

Gracia Yunruo Dong

Postdoctoral Fellow, University of Toronto & University of Victoria

Canadian Citizen

One child, born August 2022

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<https://graciadong.github.io/>

Employment and Internships

- Postdoctoral Fellow, University of Toronto and University of Victoria, September 2022 – Present (Funded until September 2024)
- Data Science Consultant, Polyalgorithm Machine Learning, October 2022 – April 2023
- Evaluation Consultant, Student Success Office, University of Waterloo, February 2021 – April 2022
- Associate Business Analyst, Risk Management Information Technology, Scotiabank, September 2016 – December 2016
- Actuarial Student, Audit Services, Manulife, January 2016 – April 2016
- Undergraduate Research Assistant (NSERC USRA), Department of Statistics, University of Waterloo, May 2015 – August 2015
- Actuarial Student, Pricing and Valuation, Aurigen Reinsurance, January 2014 – April 2014 and September 2014 – December 2014
- Co-op Student, Development Services, City of Markham, September 2012 – December 2012

Education

- PhD in Statistics, University of Waterloo, September 2018 – August 2022
 - Supervisor: Dr. Christiane Lemieux
 - Thesis Title: Constructions and applications of quasi-random point sets with negative dependence
 - Certificate of University Teaching Program, completed 2022
 - Fundamentals of University Teaching Program, completed 2020
- MMath in Statistics, University of Waterloo, September 2017 – August 2018
 - Supervisor: Dr. Christiane Lemieux
 - Research Paper Title: Estimating state space parameters using quasi-Monte Carlo methods
- BMath Co-op in Statistics, Actuarial Science with Finance Option, Computer Science Minor, January 2013 – April 2017

Awards and Scholarships

- 2022-2024, CANSSI Distinguished Postdoctoral Fellowship, \$118000
- 2021-2022, Ontario Graduate Scholarship, \$15000
- 2021-2022, President's Graduate Scholarship, \$10000
- 2021, Statistics & Actuarial Science Chair's Award, \$1000
- 2021, Statistics & Actuarial Science Graduate Award, \$250
- 2020-2022, Math Domestic Doctoral Scholarship, \$10000
- 2020-2021, Queen Elizabeth II Graduate Scholarship in Science and Technology, \$15000
- 2020-2021, President's Graduate Scholarship, \$10000
- 2019-2020, Ontario Graduate Scholarship, \$15000
- 2019-2020, President's Graduate Scholarship, \$10000
- 2019, University of Waterloo Graduate Scholarship, \$1000
- 2019, Statistics & Actuarial Science Chair's Award, \$1000

- 2018–2020, Math Domestic Doctoral Scholarship, \$10000
- 2018, Math Domestic Graduate Award, \$6000
- 2018, Provost Doctoral Entrance Award, \$5000
- 2018, Doctoral Entrance Award, \$5000
- 2018, University of Waterloo Graduate Scholarship, \$1000, x2
- 2018, Statistics & Actuarial Science Chair's Award, \$1000, x2
- 2018, Statistics & Actuarial Science Graduate Award, \$1000
- 2017, University of Waterloo Graduate Scholarship, \$1000
- 2014, NSERC USRA, \$4500
- 2013, President's Scholarship, \$2000

Community-building and Service

- Judge for Poster Presentations, Canadian Statistics Student Conference, May 2022
- Mentor, Datafest 2021, American Statistical Association, May 2021
- Conference Organizing Committee Member, First Waterloo Student Conference in Statistics, Actuarial Science, and Finance, October 2019
- Co-founder and President, Statistics Anti-Depression (S.A.D.) Club, University of Waterloo, May 2019 – August 2022

Teaching Experience

- Course Instructor
 - STAT498: Seminar and Independent Project, Section Topic Title: Simulation Experiments, University of Victoria, Spring 2024
 - STA220H1F: The Practice of Statistics I, University of Toronto, Fall 2023
 - MATH490: Directed Studies in Mathematics, Section Topic Title: Inequalities in Healthcare, University of Victoria, Summer 2023
 - AFM113: Analytic Methods 2 for Business, University of Waterloo, Spring 2021
- Teaching Assistant, University of Toronto
 - STA220H1F: The Practice of Statistics I (Winter 2024 (Head TA))
- Teaching Assistant, University of Waterloo
 - AFM113: Analytic Methods 2 for Business (Spring 2022)
 - MATH127: Calculus 1 for the Sciences (Winter 2017)
 - MATH135: Algebra for Honours Mathematics (Fall 2015)
 - MATH136: Linear Algebra 1 for Honours Mathematics (Spring 2016, Winter 2017)
 - MATH137: Calculus 1 for Honours Mathematics (Fall 2015)
 - MATH138: Calculus 2 for Honours Mathematics (Winter 2015)
 - MATH600: Introduction to Mathematical Software for Teachers (Fall 2018)
 - STAT231: Statistics (Spring 2014, Fall 2017)
 - STAT330: Mathematical Statistics (Winter 2018)
 - STAT333: Applied Probability/Stochastic Processes 1 (Spring 2018)
 - STAT340: Stochastic Simulation Methods (Winter 2021, Winter 2022)
 - STAT341: Computational Statistics and Data Analysis (Winter 2019, Winter 2020, Fall 2021)
 - STAT430: Experimental Design (Spring 2019)
 - STAT431: Generalized Linear Models and Their Applications (Fall 2017, Fall 2018, Spring 2020)
 - STAT443: Forecasting (Winter 2018, Spring 2018, Winter 2019, Spring 2019)

- STAT906: Computer Intensive Methods for Stochastic Models in Finance (Fall 2020)
- Other experience
 - Instructor for TA training workshop, Fall 2018, Department of Statistics and Actuarial Science, University of Waterloo

Research Areas

Computational Statistics, Statistics Education, Quasi Monte-Carlo Methods, Negative Dependence, Public Health, Population Health, Healthcare Equity

Affiliations

Centre for Global Health Research, Toronto, ON, Canada

Institute on Aging & Lifelong Health, University of Victoria, Victoria, BC, Canada

Applied Health Data Analytics, Vancouver Island Health Authority (Island Health), Victoria, BC, Canada

Publications, Submitted and In Press

1. Perreault, S.; **Dong, G.**; Stringer, A.; Brown, P. (2023+). Overdispersed case-crossover design with application in air pollution epidemiology. *Submitted to Statistics in Medicine*
2. Bambi, J.; Moselle, K.; Santoso, Y.; Sadri, H.; Robertson, S.; Hajiabadi, M.; Howie, J.; Hawkins-Seagram, A.; Richardson, A.; Rudnick, A.; Chang, E.; **Dong, G.**; Olobatuyi, K.; Kuo, A. (2023+). Methodological considerations in extracting and analysing patterns of service utilization for patients with complex problems to optimize care delivery. *Submitted to Journal of Biomedical and Health Informatics*.
3. **Dong, G.**; Moselle, K.; Robertson, S.; Brown, P.; Cowen, L.; (2023+). Estimating the population size of persons contending with homelessness using electronic health data. *Submitted to Journal of the Royal Statistical Society: Series A*.
4. **Dong, G.**; Hintz, E.; Hofert, M.; Lemieux, C. (2023+). Randomized quasi-Monte Carlo methods on triangles: Extensible lattices and sequences. *Submitted to Methodology and Computing in Applied Probability*.
5. Mugon, J.; **Dong, G.**; Kim, N.; Jobidon, E. (2023). Adapting the Motivated Strategies for Learning Questionnaire for a writing and communication program. *Collected Essays in Teaching and Learning*.
6. Faure, H.; **Dong, G.**; Lemieux, C. (2022). A negative dependence framework to assess different forms of scrambling. *arXiv preprint*.
7. **Dong, G.** & Lemieux, C. (2022). Dependence properties of scrambled Halton sequences. *Mathematics and Computers in Simulation*.
8. Wiart, J., Lemieux, C., & **Dong, G.** (2021). On the dependence structure and quality of scrambled (t, m, s)-nets. *Monte Carlo Methods and Applications*.

Manuscripts in Preparation

1. Bambi, J.; **Dong, G.**; Santoso, Y.; Howie, J.; Olobatuyi, K.; Robertson, S.; Rudnick, A.; Sadri, H.; Moselle, K. (2023+). Disparities in access to services as evident in patient journeys: An approach using Island Health longitudinal encounter data. *Undergoing ethics and privacy review*.
2. **Dong, G.**; McNichol, J.; Cowen, L. (2023+). Robustness of population size estimation in a two-sample study using mark-recapture techniques. *In Progress*

Research Presentations, Invited

1. **Dong, G.** (2023). Using Capture-Recapture methods with data extracts from healthcare records to estimate population sizes of vulnerable populations: an application to Vancouver Island. UQAM Statistics Seminar Series, Virtual.
2. **Dong, G.;** Cowen, L (2023). Using Capture-Recapture with data extracts from healthcare records to estimate population sizes of vulnerable populations – applications and data quality issues. CANSSI Showcase, Virtual.
3. **Dong, G.;** Brown, P. (2023). Analyzing Indian mortality with temperature attribution using case-crossover models. Statistical Society of Canada Annual Meeting, Ottawa, ON, Canada.
4. **Dong, G.;** Hintz, E; Hofert, M; Lemieux, C. (2022). Randomized Quasi-Monte Carlo Methods on triangles: Extensible lattices and sequences. CORS/INFORMS International Conference, Vancouver, BC, Canada.

Research Presentations, Contributed

1. **Dong, G.;** Cowen, L; Moselle, K. (2023). Estimating the abundance of homeless individuals on Vancouver Island using electronic health data. INFORMS Healthcare Conference, Toronto, ON, Canada.
2. **Dong, G.;** Lemieux, C. (2022). A randomized implementation of the triangular van der Corput sequence. University of Toronto, Department of Statistical Sciences Postdoc Day, Toronto, ON, Canada.
3. Mugon, J; **Dong, G.;** Kim, N; Jobidon, E. (2022). Adapting the Motivated Strategies for Learning Questionnaire (MSLQ) for first-year Faculty of Health students. Society for Teaching and Learning in Higher Education (STLHE) Annual Conference, Virtual.
4. Mugon, J., **Dong, G.**, Kim, N.H., Jobidon, E., Barichello, M., & Prier, A. (2021) Adapting the Motivated Strategies for Learning Questionnaire to help students take control of their learning. University of Waterloo 12th Annual Teaching and Learning Conference & 2021 STLHE/SAPES Unconference, Virtual.
5. **Dong, G.** (2021) Halton sequences and negative dependence. University of Waterloo Student Seminar Series, Waterloo, ON, Canada.
6. **Dong, G.** (2019) Variance estimation of quasi-Monte Carlo integration without replication. Waterloo Student Conference in Statistics, Actuarial Science and Finance, Waterloo, ON, Canada.

Other Presentations and Guest Lectures

1. An introduction to Pseudo- and Quasi- random number generation. Guest Lecture, STAT464, Fall 2022, University of Victoria, Victoria, BC, Canada.