
Education

- 2018–2022 **PhD. Computational Statistics & Data Privacy, QLS**, McGill University, Canada
Title Privacy-preserving regression methods for distributed biomedical data
Advisors Dr Paramita Saha-Chaudhuri and Prof Yi Yang
- 2016–2018 **MSc. Biostatistics**, McGill University, Canada
Title Virtual Pooling as a Privacy-preserving Analysis Tool
Supervisors Dr Paramita Saha-Chaudhuri
- 2015–2016 **MSc. Mathematics**, AIMS, Stellenbosch University, South Africa
Title Reverse-engineering T-cell proliferation dynamics
Supervisor Dr Wilfred Ndifon
- 2011–2015 **BSc. Mathematics (Hons)**, Kwame Nkrumah University of Science and Tech., Ghana
Title Representation Theory of Finite Groups
Supervisor Dr Richard Kena Boadi

Work Experience

- 07/22–Now **Postdoctoral Researcher**, Electronic Health Information Laboratory (EHIL) & uOttawa
Topic Application of machine learning methods to synthetic data generation.
- 01/19–06/22 **Biostatistician**, iMD Research Inc
○ Study design, data analysis, and report writing.
- 09/17–01/19 **Research Assistant**, Jewish General Hospital
○ Statistical Computing and data analysis
- Summer 2017 **Visiting Research Scholar**, South African Centre for Epidemiological Modelling and Analysis
○ Developed web based applications for HIV incidence estimation (UNAIDS project)
- 01/20–04/20 **Graduate Teaching Assistant, Math 324**, McGill University
- 2013–2015 **Mathematics Tutor**, KNUST, GHANA

Scholarships, Awards, & Prizes

- 2018–2022 Mitacs Accelerate Fellowship, McGill University (\$80,000)
- 2019–2022 Graduate Excellence Award - Quantitative Life Sciences (\$13,500 × 3)
- 2016–2018 MasterCard Foundation Scholarship, McGill University (>\$100,000)
- 2015–2016 African Institute for Mathematical Sciences (AIMS) Postgraduate Scholarship (\$10,000)
- June, 2021 Best poster prize, PhD category. The Ninth Canadian Statistics Student Conference.
- Feb., 2018 Best poster prize, Overall. 14th Annual Student Research Day of the Department of Epidemiology, Biostatistics and Occupational Health. McGill University.
- July, 2016 The Martin Rees Fellowship for Academic Excellence at AIMS Graduation, Stellenbosch University.
- June, 2015 Best graduating student, Department of Mathematics, KNUST Ghana (Rank: 1/140).

Selected articles

1. Juwara L, Saha-Chaudhuri P (2022). A Hybrid Covariate Microaggregation Approach for Privacy-Preserving Logistic Regression. *Journal of Survey Statistics and Methodology*. [link]
2. Saha-Chaudhuri P, Juwara L (2021). Survival Analysis under the Cox Proportional Hazards model with Pooled Covariates. *Statistics in Medicine*. [link]
3. Galindez JL, Juwara L, ... Schipper HM (2021). Salivary Heme Oxygenase-1: A Potential Biomarker for Central Neurodegeneration. *Journal of Central Nervous System Disease*. [link]
4. Cressatti M, Galindez JL, Juwara L, ... Schipper HM (2020). Characterization and heme oxygenase-1 content of extracellular vesicles in human biofluids. *Journal of Neurochemistry*. [link]
5. Juwara L, . . ., Saha-Chaudhuri P, Velly A (2020). Predicting neuropathic pain after breast cancer surgery using machine learning. *International Journal of Medical Informatics*. [link]
6. Cressatti M, Juwara L, Galindez JL, ... Schipper HM (2020). Salivary miR-153 and miR-223 levels as diagnostic biomarkers of idiopathic Parkinson disease. *Movement disorders*. [link]

Peer reviewed abstracts (selected)

1. Juwara L, Yang Y, and Saha-Chaudhuri P. Improving the efficiency of meta-analysis estimators for privacy-preserving Cox regression. QLS Research Day, 2022.
[Oral presentation]
2. Juwara L, Yang Y, and Saha-Chaudhuri P. Privacy-preserving Cox proportional hazards regression with aggregate covariates. Annual Canadian Statistics Student Conference, 2021.
[Best poster prize, PhD category]
3. Juwara L and Saha-Chaudhuri P. Predictive modeling under data privacy restrictions. Statistical Society of Canada annual Conference, 2020. [Travel award]
4. Juwara L and Saha-Chaudhuri P. Microaggregation as a Privacy-Preserving Analytical Tool for Analysis of Confidential Distributed Data. International Society of Pharmacoepidemiology mid-year meeting, 2018.
[Travel award]
5. Juwara L, Schmidt A, and Saha-Chaudhuri P. Virtual Pooling as a Privacy-preserving Analysis Tool to Estimate Covariate Hazard Ratio (HR) of Cox Proportional Hazard Model. 14th Annual Student Research Day of the Department of Epidemiology, Biostatistics and Occupational Health, 2018.
[Best poster award]

Software & other services

- 05/2022 Reviewed for *Journal of Survey Statistics and Methodology* (×1) & *JMIR AI* (×1)
- 03/2021 Co-Reviewed for *JMIR Medical Informatics* (×1)
- 05/2019 Incidence estimation tools (UNAIDS tools) [link]
- 08/2018 Prevalence and Incidence Calculator: Calculates HIV incidence from prevalence survey data that include biomarkers of recent infection. UNAIDS [link]
- 2018-Now Maintain several R-Packages (e.g. [link]) and Web-based tools [link]

Computer skills

- Advanced R, Python, MatLab, L^AT_EX, Linux, and Office suites
- Intermediate HTML, Visual Basics, SPSS, SAS

Dr. Paramita Saha-Chaudhuri

Associate Professor of Statistics

Department of Mathematics and Statistics, University of Vermont

email: SahaChaudhuri(DOT)work(AT)gmail(DOT)com

Telephone: +(1) 514.398-7518

Prof. Yi Archer Yang

Associate Professor of Statistics

Department of Mathematics and Statistics, McGill University

email: archer.yang at mcgill dot ca

Telephone: +1-514-398-4400 ext. 2793

Dr. Wilfred Ndifon

AIMS Network Research Director & Professor of Theoretical Biology.

AIMS NEI, Rwanda

email: wndifon@aims.ac.za