson JM, Choudhary J, McCaskie AW, Zeggini E (2018). Widespread Epigenomic, Transcriptomic and Proteomic Differences Between Hip Osteophytic and Articular Chondrocytes in Osteoarthritis. *Rheumatology*. 57(8): 1481-1489. DOI 10.1093/rheumatology/key101.

15. Delouya G, Tiberi D, Bhatnagar S, Campeau S, Saad F, Taussky D. (2018). Impact of adipose tissue on prostate cancer aggressiveness–analysis of a high-risk population. *Hormone molecular biology and clinical investigation*. 36(3). DOI 10.1515/hmbci-2018-0049.

I. Presentations and Lectures

* indicates the person that gave the presentation

I.1 Keynote addresses

2019/03/15	Miser sur la sparsité. Sommet étudiant de la statistique à Montréal. UQAM.
2018/03/16	Pick your favorite buzzword: Data Science, Big Data, Machine Learning, Data Science, Big Data, Machine Learning. 14th Annual McGill Epidemiology, Biostatistics and Occupational Health Research Day.

I.2 Presentations at universities or research institutes (invited)

2018/10/02	Centre for Clinical Epidemiology, Jewish General Hospital. Pick your favorite buzzword: Data Science, Big Data, Machine Learning, Data Science, Big Data, Machine Learning.
2018/03/01	McGill University, Department of Epidemiology, Biostatistics and Occupational Health. Betting on Sparsity.
2018/02/08	Université Laval, Département de mathématiques et de statistique. Miser sur la sparsité.
2017/12/18	Université de Montréal, Département de mathématiques et de statistique. Miser sur la sparsité.
2017/11/16	HEC Montréal, Department of Decision Sciences. Betting on Sparsity.

I.3 Contributed Conference Presentations

2019/05/11	Bonaffini PA*, Savadjiev P, Bhatnagar SR, Salman A, Lazaris A, Metrakos P, Gallix B, Reinhold C. Quantitative MRI image analysis for predicting histopathological growth patterns of liver metastases from colorectal cancer. International Society for Magnetic Resonance in Medicine 27th Annual Meeting, Montreal, QC.
2018/09/13	Garfinkle R*, Sigler G, Morin N, Ghitulescu G, Bhatnagar S, Faria J, Gordon PH, Vasilevsky CA, Boutros M Does Time to Closure of Loop Ileostomy Increase the risk of postoperative Ileus? A Large, Single-Institution Canadian Surgery Forum, St John's, NL
2018/09/13	Chau JK*, Bhatnagar S, Abou Khalil M, Morin N, Vasilevsky CA, Ghitulescu G, Faria J, Boutros M. Short-Term Outcomes of Peri-Operative Blood Transfusions in colorectal Cancer Surgery: A Propensity-Adjusted Analysis Canadian Surgery Forum, St John's, NL
2018/09/13	Garfinkle R*, Abou-Khalil M, Bhatnagar S, Wong-Chong N, Azoulay L, Morin N Vasilevsky CA, Boutros M. A Comparison of Pathologic Outcomes of Open, Laparoscopic, and Robotic Resections for Rectal Cancer Using the ACS-NSQIP Proctectomy-Targeted Database: A Propensity Score Analysis. Canadian Surgery Forum, St John's, NL
2018/08/02	Bhatnagar SR*, Oualkacha K, Yang Y, Greenwood CMT. A General Framework for Variable Selection in Linear Mixed Models with Applications to Genetic Studies with Structured Populations. Joint Statistical Meetings, Vancouver, BC.
2018/05/02	Garfinkle R*, Wong-Chong N, Petrucci A, Sylla P, Wexner S, Bhatnagar S, Morin N, Boutros M. The Readability, Quality and Accuracy of Online Health Information for Patients with Low Anterior Resection Syndrome MacLean General Surgery Day, Montreal, QC.
2018/05/02	Chau JK*, Bhatnagar S, Abou Khalil M, Morin N, Vasilevsky CA, Ghitulescu G, Faria J, Boutros M. Short-Term Outcomes of Peri-Operative Blood Transfusions in colorectal Cancer Surgery: A Propensity-Adjusted Analysis. Fraser Gurd Surgery Research Day, Montreal, QC.
2018/05/02	Wong-Chong N*, Abou Khalil M, Garfinkle R, Bhatnagar S, Ghitulescu G, Vasilevsky CA, Morin M, Boutros M. Are rectal cancer patients with pretreatment N2-positive disease suitable for "Watch and Wait" protocols? An ACS-NSQIP analysis. Fraser Gurd Surgery Research Day, Montreal, QC.
2018/05/02	Garfinkle R*, Wong-Chong N, Petrucci A, Sylla P, Wexner S, Bhatnagar S, Morin N, Boutros M. The Readability, Quality and Accuracy of Online Health Information for Patients with Low Anterior Resection Syndrome. Fraser Gurd Surgery Research Day, Montreal, QC.

2018/07/21	Wong-Chong N*, Abou Khalil M, Garfinkle R, Bhatnagar S, Ghitulescu G, Vasilevsky CA, Morin M, Boutros M. Are rectal cancer patients with pretreatment N2-positive disease suitable for "Watch and Wait" protocols? An ACS-NSQIP analysis. ACS Quality and Safety Conference, Orlando, FL.
2017/09/13	Abou Khalil M*, Bhatnagar SR, Vasilevsky CA, Morin N, Ghitulescu G, Feldman L, Longtin Y, Boutros M: Development and validation of a clinical risk calculator for fulminant Clostridium difficile colitis. Resident Research Retreat, Canadian Surgical Forum, Victoria, British Columbia, Canada.
2017/07/24	Kronfli N*, Bhatnagar SR, Moodie EEM, Hull M, Klein MB: Trends in Cause-Specific Mortality in HIV-hepatitis C (HCV) co-infected patients in Canada (2003–2016): Possible Beneficial impact of HCV therapy. 9th IAS Conference on HIV Science, Paris, France.
2017/06/12	Bhatnagar SR*, Yang Y, Jolicoeur-Martineau A, Wazana A, Greenwood CMT: Variable Selection in Nonlinear Interactions with the Group Lasso. 45th Annual Meeting of the Statistical Society of Canada, Winnipeg, Canada.
2016/11/18	Bhatnagar SR: Genomic Visualisations for Biologists in R. Plotcon 2016, New York City, NY. YouTube video of presentation.
2016/11/03	Bhatnagar SR*, Yang Y, Khundrakpam B, Evans A, Blanchette M, Bouchard L, Greenwood CMT: An analytic approach for interpretable predictive models in high dimensional data, in the presence of interactions with exposures. 25th Annual International Genetic Epidemiology Society Meeting, Toronto, Canada.
2016/09/09	Hamadani FT*, Bhatnagar SR, Balvardi S, Trepanier M, Grushka J, Deckelbaum D, Court O, Fata P: Burnout and Career Satisfaction Among Canadian General Surgeons: Results of the CAGS National Burnout Study. Canadian Surgery Forum, Toronto, Canada.
2016/07/10	Bhatnagar SR*, Yang Y, Blanchette M, Greenwood CMT: Strong Heredity Models in High Dimensional Data. 28th International Biometrics Conference, Victoria, Canada.
2016/04/18	Bhatnagar SR*, Yang Y, Blanchette M, Greenwood CMT: A Model for Interpretable High-Dimensional Interactions. 5th Annual Canadian Human and Statistical Genetics Meeting, Halifax, Canada.
2015/04/19	Bhatnagar SR*, Houde A, Voisin G, Bouchard L, Blanchette M, Greenwood CMT: DNA methylation and Expression to predict childhood obesity. 4th Annual Canadian Human and Statistical Genetics Meeting, Vancouver, Canada.

I.4 Poster Presentations

2017/10/22	Abou Khalil M*, Bhatnagar SR, Vasilevsky CA, Morin N, Ghitulescu G, Feldman L, Longtin Y, Boutros M: A Nomogram for Prediction of Mortality in Patients who Undergo Surgery for Fulminant Clostridium Difficile Colitis: Results from the American College of Surgeons National Surgical Quality Improvement Program (ACS-NSQIP) Database. American College of Surgeons' 2017 Clinical Congress, San Diego, CA, USA.
2017/09/10	Bhatnagar SR*, Oualkacha K, Yang Y, Forest M, Greenwood CMT: Estimation for High-Dimensional Multivariate Linear Mixed Models in Structured Populations. 2017 International Genetic Epidemiology Society Meeting, Cambridge, UK.
2017/05/13	Nadig A*, Flanagan T, Bhatnagar SR, White K: Results of a RCT on a Transition Support Program for Adults with ASD: Effects on Quality of Life and Self-Determination. 2017 International Meeting for Autism Research, San Francisco, California, USA.
2016/05/12	Hull M*, Bhatnagar SR, Moodie EEM, Klein M: Trends in causes of mortality in the Canadian Co-infection cohort (CCC) 2005 – 2015. 25th Annual Canadian Conference on HIV/AIDS Research, Winnipeg, Canada.
2016/04/17	Bhatnagar SR*, Yang Y, Blanchette M, Greenwood CMT: A Model for Interpretable High Dimensional Interactions. 5th Annual Canadian Human and Statistical Genetics Meeting, Halifax, Canada.

2015/04/19	Bhatnagar SR*, Houde A, Voisin G, Bouchard L, Blanchette M, Greenwood CMT: Integrating DNA Methylation and Gene Expression data in Placenta Tissue to Predict Childhood Obesity. 4th Annual Canadian Human and Statistical Genetics Meeting, Vancouver, Canada. *$1,000 Award for Best Poster*
2014/08/24	Bhatnagar SR*, Greenwood CMT, Labbe A: Transmission Ratio Distorition in Extended Families. Genetic Analysis Workshop 19, Vienna, Austria.
2014/08/25	Sun J, Bhatnagar SR*, Oualkacha K, Ciampi A, Greenwood CMT: Joint analysis of multiple blood pressure phenotypes in GAW19 data by using a multivariate rare-variant association test. Genetic Analysis Workshop 19, Vienna, Austria.
2014/05/26	Bhatnagar SR*, McGregor K*, Turgeon M*: Effect of economy on TV time use. 42nd Annual Meeting of the Statistical Society of Canada, Toronto, Ontario.

I.5 Seminar Presentations

2017/07/12	Bhatnagar SR, Forest M, Keller-Baruch J: Statistics vs. Machine Learning: Why can't we be friends? Lady Davis Institute, Montreal Jewish General Hospital.
2016/05/19	Bhatnagar SR: Methods for High Dimensional Interactions Ludmer Centre for Neuroinformatics and Mental Health, Montreal Neurological Institute.
2015/08/12	Bhatnagar SR: Introduction to knitr and R Markdown. Montréal UseR Group, Notman House, Montréal.
2015/03/12	Bhatnagar SR: Imputing the Epigenome. Lady Davis Institute, Montreal Jewish General Hospital.
2015/03/05	Bhatnagar SR: Making sense of Methylation & Expression data in Cordblood and Placenta Tissues. Lady Davis Institute, Montreal Jewish General Hospital.
2014/04/07	Bhatnagar SR: Estimation and Accuracy after Model Selection by Bradley Efron. Department of Mathematics and Statistics, McGill University.
2014/01/23	Bhatnagar SR: Reproducible Research and Biostatistics. Biostatistics Reading Group, McGill University.
2014/08/07	Bhatnagar SR*, Greenwood CMT, Labbe A: Transmission Ratio Distortion in Extended Families. Lady Davis Institute, Montreal Jewish General Hospital.
2013/08/30	Bhatnagar SR: Absolute Risk Estimation in a Case Cohort Study of Prostate Cancer. Department of Mathematics and Statistics, Queen's University.
2013/03/06	Bhatnagar SR: Colorectal Cancer Screening in Visible Minorities in Canada. Department of Public Health Sciences, Queen's University.
2012/11/27	Bhatnagar SR: Computational Methods for the Case-Cohort Design. Department of Public Health Sciences, Queen's University.

J. Software

1. Shiny Application **cdiff**: Interactive, online web application to guide preoperative decision making for patients with fulminant Clostridium difficile colitis (FCDC) being evaluated for surgery. This calculator predicts 30-day postoperative mortality for patients with FCDC based on easily attainable pre-operative parameters. [`https://sahir.shinyapps.io/cdiff/`]
2. R package **sail**: Sparse Additive Interaction Learning with the strong heredity property, i.e., an interaction is selected only if its corresponding main effects are also included. Fits high-dimensional linear models with non-linear interactions via penalized maximum likelihood.
[`https://github.com/sahirbhatnagar/sail`][http://sahirbhatnagar.com/sail/]
3. R package **eclust**: Dimension reduction technique for analyzing interactions between a high dimensional dataset (e.g. genomics, brain imaging), the environment and a response.
[https://cran.r-project.org/package=eclust][http://sahirbhatnagar.com/eclust/][2046 downloads]
4. R package **casebase**: Fit smooth-in-time parametric hazard functions using case-base sampling. This approach allows the explicit inclusion of the time variable into the model, which enables the user

to fit a wide class of parametric hazard functions.
[https://cran.r-project.org/package=casebase][http://sahirbhatnagar.com/casebase/][1172 downloads]

5. R package **manhattanly**: Create interactive Q-Q and manhattan plots that are usable from the R console, in the 'RStudio' viewer pane, in 'R Markdown' documents, and in 'Shiny' apps.
[https://cran.r-project.org/package=manhattanly][http://sahirbhatnagar.com/manhattanly/][5.5k downloads]
6. R package **ggmix**: Implementation of a linear mixed model with group lasso penalty as described in the paper 'A General Framework for Variable Selection in Linear Mixed Models with Applications to Genetic Studies with Structured Populations'
[`https://github.com/sahirbhatnagar/ggmix`]
7. R package **gglasso**: A unified algorithm, blockwise-majorization-descent, for efficiently computing the solution paths of the group-lasso penalized least squares, logistic regression, Huberized SVM and squared SVM
[https://cran.r-project.org/package=gglasso][https://github.com/emeryyi/gglasso][16k downloads]
8. R package **acm4r**: Fragment lengths or molecular weights from pairs of lanes are compared, and a number of matching bands are calculated using the Align-and-Count Method
[https://cran.r-project.org/package=acm4r][13k downloads]

K. TEACHING

K.1 GRADUATE COURSES

2019 Winter	Fundamentals of Clinical Research for Radiologists. Lecture series, 20 in-class hours, 40 radiology residents attend.
2018 Fall	EPIB607: Principles of Inferential Statistics. 4 Credits, 48 in-class hours, 81 graduate students enrolled. Department of Epidemiology, Biostatistics and Occupational Health, McGill University.

K.2 SHORT COURSES AND TUTORIALS

2019/05/14	Atelier d'une journée sur les outils pour la diffusion rapide et reproductible de la recherche. R à Québec. Campus de l'Université Laval.
2018/07/08	4 day Introduction to R Workshop. Northwestern Polytechical University. Xi'an, China.
2018/06/02	Having an Online Presence: Tools for Reproducible and Rapid Dissemination of Research. 6th Annual Canadian Statistics Student Conference. Montréal, QC.
2018/02/28	Introduction to Regression Trees. MATH 680 - Computation Intensive Statistics. Department of Mathematics and Statistics, McGill University.
2018/02/08	Modèles d'arbres de régression. Mini-cours. Département de mathématiques et de statistique, Université Laval.
2017/03/28	Introduction to the R package `casebase` for fitting smooth-in-time prognostic risk functions for survival data and visualizing incidence density using population time plots. Guest lecturer for BIOS 602 - Epidemiology Regression Models II. Department of Epidemiology, Biostatistics and Occupational Health, McGill University.
2016/05/21	GitHub for Data Scientists without the Terminal: `http://sahirbhatnagar.com/git4ds/`
2016/04/15	Loops and Simulations in R. Department of Epidemiology, Biostatistics and Occupational Health, McGill University. Sponsored by Epidemiology, Biostatistics and Occupational Health Student Society (EBOSS). `http://www.sahirbhatnagar.com/biosR/`

2016/03/23	Introduction to the R package `casebase` for fitting smooth-in-time prognostic risk functions for survival data and visualizing incidence density using population time plots. Guest lecturer for BIOS 602 - Epidemiology Regression Models II. Department of Epidemiology, Biostatistics and Occupational Health, McGill University.
2015/07/29	Atelier sur le logiciel en R: Un introduction à la programmation en R. GERAD: Groupe d'études et de recherche en analyse, Université de Montréal. Sponsored by HEC Montréal.
2015/05/28	Reproducible Research: An introduction to `knitr`. Department of Epidemiology, Biostatistics and Occupational Health, McGill University. Sponsored by the CRM Statistics Laboratory and the Montreal Biostatistics Seminar Series.
2013/05/13	Introduction to LaTeX. Queen's University, Department of Mathematics and Statistics.

K.3 Research Trainees Supervised

Graduate students: Doctoral degree supervision

2019 –	Kai Yang, Ph.D Biostatistics, McGill University. *Topic: Pruning in deep neural networks*.

Graduate students: Master's degree supervision

2019 –	Lan Bowen, M.Sc. Epidemiology, McGill University. (Co-supervisor: Scott Weichenthal).
2019 –	Charlélie Davidts, L'Université du Québec à Montréal. (Co-supervisor: Karim Oualkacha). *Topic: Fast Low-rank approximations in high-dimensional mixed-effects models*.

Practicum students

2019	Tianyuan Lu, Ph.D Quantitative Life Science, McGill University. 3 month rotation. *Topic: Polygenic risk scores based on penalized multivariable mixed-effects models*
2019	Jesse Islam, Ph.D Quantitative Life Science, McGill University. 3 month rotation. *Topic: Smooth-in-time parametric hazard functions using case-base sampling*.

Undergraduate trainee supervision

2019 –	Alicia Ter-Cheam, B.Sc. Mathematics and Statistics, McGill University. *Topic: High-dimensional sparse interaction modeling with non-linear effects.*

L. Other Contributions

L.1 Reviewer of Journal Articles

International Journal of Epidemiology (1), BMC Bioinformatics (1)

L.2 Event/session organization

2019	Co-organizer for the invited session on Variable Selection in High-dimensional Models. International Workshop on Perspectives on High-dimensional Data Analysis, Uppsala University, Sweden.
2018	Chair for the invited session on Advances in Estimation Methods. Joint Statistical Meetings, Vancouver, BC.

L.3 Administrative Responsibilities and Committees

2018 –	Chair, Data Science / Health Analytics Certificate Committee
2019 –	Member, Biostatistics Admissions Committee
2015–2018	International Genetic Epidemiology Society Communications Committee Member
2014–2015	Post-Graduate Students' Society (PGSS) Councillor

L.4 Professional Associations

2011–	Society of Actuaries
2013–	Statistical Society of Canada
2016–	International Genetic Epidemiology Society