Gracia Yunruo Dong

Postdoctoral Fellow, University of Toronto & University of Victoria

Canadian Citizen	gracia.dong@utoronto.ca
One child, born August 2022	https://graciadong.github.io/

Employment

- 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

Teaching Experience, Course Instructor
Note: 'Enrollment' indicates enrollment for sections taught (not total enrollment for entire course)

Term	Course	Enrollment	Notes
University of Toronto			
Fall 2023	STA220H1F: The Practice of Statistics I	174	One of three instructors.
University of Victoria			
Spring 2024	STAT498: Seminar and Independent Project, Section Topic Title: Simulation Experiments	1	Online. Co-instructed with Dr. Laura Cowen
Summer 2023	MATH490: Directed Studies in Mathematics, Section Topic Title: Inequalities in Healthcare	1	Online. Co-instructed with Dr. Laura Cowen.
University of Waterloo			
Spring 2021	AFM113: Analytic Methods 2 for Business	14	Online. Single section course.

Teaching Experience, Teaching Assistant
- University of Toronto
  - STA220H1F: The Practice of Statistics I (Winter 2024 (Head TA))
- 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)

Teaching Experience, Other
- 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, 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. Bambi, J.; **Dong, G.**; Santoso, Y.; Moselle, K.; Dugas, S.; Olobatuyi, K.; Rudnick, A.; Chang, E.; Kuo, A. (2024+). Disparities in access to services, as evident in patients journeys: Illustrating a nuanced approach in assessing healthcare equity using patterns of service utilization across the full continuum of care. *Submitted to Knowledge*
2. Bambi, J.; Olobatuyi, K.; Santoso, Y.; Sadri, H.; Moselle, K.; Rudnick, A.; **Dong, G.**; Chang, E.; Kuo, A. (2024+). Use of patterns of service utilization and hierarchical survival analysis in planning and providing care for overdose patients and predicting the time-to-second overdose. *Submitted to Knowledge*
3. Perreault, S.; **Dong, G.**; Stringer, A.; Brown, P. (2024+). Overdispersed case-crossover design with application in air pollution epidemiology. *Submitted to Statistics in Medicine*
4. 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. (2024+). Methodological considerations in extracting and analyzing patterns of service utilization for patients with complex problems to optimize care delivery. *Submitted to BioMedInformatics.*
5. **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.*
6. **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.*
7. 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.*
8. **Dong, G.** & Lemieux, C. (2022). Dependence properties of scrambled Halton sequences. *Mathematics and Computers in Simulation.*
9. Wiart, J., Lemieux, C., & **Dong, G.** (2021). On the dependence structure and quality of scrambled (t, m, s)-nets. *Monte Carlo Methods and Applications.*

Preprints and Manuscripts in Preparation

1. **Dong, G.**; McNichol, J.; Cowen, L. (2023+). Robustness of population size estimation in a two-sample study using mark-recapture techniques. *In Progress*
2. Faure, H.; **Dong, G.**; Lemieux, C. (2022). A negative dependence framework to assess different forms of scrambling. *arXiv preprint.*

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.
   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.
3. 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.
4. **Dong, G.** (2021) Halton sequences and negative dependence. University of Waterloo Student Seminar Series, Waterloo, ON, Canada.
5. **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.

Editorial Activities
Reviewer
- Journal of the Royal Statistical Society, Series C (Applied Statistics), 2023 - Present