# Virgil Radu Craiu

June 2019

## PERSONAL

**Home**:

90A Hogarth Ave.

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**Office**:

100 St George Street

Toronto, ON M5S 3G3

tel: 416-946-7590

## DEGREES

| | | |
|---|---|---|
| B.S. | 1995 | Department of Mathematics, University of Bucharest. |
| M.S. | 1996 | Department of Mathematics, University of Bucharest. |
| Ph.D. | 2001 | Department of Statistics, University of Chicago. |

## EMPLOYMENT

| | | |
|---|---|---|
| Department of Statistical Sciences, Univ. of Toronto | Professor | July 1, 2013. |
| Department of Mathematics, Univ. of Bucharest | Teaching Assistant | 1994 -1996. |
| Department of Statistics, Univ. of Chicago | Teaching Assistant | 1996 - 2001. |
| Department of Statistics, Univ. of Chicago | Research Assistant | 1996 - 2001. |
| Department of Statistics, Univ. of Chicago | Lecturer | 1997 - 2000. |
| Department of Statistical Sciences, Univ. of Toronto | Assistant Professor | 2001 - 2006. |
| Department of Statistical Sciences, Univ. of Toronto | Tenured Associate Professor | 2006 - 2013 . |

## PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- 2019 **Organizer** of the *Statistics in Biosciences* topic session at the European Meeting of Statisticians, Palermo.

- 2019 **Member of Scientific Committee** for the international conference Computation & Methodology in Statistics, London.

- 2019 **Organizer** of the *Advances MCMC* invited session at Computation & Methodology in Statistics, London.

- 2019 **External Reviewer for Tenure Promotion Case** for

  - Assist Prof. at Plymouth University.
  - Assist Prof. at University of Ottawa.

- 2019 **Associate Editor** for *Harvard Data Science Review.*

- 2018 **Organizer** of *Bayesian Analysis with Large Data* Invited Session at the Computational and Methodological Statistics Meeting.

- 2018 **Organizer** of the *Advances in Bayesian modelling and computation* invited session at Statistical Society of Canada meeting.

- 2015-2017 **Member of NSERC Mathematics and Statistics Evaluation Group.**

- 2017 **External Reviewer** for the Quantitative Life Sciences Doctoral Program at McGill University.

- 2017 **External Reviewer for Promotion to Full Professor** for:

  - Professor at Purdue University.
  - Professor at Université de Montréal.
  - Professor at University of Michigan.

- 2016 **External Reviewer for Tenure Promotion Case** for Assist Prof. at University of Iowa.

- 2015 **Elected Member of the International Statistical Institute (ISI).**

- 2014 **External Reviewer for Tenure Promotion Case** for:

  - Assist Prof. at University of California Riverside
  - Assist Prof. at Iowa State University
  - Assist Prof. at University of Missouri - St. Louis

- 2014 **Guest Associate Editor** for *Technometrics* Special Issue on Big Data.

- 2014 **Guest Associate Editor** for *Statistics and Its Interface* Special Issue on Big Data.

- 2012 - present **Associate Editor** for *STAT - The ISI's Journal for the Rapid Dissemination of Statistics Research*.

- 2010 - present **Associate Editor** for *Canadian Journal of Statistics*, a Statistical Society of Canada publication.

- 2006 - present **Associate Editor** for *Journal of Computational and Graphical Statistics*, an American Statistical Association publication.

- 2010 - present **Mentor** for the *Strategic Training for Advanced Genetic Epidemiology (STAGE)* Program at the University of Toronto.

- 2013 - **Instructor** of a 3-day intensive course on *Bayesian Analysis and Computation* at the University of Milano-Bicocca.

- 2013 - **Organizer** of *Copulas: Theory and Applications* invited session at the ENAR meeting.

- 2012 **Member of the Organizing Committee**, BIRS Workshop on *Statistical and Computational Theory and Methodology for Big Data Analysis*, Banff International Research Station February 2014.

- 2005 - 2011 **Associate Editor** for *Statistica Sinica*, an Academia Sinica publication.

- 2011 **Member of the Organizing Committee**, BIRS Workshop on *Challenges and Advances in High Dimensional and High Complexity Monte Carlo Computation and Theory*, Banff International Research Station March 2012.

- 2011-12 **Reviewer** of Research Grant Proposals for the Canadian Breast Cancer Foundation.

- 2011 **Organizer and chair** of *Recent Advances in MCMC* invited session at the SSC.

- 2007 **Organizer and chair** of the *Markov Chain Monte Carlo and Quasi Monte Carlo: A Productive Marriage* invited session at the SSC.

- 2005 **SSC representative** to the Joint Statistical Meetings.

- 2004 **Organizer and chair** of the *Bayesian Methods in Survival Analysis* IMS invited session at the ENAR meeting.

- **External Examiner** for PhD defense (Statistics Department, Waterloo University, 2008).

- **Member** of the Statistical Society of Canada and the Institute of Mathematical Statistics.

- **Referee** for the National Science and Engineering Research Council of Canada (NSERC).

- **Referee** for:

    - *Annals of Statistics*

    - *Annals of Applied Statistics*

    - *Annals of Applied Probability*

    - *Biometrika*

    - *Biometrics*

    - *Canadian Journal of Statistics*

    - *Computational Statistics and Data Analysis*

    - *Econometrics and Statistics*

    - *Electronic Journal of Statistics*

    - *Journal of the American Statistical Association*

    - *Journal of Multivariate Analysis*

    - *Journal of the Royal Statistical Society Ser. B*

    - *Journal of the Royal Statistical Society Ser. A*

    - *Journal of Computational and Graphical Statistics*

    - *Journal of Statistical Planning and Inference*

    - *Lifetime Data Analysis*

    - *Statistica Sinica*

    - *Statistics and Computing*

    - *IEEE Transactions of Reliability*

    - *STAT - ISI's Journal for the Rapid Dissemination of Statistics Research*

    - *Statistics in Medicine*

- *Statistics and Its Interface*

- *Stochastic Processes and Applications*

- *Technometrics*

- *Test*

## RESEARCH INTERESTS

Bayesian Inference, Copula Models, Markov Chain Monte Carlo Methods, Model Selection, Statistical Genetics.

## RESEARCH GRANTS

| | | |
|---|---|---|
| 2001 - 2003 | Connaught Start-up Grant | $10,000 over 2 years. |
| 2002 - 2007 | NSERC Individual Research Grant | $57,500 over 5 years. |
| 2003-2005 | Connaught Matching Grant | $11,000 over 2 years. |
| 2007-2012 | NSERC Individual Research Grant | $70,000 over 5 years. |
| 2007-2012 | CIHR Grant (CO-PI with Shelley Bull and Lei Sun) | $543,030 over 5 years. |
| 2012-2017 | NSERC Individual Research Grant | $105,000 over 5 years. |
| 2012-2016 | CIHR Grant (CO-PI) | $436,368 over 4 years. |
| 2014-2017 | CANSSI Collaborative Research Team Project (CO-PI ) Jean-Francois Quessy, Bruno Remillard and Jean-Paul Rivest) | $200,000 over 3 years. |
| 2018-2023 | NSERC Individual Research Grant | $225,000 over 5 years. |
| 2018-2023 | CIHR Grant (Co-I) | $ 474,772 over 5 years. |

## AWARDS

| | | |
|---|---|---|
| 1990 - 1996 | Merit Fellowship | University of Bucharest. |
| 1996 | Tempus European Scholarship | ENSAE, Paris. |
| 1997 | Paul Meier Fellowship | University of Chicago. |
| 1996 - 2001 | Graduate Fellowship | University of Chicago. |
| 2001 | R. L. Anderson Student Paper Award | Summer Research Conference in Statistics. |
| 2005 | Poster Presentation Award | 2nd IMS-ISBA Joint Meeting (MCMSki). |
| 2003-07,'16 | Dean's Excellence Award | University of Toronto. |
| 2015 | Elected Member | International Statistical Institute (ISI). |
| 2016 | CRM-SSC Prize | Statistical Society of Canada (SSC). |
| 2019 | Canadian Journal of Statistics Award | Statistical Society of Canada (SSC). |

## REFEREED PUBLICATIONS (Trainees are marked with [‡])

### Articles

1. Radu V. Craiu (1996). Bayesian inference in doubly truncated Laplace distribution. *Romanian Journal of Pure and Applied Mathematics*, Vol. XLI, no. 7-8, 473–481.

2. Radu V. Craiu (1999). Bayesian reliability estimates in the exponential case. *Romanian Journal of Pure and Applied Mathematics*, Vol. XLIV, no. 3, 353–359.

3. Radu V. Craiu (2001). Efficient bootstrap resampling. *Scientific Bulletin - University Politehnica Bucharest, Series A*, **63**, No. 3, 3–10.

4. Radu V. Craiu and Xiao-Li Meng (2001). Chance and Fractals. *Chance*, **14**, No. 2, 47–52.

5. Radu V. Craiu and Thierry Duchesne (2004). Inference based on the EM algorithm for the competing risk model with masked causes of failure. *Biometrika,* **91**, No. 3, 543–558.

6. Radu V. Craiu and Xiao-Li Meng (2005). Multi-process parallel antithetic coupling for forward and backward Markov chain Monte Carlo. *Annals of Statistics,* **33**, No. 2, 661–697.

7. Radu V. Craiu and Thomas C.M. Lee (2005). Model Selection for the Competing Risks Model With and Without Masking. *Technometrics*, **47**, No. 4, 457–467.

8. Radu V. Craiu and Xiao-Li Meng (2006). Meeting Hausdorff in Monte Carlo: A Surprising Tour with the Antihype Fractal. *Statistica Sinica*, **16**, No. 1, 77–91.

9. Radu V. Craiu and Thomas C.M. Lee (2006). Pattern generation using likelihood inference for cellular automata. *IEEE Transactions on Image Processing*, **15**, No.7, 1718–1727.

10. Radu V. Craiu and Benjamin Reiser (2006). Inference for the dependent competing risks model with masked causes of failure. *Lifetime Data Analysis*, **12**, No. 1, 21–33.

11. Lei Sun, Radu V. Craiu, Andrew Paterson, Shelley B. Bull (2006). Stratified False Discovery Control for Large-scale Hypothesis Testing with application to Genome-Wide Association Studies. *Genetic Epidemiology*, **30**, No. 6, 519–530.

12. Radu V. Craiu and Christiane Lemieux (2007). Acceleration of the Multiple-try Metropolis Algorithm using Antithetic and Stratified sampling. *Statistics and Computing*, **17**, No. 2, 109–120.

13. Mariana Craiu and Radu V. Craiu (2008). Bayesian Inference for Copula Models. *Scientific Bulletin*, **70**, No. 3, 3-11.

14. Radu V. Craiu, Thierry Duchesne and Daniel Fortin (2008). Generalized estimating equations and model selection for longitudinal conditional logistic regression. *Biometrical Journal*, **50**, No. 1, 97-109.

15. Radu V. Craiu and Lei Sun (2008). Choosing the lesser evil: trade-off between false discovery rate and non-discovery rate. *Statistica Sinica*, **18**, No. 3, 861-879.

16. Mariana Craiu and Radu V. Craiu (2008). On the choice of parametric families of copulas. *Advances and Applications in Statistics*, **10**, No. 1, 25-40.

17. Radu V. Craiu, Jeffrey S. Rosenthal and Chao Yang[‡] (2009). Learn from Thy Neighbor: Parallel-Chain and Regional Adaptive MCMC. *Journal of the American Statistical Association*, **104**, No. 488, 1454-1466.

18. Fang Yao, Radu V. Craiu and Ben Reiser (2010). Nonparametric covariate adjustment for Receiver Operating Curves. *The Canadian Journal of Statistics*, **38**, No. 1, 27–46.

19. Radu V. Craiu (2011). Invited Discussion of: *Predictive Comparison of Joint Longitudinal-Survival Modeling: A Case Study Illustrating Competing Approaches*, by Timothy

Hanson, Adam Branscum and Wesley Johnson. *Lifetime Data Analysis*, **17**, No. 1, 33–36.

20. Radu V. Craiu (2011). Tuning Markov chain Monte Carlo algorithms using Copulas. *Scientific Bulletin, A*, **73**, No.1, 5–12.

21. Yan Bai[‡], Radu V. Craiu and Antonio F. Di Narzo[‡] (2011). Divide and Conquer: A Mixture-Based Approach to Regional Adaptation for MCMC. *Journal of Computational and Graphical Statistics*, **20**, No. 1, 63–79.

22. Lizhen Xu[‡], Radu V. Craiu and Lei Sun (2011). Bayesian Methods to Overcome the Winner's Curse in Genetic Studies. *Annals of Applied Statistics*, **5**, No. 1, 201–231.

23. Elif F. Acar[‡], Radu V. Craiu and Fang Yao (2011). Dependence Calibration in Conditional Copulas: A Nonparametric Approach. *Biometrics*, **67**, No. 2, 445-453.

24. Radu V. Craiu, Thierry Duchesne, Daniel Fortin and Sophie Baillargeon (2011). Conditional Logistic Regression with longitudinal follow up and individual-level random coefficients: A stable and efficient two-step estimation method. *Journal of Computational and Graphical Statistics*, **20**, No. 3, 767-784.

25. Zhijian Chen[‡], Radu V. Craiu and Shelley B. Bull (2012). Two-phase stratified sampling designs for regional sequencing. *Genetic Epidemiology*, **36**, No.4, 320–332.

26. Radu V. Craiu and Avideh Sabeti[‡] (2012). In Mixed Company: Bayesian Inference for Conditional Copulas Models with Discrete and Continuous Outcomes. *Journal of Multivariate Analysis*, **110**, 106–120.

27. Roberto Casarin, Radu V. Craiu and Fabrizio Leisen (2013). Interacting multiple try algorithms with different proposal distributions. *Statistics and Computing*, **23**, No. 2, 185–200.

28. Lizhen Xu[‡], Radu V. Craiu, Andriy Derkach, Andrew Paterson and Lei Sun (2014). Using a Bayesian Latent Variable Approach to Detect Pleiotropy in the Genetic Analysis Workshop 18 Data. *BMC Proceedings*, **8**, S:77.

29. Radu V. Craiu and Jeffrey S. Rosenthal. (2014) Bayesian Computation via Markov chain Monte Carlo. *Annual Reviews of Statistics and its Application*, **1**, 179-201.

30. Li Li[‡], Fang Yao, Radu V. Craiu and Jialin Zou (2014). Minimum Description Length Principle for Linear Mixed Effects Models. *Statistica Sinica*, **24**, 1161-1178.

31. Elif F. Acar[‡], Radu V. Craiu and Fang Yao (2014). Statistical Testing for Conditional Copulas. *Electronic Journal of Statistics*, **7**, 2822-2850.

32. Zhijian Chen[‡], Radu V. Craiu and Shelley B. Bull (2014). A Note on the Efficiencies of Sampling Strategies in Two-Stage Bayesian Regional Fine Mapping of a Quantitative Trait. *Genetic Epidemiology*, **38**, 599-609.

33. Avideh Sabeti[‡], Mian Wei[‡] and Radu V. Craiu (2014). Additive models for Conditional Copulas. *STAT - ISI's Journal for the Rapid Dissemination of Statistics Research*, **3**, 300-312.

34. Radu V. Craiu, Lawrence Gray, Krzysztof Latuszyński, Neal Madras, Gareth O. Roberts and Jeffrey S. Rosenthal (2015). Stability of Adversarial Markov chains, with an Application to Adaptive MCMC Algorithms. *Annals of Applied Probability*, **25**, 3592-3623.

35. Lizhen Xu[‡], Radu V. Craiu, Lei Sun and Andrew Paterson (2016). Parameter expanded Algorithms for Bayesian Latent Variable Modeling of Genetic Pleiotropy Data. *Journal of Computational and Graphical Statistics*, **25**, 405-425.

36. Roberto Casarin, Radu V. Craiu and Fabrizio Leisen (2016). Embarrassingly Parallel Sequential Markov-chain Monte Carlo for Large Sets of Time Series. *Statistics and Its Interface* - Special issue dedicated to Statistical and Computational Theory and Methodology for Big Data, **9** No 4, 497-508.

37. Reihaneh Entezari[‡], Radu V. Craiu and Jeffrey S. Rosenthal (2016). Discussion of: *Efficient Metropolis-Hastings Proposal Mechanisms for Bayesian Regression Tree Models* by Matthew Pratola (2016). *Bayesian Analysis*, **11**, No. 3, 935-937.

38. Radu V. Craiu and Thierry Duchesnes (2018). A scalable and efficient covariate selection criterion for mixed effects regression models with unknown random effects structure. *Computational Statistics and Data Analysis*, **117**, 154-161.

39. Osvaldo Espin-Garcia[‡], Radu V. Craiu, Shelley B. Bull (2018). Two-Phase Designs for Joint Quantitative-Trait-Dependent and GWAS-SNP-Dependent Sampling in Post-GWAS Regional Sequencing. *Genetic Epidemiology*, **42**, 104-116.

40. Reihaneh Entezari[‡], Radu V. Craiu and Jeffrey S. Rosenthal (2018). Likelihood Inflating Sampling Algorithm. *The Canadian Journal of Statistics*, **46**, No. 1, 147-175. **This paper won the 2018 Canadian Journal of Statistics Award by the Statistical Society of Canada**.

41. Evgeny Levi[‡] and Radu V. Craiu (2018). Gaussian Process Single Index Models for Conditional Copulas. *Computational Statistics and Data Analysis*, **122**, 115-134.

42. Caren Hasler[‡], Radu V. Craiu and Louis-Paul Rivest (2018). Vine copulas for imputation of monotone non-response. *International Statistical Review*, **86**, 488-511.

43. Jinyoung Yang[‡], Evgeny Levi[‡], Radu V. Craiu and Jeffrey S. Rosenthal (2018). Adaptive Component-wise Multiple-Try Metropolis Sampling. *Journal of Computational and Graphical Statistics*, to appear.

44. Bo Chen[‡], Radu V. Craiu and Lei Sun (2018). Bayesian model averaging for the X-chromosome inactivation dilemma in genetic association study. *Biostatistics*, to appear.

45. Caren Hasler[‡] and Radu V. Craiu (2019). Nonparametric imputation method for nonresponse in surveys. *Statistical Methods and Applications*, to appear.


## Refereed Book Chapters

1. Radu V. Craiu and Xiao-Li Meng (2001). Antithetic coupling for perfect sampling. *Bayesian Methods with Applications to Science, Policy, and Official Statistics - Selected papers from ISBA 2000.* Edited by E. I. George, Eurostat.

2. Radu V. Craiu and Thierry Duchesne (2004). Using EM and Data Augmentation for the competing risks model. *Applied Bayesian Modeling and Causal Inference from an Incomplete-Data Perspective.* Edited by A. Gelman, and X. L. Meng, Wiley, New York.

3. Radu V. Craiu and Xiao-Li Meng (2011). Perfection within reach: Exact MCMC Sampling. *Handbook of Markov chain Monte Carlo.* Edited by Steve Brooks, Andrew Gelman, Galin Jones and Xiao-Li Meng, Chapman and Hall/CRC Press.

4. Radu V. Craiu and Lei Sun (2013). Bayesian Methods in Fisher's Statistical Genetics World. *Statistics in Action: A Canadian Perspective*, Edited by Jerry F. Lawless, Chapman and Hall/CRC Press.

5. Evgeny Levi[‡] and Radu V. Craiu (2019). Assessing Data Support for the Simplifying Assumption in Bivariate Conditional Copulas. *Proceedings of the Fourth International Society for Nonparametric Statistics Conference*, Springer, to appear.

**Software**

1. TwoStepCLogit: Conditional Logistic Regression: A Two-Step Estimation Method. R program available on CRAN.

2. SPAC2: Statistical and Probabilistic Algorithm for Classification and Clustering.

**Submitted and In Progress Publications**

1. Wei Deng[‡] and Radu V. Craiu (2019). Estimating the Number of Cancer Subtypes from Whole-Genome Expression Data via a Penalized Probabilistic Principal Component Analysis. Submitted.

2. Bo Chen[‡], Radu V. Craiu, Lisa Strug and Lei Sun (2019). The X-factor: A Robust and Powerful approach to X-chromosome-inclusive Whole-genome Association Studies. Submitted.

3. Wei Deng[‡] and Radu V. Craiu (2019). On the use of estimated effective dimension to boost efficiency and accuracy of classification algorithms. In progress.

4. Evgeny Levi[‡] and Radu V. Craiu (2019). Finding our Way in the Dark: Approximate MCMC for Approximate Bayesian Methods. In progress.

5. Roberto Casarin, Radu V. Craiu and Lorenzo Frattarolo (2019). Stirring the Mix: Negative Association and Permutation Polytopes. In progress.

**Refereed Conference Abstracts**

1. Lei Sun and Radu V. Craiu (2003). Sequential testing methods for pedigree error detection based on genome-screen data. *Genetic Epidemiology* **25**, 271-272.

2. Radu V. Craiu, Lei Sun (2005). Joint analysis of false discovery rate and non-discovery rate. *American Journal of Human Genetics* Supplement:A439.

3. Lizhen Xu[‡], Radu V. Craiu, Lei Sun (2010). Bayesian methods to overcome the winner's curse in genetic studies. Abstract #1108 presented at *The Annual Meeting of the American Society of Human Genetics*.

4. Lizhen Xu[‡], Radu V. Craiu, Lei Sun (2011). Bayesian modeling using latent variables for genetic pleiotropy studies. *The 6th Canadian Genetic Epidemiology and Statistical Genetics Workshop*.

5. Zhijian Chen[‡], Radu V. Craiu, Shelley B. Bull (2011). Two-Phase Stratified Sampling Designs for Regional Sequencing. *Workshop on Computational Statistical Methods for Genomics and Systems Biology.*

6. Zhijian Chen[‡], Radu V. Craiu, Shelley B. Bull (2011). Two-Phase Stratified Sampling Designs for Regional Sequencing. *International Genetic Epidemiology Society Meeting.* Published in: *Genetics Epidemiology*, **36**, No.2, 125-126.

7. Lizhen Xu[‡], Radu V. Craiu, Andrew Paterson, Lei Sun (2011). Detecting Pleiotropic Effect via Bayesian Latent Variable Modeling. *International Congress of Human Genetics.*

## Non-Refereed Publications

- Radu V. Craiu (2001). Multivalent framework for exact and approximate sampling and resampling. Ph.D. thesis (supervisor: Xiao-Li Meng), Department of Statistics, University of Chicago.

- Radu V. Craiu (2004). Antithetic acceleration of the Multiple-Try Metropolis. *Technical Report No 0407, University of Toronto.*

- Radu V. Craiu (2009). The Statistics Debutante's Dilemma. *IMS Bulletin*, **38**, No. 3, 3–5.

- Radu V. Craiu (2010). The Renaissance Statistician. *IMS Bulletin*, **39**, No. 3, 10.

- Roberto Casarin, Radu V. Craiu and Fabrizio Leisen (2012). Interacting Multiple-Try Algorithms. In Proceedings of the XLVI Scientific Meeting, Società Italiana de Statistica, Rome, CLEUP Padova

- Roberto Casarin, Radu V. Craiu and Fabrizio Leisen (2012). Interacting Multiple-Try Algorithms with Different Proposal Functions. In *Proceedings of Applied Stochastic Models and Data Analysis*, Rome, Ed. ETS, Pisa.

- Radu V. Craiu (2013). In Search of a Statistical Culture. *IMS Bulletin*, **42**, No. 2, 7.

- Zhijian Chen[‡], Radu V. Craiu and Shelley B. Bull (2013). A Bayesian Approach for Two-Phase Designs in Regional Sequencing. In *JSM Proceedings, Statistical Computing Section.* Alexandria, VA: American Statistical Association.

- Radu V. Craiu (2016). Book Review of *Perfect Simulation* by Mark Huber. *Journal of the American Statistical Association*, **111**, 1849-1850.

- Radu V. Craiu (2018). A Contribution to "Math in Seventeen Syllables: A Folder of Mathematical Haiku" . *Journal of Humanistic Mathematics*, **8**, pg. 450.

- Radu V. Craiu (2018). Growing Pains and Gains in Statistics, the Toronto Way. *IMS Bulletin*, **47**, No. 6, pg. 11.

- Radu V. Craiu (2018). My 'sexy statistics' - Take it or LV it. *IMS Bulletin*, **47**, No. 8, pg. 13.

## INVITED AND CONTRIBUTED PRESENTATIONS

### Invited Lectures

**2001**  – University of Florida, Department of Statistics, February 2001.

– University of California at Santa Cruz, Department of Statistics and Applied Mathematics, February 2001.

– University of Toronto, Department of Statistics, March 2001.

– St. Augustine, Florida, May 2001. Summer Research Conference.

**2002**  – Hamilton, May 2002. Statistical Society of Canada Meeting.

– Florida State University, Department of Statistics, November 2002.

**2004**  – Toronto, Ontario, August 2004. Joint Statistical Meetings.

– University of Toronto, Department of Statistics, November 2004.

– University of Chicago, Department of Health Studies, November 2004.

– Colorado State University, Department of Statistics, December 2004.

**2005**  – Minneapolis, Minnesota, August 2005. Joint Statistical Meetings.

– University of Minnesota, Department of Statistics, November 2005.

**2006**  – University of Waterloo, Department of Statistics, January 2006.

– London, Ontario, May 2006. Statistical Society of Canada Meeting.

- University of California, San Diego, Division of Biostatistics and Bioinformatics, November 2006.

**2007** – Bucharest, Romania, April 2007. Statistics and Probability Society of Romania Meeting.

- Harvard University, May 2007. 3rd Workshop on Monte Carlo Methods.

- Banff International Research Station, July 2007. Bioinformatics, Genetics and Stochastic Computation: Bridging the Gap.

- York University, Department of Mathematics and Statistics, October 2007.

**2008** – Bormio, Italy, January 2008. Adap'ski - Workshop on Adaptive Monte Carlo.

- University of Wisconsin, Madison, Department of Biostatistics. January 2008.

- University of California, Los Angeles, Department of Statistics. February 2008.

- Centre de Récherche Mathématiques, Montreal. March 2008.

- University of Waterloo, Waterloo, Department of Statistics and Actuarial Science. March 2008.

- University of Toronto, Department of Statistics. March 2008.

- University of British Columbia, Department of Statistics. April 2008.

- University of Victoria, Department of Mathematics and Statistics. April 2008.

**2009** – Université Laval, Department of Mathematics and Statistics. January 2009.

- Istanbul, Turkey, May 2009. 5th EMR-IBS Conference.

- Seoul, Korea, June 2009. 1st IMS Pacific Rim Meeting.

**2010** – University of Waterloo, Waterloo, Department of Statistics and Actuarial Science. February 2010.

- Quebec City, May 2010. Statistical Society of Canada Meeting.

- Indianapolis, Indiana, June 2010. ICSA 2010 Applied Statistics Symposium.

- University of Guelph, Guelph, Department of Mathematics and Statistics. November 2010.

**2011** – Park City, Utah, January 2011. Adap'ski - Workshop on Adaptive Monte Carlo.

- San Diego, California, February 2011. Information Theory and Applications Workshop.

- Centre de Recherches Mathématiques, Montreal, June 2011. Workshop on Copula Models and Dependence.

- Miami, Florida, August 2011. Joint Statistical Meetings.

- University of Illinois at Urbana Champaign, Department of Statistics. September 2011.

**2012**
- Boston, Massachusetts, June 2012. ICSA 2012 Applied Statistics Symposium.

- San Diego, California, August 2012. Joint Statistical Meetings.

- Cornell University, Department of Statistical Sciences. November 2012.

**2013**
- Orlando, Florida, March 2013. ENAR Meeting.

- Fields Institute, Invited Panelist for Research Day, April 2013.

- Università degli Studi di Milano, Department of Economics, Management, and Quantitative Methods. May 2013.

- Montreal, August 2013. Joint Statistical Meetings.

- University of Bucharest, Department of Mathematics, September 2013.

- McGill University, Department of Mathematics and Statistics. November 2013.

**2014**
- Chamonix, France, January 2014. MCMSki IV.

- Leuven, Belgium, April 2014. $11^{th}$ International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing.

- Université Montpellier, Institut de Mathématiques et de Modélisation de Montpellier. April 2014.

**2015**
- L'Institut National de la Recherche Agronomique, Unité de Mathématiques et Informatique Appliquées de Toulouse. February 2015.

- Sapienza Università di Roma, Department of Methods and Models for Economics, Territory and Finance (MEMOTEF). March 2015.

- University Ca'Foscari of Venice, Department of Economics. April 2015.

- Bucharest University of Economic Studies, The Insurance Management Institute, June 2015.

**2016**
- University of Florida, Department of Statistics, March 2016.

- Columbia University, Department of Statistics, April 2016.

- University of Colorado Boulder, Department of Applied Mathematics, April 2016.
- St. Catharines, May 2016. Statistical Society of Canada Meeting. Plenary talk: Design strategies for adaptive MCMC
- St. Catharines, May 2016. Statistical Society of Canada Meeting. Invited talk: Modern Research Topics in Copula Methods: A Report from the CANSSI Collaborative Team Project

**2017**
- Centre de Recherches Mathématiques, Montreal. January 2017.
- 11th International Conference on Monte Carlo Methods and Applications, Montreal, July 2017.
- Institute of Statistics, Nankai University, Tianjin, July 2017.
- University of Alberta, Department of Mathematics and Statistics, November 2017.
- 10th International Conference of The European Research Consortium for Informatics and Mathematics (ERCIM) on Computational and Methodological Statistics, London. December 2017.

**2018**
- Ann Arbor, May 2018. Fifth Bayesian, Fiducial and Frequentist (BFF 5) Conference: Foundations of Data Science
- Montreal, June 2018. Statistical Society of Canada Meeting.
- Vancouver, August 2018. Joint Statistical Meetings.

**2019**
- Université de Quebec a Montréal, Department of Mathematics and Statistics, March 2019.
- Meeting of the Romanian Probability and Statistics Society, May 2019. (plenary)
- Statistical Society of Canada Meeting, May 2019. (plenary)
- European Meeting of Statisticians, Palermo. July 2019.
- International Conference on Computational and Methodological Statistics, London. December 2019.

**Other Presentations**

- Iasi, Romania, July 1996. Summer School on Sample Survey and Demographics.

- Chicago, March 2000. IMS/ENAR Regional Meeting.

- Barcelona, Spain, July 2000. Distributions with Given Marginals and Statistical Modeling.

- Indianapolis, August 2000. Joint Statistical Meetings.

- Hong Kong, December 2000. Monte Carlo and Quasi Monte Carlo Methods.

- Bucharest, January 2001. Fourth Meeting of the Probability and Statistics Society of Romania.

- Atlanta, August 2001. Joint Statistical Meetings.

- University of Toronto, MCMC seminar in the Department of Statistics, March 2003.

- Leuven, Belgium, July 2003. International Workshop on Statistical Modelling.

- Bormio, Italy, January 2005. 2nd IMS-ISBA Joint Meeting (MCMSki).

- Corfu, Greece, May 2005. 3rd EMS-IBS Conference.

- Prague, Czech Republic, August 2006. Prague Stochastics.

- Vienna, Austria, August 2008. Workshop on Current Trends and Challenges in Model Selection and Related Areas.

- Park City, Utah, January 2011. 4th IMS-ISBA Joint Meeting (MCMSki)

- Salerno, June 2018. 4th Conference of the International Society for Nonparametric Statistics.

- Edinburgh, June 2018. ISBA World Meeting.

**PhD Students**:

- Wei Deng, 2014-now.

- Evgeny Levi, graduated in 2019.
  **Thesis**: *Conditional Copula Inference and Efficient Approximate MCMC*

- Osvaldo Espin-Garcia, graduated in 2019 (co-supervised with Prof. Shelley Bull) and Wei Xu).
  **Thesis:** *Advances in Incomplete Data Methods for Statistical Genetics*

- Bo Chen, graduated in 2019 (co-supervised with Prof. Lei Sun).
  **Thesis**: *Statistical Methods for X-inclusive Genome-wide Association Study*

- Reihaneh Entezari, graduated in 2018 (co-supervised with Dr. Patrick Brown and Prof. Jeffrey Rosenthal).
  **Thesis**: *Bayesian Computations via MCMC, with applications to Big Data and Spatial Data*

- Jinyoung Yang, graduated in 2016 (co-supervised with Prof. Jeffrey Rosenthal).
  **Thesis**: *Convergence and Efficiency of Adaptive MCMC.*

- Avideh Sabeti, graduated in 2013.
  **Thesis**: *Bayesian Inference for Bivariate Conditional Copula Models with Continuous or Mixed Outcomes.*

- Lizhen Xu, graduated in 2012 (co-supervised with Prof. Lei Sun).
  **Thesis**: *Bayesian Methods for Genetic Association Studies.*

- Li Li, graduated in 2011 (co-supervised with Prof. Fang Yao).
  **Thesis**: *Model Selection via Minimum Description Length.*

- Elif Acar, graduated in 2010 (co-supervised with Prof. Fang Yao).
  **Thesis**: *Nonparametric Estimation and Inference for the Copula parameter in Conditional Copulas.*

- Chao Yang, graduated in 2008 (co-supervised with Prof. Jeffrey Rosenthal).
  **Thesis**: *Ergodicity of Adaptive MCMC and its Applications.*

**Visiting PhD Students**:

- Caren Hasler - University of Neuchâtel (09/2013 - 06/2015).

- Antonio di Narzo - University of Bologna (09/2008 - 03/2009). Graduated in 2010.
  **Thesis**: *Adaptive Markov Chain Monte Carlo: A New Mixture Based Algorithm with Applications to Bayesian Modeling*

**Postdoctoral Fellows**:

- Zhijian Chen (Sept 2010-Aug 2013).

- Caren Hasler (July 2015 - June 2016).

- Myriam Brossard (April 2017 - now).


## OUTREACH ACTIVITIES

- Interview with CityTv News about Lotto-Max calculations. November, 2009.

- Appearance on "Wiliam Shatner's $<<$ Is that weird or what? $>>$" (2012).

- University of Toronto, Undergraduate Statistics Club, March 2013. *"Why Learning Statistics is Important"* presentation.

- Interview with CityTv News about odds of winning the Lotto-Max prizes. November, 2013.

## DEPARTMENTAL SERVICE AT THE UNIVERSITY OF TORONTO

- July 2018 - June 2021 - **Department Chair.**

- July 2017 - June 2018 - **Associate Chair for Graduate Affairs.**

- July 2017-June 2018 - Member in the Hiring Committee for Statistics Faculty.

- July 2016-June 2017 - Member in the Hiring Committee for Statistics Faculty.

- June 2017 - SGS Chair for Yonatan Lipsitz (Institute of Biomaterials & Biomedical Engineering).

- April 2016 - Member in the Hiring Committee for DOSS Manager.

- September 2015 - June 2018 **Chair, DOSS Social Heartbeat Committee.**

- 2015 **Member of Teaching Evaluation Committee for Prof. Jaimungal's Promotion**

- September 2013 - **Chair** of Third Year Review Committee for Ruslan Salakhutdinov.

- July 2013-2014 - DOS Executive Committee.

- June 2012 - SGS Chair for Evan Mills (Dept of Chemistry).

- December 2010 - 2014 Graduate committee.

- July 2011 - PTR Evaluation Committee.

- July 2011- 2018 Computing committee.

- July 2009 - December 2010 **Associate Chair for Graduate Affairs**.

- May 2009- December 2010 Executive Committee.

- 2008 Chair Seminar Committee.

- 2002-2009 Comprehensive Exam Committee.

- 2006 - 2007 PTR Evaluation Committee.

- 2001 - 2007 Consulting Committee.

- 2002 - 2005, '08 Graduate Admissions Committee.

- 2002 - 2004 Weekly Seminar Coordinator.

- 2003 - 2005 Undergraduate Curriculum Committee.

- Since 2003 I served on PhD Committees for the following students: Jianguo Zhang, Shuying Sun, Hadas Moshonov, Mylene Bedard, Ana-Maria Staicu, Sigfriedo Iglesias, Mohammed Shakhatreh, Yan Lu (Dept. of Dentistry), Zhijian Yin (Dept. of Mechanical and Industrial Engineering), Longhai Li, Yan Bai, Madeleine Thompson, Chunyi Wang, Shivon Sue-Chee, Jialin Zou, Alexander Shestopaloff, Becky Lin, Daniel Firka (Dept of Mechanical Engineering).

## UNIVERSITY SERVICE AT THE UNIVERSITY OF TORONTO

- 2019 Member on the Faculty of Arts & Science's **Space and Infrastructure Working Group**.

- 2018 Member on the School of Graduate Studies **Connaught grant committee**.

- 2011 Tenure Committee Member for Professor France Gagnon, Dalla Lana School of Public Health, University of Toronto.

- 2010 Member on the School of Graduate Studies **NSERC grant committee**.

**TEACHING EXPERIENCE**

**Undergraduate Courses (University of Chicago)**:

- 1997 - Statistics 200: *Elementary Statistics.*

- 1998 - Statistics 220: *Statistical Methods and Their Applications.*

- 1999 - Statistics 220E: *Statistical Methods and Their Application-Economics Variant.*

**Undergraduate Courses (University of Toronto)**:

- 2002, '03 - Statistics 107: *Introduction to Probability and Modelling.*

- 2004 - Statistics 332: *Experimental Design.*

- 2005, '06, '08, '13, '16 - Statistics 410: *Computational Methods in Statistics.*

- 2008 - Statistics 442: *Methods of Applied Statistics.*

- 2009 - Statistics 250: *Statistical Concepts.*

- 2010,'11,'12, '13, '15 - PMU 199: *Statistics for Life.*

- 2016 - STA 452: *Mathematical Statistics I*

- 2011,'12 - Statistics 305: *Experimental Design*

- 2018 - Statistics 437: *Applied Multivariate Analysis.*

**Graduate Courses (University of Toronto)**:

- 2001, '02,'05 - Statistics 2004: *Design of Experiments .*

- 2003, '04 - Statistics 4312: *Bayesian Linear Models.*

- 2004,'11,'12 - Statistics 1004: *Experimental Design.*

- 2005, '06 - Statistics 3000: *Advanced Theory of Statistics.*

- 2005,'06, '08 - Statistics 4315: *Computational Methods in Statistical Genetics.*

- 2005, '06, '08 - Statistics 2102: *Computational Methods in Statistics.*

- 2006, '07 - Statistics 2542: *Linear Models.*

- 2008 - Statistics 2101: *Methods of Applied Statistics.*

- 2012 - Statistics 4500: *Statistical Dependence Models.*

- 2016 - Statistics 2112: *Mathematical Statistics I*

- 2018 - Statistics 2005: *Applied Multivariate Analysis.*

**Reading Courses and Supervised Research Projects (University of Toronto)**:

- Summer 2002 - Statistics 4000, Jianguo Zhang. (MS student)

- Spring 2005 - Statistics 497H1, Yan Lu. (MS student)

- Summer 2005 - Statistics 498Y1, Justin Veenstra (Monte Carlo Methods). (UG student)

- Spring 2007 - Statistics 4000, Laura Faye (QTL Analysis). (MS student)

- Summer 2009 - Statistics 4000, Han Sheng Sun (Causal Inference). (MS student)

- Summer 2010 - Winston Chong (Quantile Regression: A Simulation Study) (UG student)

- Summer 2010 - Statistics 4000, Narges Joharchi (GLM models for HIV studies) (MS student)

- Summer 2011 - Kai Yang (Regime Change Adaptive MCMC) (UG student)

- Fall '11/Spring '12 - Wanying Zhu (Competing Risks) (UG student)

- Summer '12 - Shaghayegh Bagher (Statistical Methods in Clinical Trials) (MS student)

- Summer '12 - Xia Sheng (Reversible Jump MCMC) (MS student)

- Summer '12 - Snejana Stoilova (Statistical Methods for Longitudinal Data) (MS student)

- Winter '13 - Zheng Li (Conditional Copulas and Composite Likelihood) (MS student)

- Summer '13 - Mian Wei (Additive models for Copulas and MCMC for Big Data) (NSERC UG Summer student)

- Summer '16 Katherine Ge (MCMC for Deep Learning) (NSERC UG Summer Student).

- Summer '16 Ruilin Li (Non-Standard Dependence measures) (UTEA Student)

- Summer '19 Mingwei Xu (Statistical Analysis of Anticalendar Data).

## CONSULTING EXPERIENCE

- 1996 - 2001 Consultant, Consulting Program, Department of Statistics, University of Chicago.

- 2001-2011 Member of the Consulting Committee, Department of Statistics, University of Toronto.

## LANGUAGES

- Fluent in English, French and Romanian.