

Education

2018–Present **PhD. Statistical and Computational Biology Stream, QLS**, McGill University, Canada.

Title Privacy-preserving regression methods for distributed 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 and Dr Alexandra M Schmidt

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

01/2019–now **Biostatistician**, iMD Research Inc.

- Study design, data analysis, and report writing.

09/2017– **Research Assistant**, Jewish General Hospital.

01/2019 ◦ 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)

Miscellaneous

01/2020– **Math 324**, McGill University.

04/2020 Graduate student assistant

2013–2015 **Mathematics Tutor**, KNUST, GHANA.

Awards and Scholarships

2018–2022 Mitacs Accelerate Fellowship, McGill University (\$80,000)

2016–2018 MasterCard Foundation Scholarship, McGill University (>\$100,000)

July, 2016 The Martin Rees Fellowship for Academic Excellence at AIMS Graduation, Stellenbosch University

2015–2016 African Institute for Mathematical Sciences (AIMS) Postgraduate Scholarship (\$10,000)

June, 2015 Best graduating student, Department of Mathematics, KNUST Ghana (Highest CWA, class size - 140)

Computer skills

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

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)
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]

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