

# William Ruth

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[wruth1.github.io](https://wruth1.github.io)

## Education

Simon Fraser University, Burnaby, BC	Ph.D. in Statistics, 2023 Supervisor: Richard Lockhart
Simon Fraser University, Burnaby, BC	MSc in Statistics, 2016 Supervisor: Tom Loughin
Simon Fraser University, Burnaby, BC	BSc in Statistics, 2014

## Publications

**Ruth**, Ramsay, Ortiz, Alpharo, and Nasri. "Trust and Adherence to Public Health Measures." Draft in Progress.

**Ruth**, Nickchi. "Adaptive Pareto Smoothed Importance Sampling." Draft in progress.

Chiu, **Ruth**, Rutherford, Lee, Wijaya, Williams and Wong. "The Burden of Tuberculosis Among Foreign-Born Canadians: Estimates from Dynamic Models". Draft in progress.

**Ruth**. "Monte Carlo-Based Methods for the Analysis of Missing Data." Submitted to *Statistics Surveys*.

**Ruth** and Lockhart. "SARS-CoV-2 Transmission in University Classes". *Network Modelling Analysis in Health Informatics and Bioinformatics* 11, 32, (2022).

Riahi, **Ruth**, D'Arcy and Menon. "A Method for Using Neurofeedback to Guide Mental Imagery for Improving Motor Skill". *IEEE Transactions on Neural Systems & Rehabilitation Engineering*, 31, (2023).

**Ruth** and Loughin. "The effects of heteroscedasticity on regression trees." Draft in progress. (<https://doi.org/10.48550/arXiv.1606.05273>)

## Work and Volunteer Experience

### Employment (Academic):

2023-Present CANSSI Distinguished Postdoctoral Fellow, Université de Montréal

Supervisors: Bouchra Nasri and Bruno Remillard

2019 Sessional Instructor, Department of Statistics and Actuarial Science, SFU

2012-2022 Teaching Assistant, Department of Statistics and Actuarial Science, SFU

### Employment (Other):

2018 Analytics Consultant, Yoren Technology (Shanghai) Co.

2016-2024 Tutor, Independent

#### Departmental Service:

2016-2020	President, SFU Department of Statistics and Actuarial Science Graduate Caucus
2014-2016	Vice-President, SFU Department of Statistics and Actuarial Science Graduate Caucus
2013-2014	Vice-President, SFU Operations Research Student Union

#### Conferences:

2019	Organizer, SFU/UBC Joint Statistics Seminar
2019	Chair, Vancouver International Swordplay Symposium

### Scholarships, Awards and Distinctions

#### National:

2023-2025	CANSSI Distinguished Postdoctoral Fellowship, \$140,000
2016-2019	NSERC CGS D, \$105,000
2014-2015	NSERC CGS M, \$17,500

#### Institutional:

2021	Graduate Fellowship, Department of Statistics and Actuarial Science, \$7,000
2020	Graduate Fellowship, Department of Statistics and Actuarial Science, \$3,500
2018	Excellence in Teaching Award, Faculty of Science
2016-2020	Graduate Dean's Entrance Award, \$72,000
2016-2020	Provost Prize of Distinction, \$18,000
2016	Graduate Fellowship, Department of Statistics and Actuarial Science, \$3,500

### Presentations

#### Invited:

2024	Adaptive Pareto Smoothed Importance Sampling, Statistical Learning for Large Scale Data
2024	Statistical Considerations in Causal Mediation Analysis, SSC
2024	Statistical Considerations in Multilevel Mediation Analysis, Math for Public Health Next Generation Seminar Series
2020	Box-Cox Transformations in High-Dimensional Linear Models, Carleton University Statistics Seminar

#### Contributed:

2023	A Monte Carlo EM Analysis of COVID-19 Outbreaks in Long-Term Healthcare Facilities, JSM
2023	A Monte Carlo EM Analysis of COVID-19 Outbreaks in Long-Term Healthcare Facilities, SSC
2021	Simulated Epidemic Spread in University Classes, SSC
2020	Box-Cox Transformations in High-Dimensional Linear Models, JSM

2019	Post-Selection Inference and the LASSO, SFU/UBC Joint Statistics Seminar
2019	Guest Lectures, Modern Methods in Applied Statistics (STAT 852)
2018	Theory for Machine Learning, SFU Graduate Student Seminar
2017	Guest Lecture, Bayesian Statistics (STAT 452)
2016	Guest Lecture Modern Methods in Applied Statistics (STAT 852)
2015	Heteroscedasticity and Regression Trees, SFU/UBC Joint Statistics Seminar
2015	Introductory Statistics for High-School Teachers, Port Moody Secondary School

## Other

2017	Developed a comprehensive series of Jupyter notebooks for students learning to use R. These modules are currently being used in many of the introductory statistics courses at SFU
2017-2022	Organized and lead several reading groups for independent study by graduate students