
Lamin Juwara

Current Employment

07/22-Now **Postdoctoral Researcher**, Electronic Health Information Laboratory, University of Ottawa
Topic Applications of machine learning methods to synthetic data generation
Advisor Prof Khaled El Emam

Education

2018-2022 **PhD. (Computational Statistics Concentration)**, *Quantitative Life Sciences*, McGill University
Thesis Privacy-preserving regression methods for distributed biomedical data
Advisors Dr Paramita Saha-Chaudhuri (Biostatistics) and Prof Archer Yi Yang (Statistics)

2016-2018 **MSc. Biostatistics**, McGill University, Canada
Thesis Virtual Pooling as a Privacy-preserving Analysis Tool
Supervisor Dr Paramita Saha-Chaudhuri

2015-2016 **MSc. Mathematics**, Stellenbosch University, South Africa
Thesis Reverse-engineering T-cell proliferation dynamics
Supervisor Dr Wilfred Ndifon

2011-2015 **BSc. Mathematics (Hons)**, Kwame Nkrumah University of Science and Technology, Ghana
Thesis Representation Theory of Finite Groups
Supervisor Dr Richard Kena Boadi

Awards, Grants, and Prizes

2019-2022 Graduate Excellence Award, Quantitative Life Sciences, McGill University (\$40,500)
2018-2022 Mitacs Accelerate Fellowship for PhD Research, McGill University (\$80,000)
June, 2021 Best poster, PhD category. Ninth Canadian Statistics Student Conference, 2021 (Cash Prize)
2016-2018 MasterCard Foundation Scholarship for MSc Biostatistics, McGill University (\$100,000)
Feb., 2018 Best poster prize, 14th Annual Student Research Day of the Department of Epidemiology, Biostatistics and Occupational Health. McGill University, 2018 (\$100)
July, 2016 The Martin Rees Fellowship for Academic Excellence at AIMS-SA Graduation, Stellenbosch University
2015-2016 African Institute for Mathematical Sciences (AIMS) Postgraduate Scholarship, South Africa (\$10,000)
June, 2015 Best graduating student, Department of Mathematics, Kwame Nkrumah University of Science and Technology, Ghana (CWA Rank: 1/140)

Methodological & Statistical Papers

1. [Juwara L](#), Yang AY, Velly AM, Saha-Chaudhuri P (2023). Privacy-preserving analysis of time-to-event data under nested case-control sampling. *Statistical Methods in Medical Research*. [link]
2. [Juwara L](#), Saha-Chaudhuri P (2022). A Hybrid Covariate Microaggregation Approach for Privacy-Preserving Logistic Regression. *Journal of Survey Statistics and Methodology*. [link]
3. Saha-Chaudhuri P, [Juwara L](#) (2021). Survival Analysis under the Cox Proportional Hazards model with Pooled Covariates. *Statistics in Medicine*. [link]

Substantive Papers (selected)

1. [Juwara L](#), Marisa Cressatti, . . . , Hyman M. Schipper (2023). Development and internal validation of a prognostic model for loss of balance and falls in mid-to late-stage Parkinson's disease. *Neurological sciences*. [link]
2. Muller-Bolla, . . . , [Juwara L](#), & Velly, A. M. (2023). Improving radiographic diagnosis of pulpo-periodontal complications in primary molars by training: Application in education and clinical research. *European journal of dental education: official journal of the Association for Dental Education in Europe*, 27(2), 360-367.
3. Liu, R. F., [Juwara L](#), Ferrario, C., & Probst, S. M. (2022). Outcomes and Factors Associated with Completion of Radium-223 Therapy. *Nuclear Medicine and Molecular Imaging*, 56(5), 228-235.
4. Galindez, J. M., [Juwara L](#), Cressatti, M., Gornitsky, M., Velly, A. M., & Schipper, H. M. (2021). Salivary heme oxygenase-1: a potential biomarker for central neurodegeneration. *Journal of Central Nervous System Disease*, 13, 11795735211029114.
5. Cressatti, M., Galindez, J. M., [Juwara L](#), . . . , & Schipper, H. M. (2021). Characterization and heme oxygenase-1 content of extracellular vesicles in human biofluids. *Journal of Neurochemistry*, 157(6), 2195-2209.
6. [Juwara L](#), . . . , Saha-Chaudhuri P, Velly AM (2020). Predicting neuropathic pain after breast cancer surgery using machine learning. *International Journal of Medical Informatics*. [link]
7. Cressatti M, [Juwara L](#), . . . , Velly AM, Schipper HM (2020). Salivary miR-153 and miR-223 levels as diagnostic biomarkers of idiopathic Parkinson disease. *Movement disorders*. [link]

Presentations and Lectures

Invited Presentations (recent)

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| Nov., 2023 | Evaluation of Synthetic Data Augmentation for Mitigating Covariate Bias in Real World Health Data, Synthetic Data Summit 2023, IET London. |
| April 2023 | The Power of Big Data and Artificial Intelligence, National Oral Health Research Strategy Meeting 2023, Ottawa. |
| Mar., 2023 | Mitigating the impact of data bias through synthetic data generators, QLS Seminar Series, Winter 2023, McGill University. |

Contributed Presentations

1. [Juwara L](#) and El Emam K. Evaluation of Synthetic Data Augmentation for Mitigating Covariate Bias in Real World Health Data. T-CAIREM AI in Medicine Conference, Toronto, 2023.
2. [Juwara L](#), Yang Y, and Saha-Chaudhuri P. Improving the efficiency of meta-analysis estimators for privacy-preserving Cox regression. QLS Research Day, Montreal, 2022. [*Oral presentation*]
3. [Juwara L](#), Yang Y, and Saha-Chaudhuri P. Privacy-preserving Cox proportional hazards regression with aggregate covariates. Annual Canadian Statistics Student Conference, Virtual, 2021. [*Best poster prize, PhD category*]
4. [Juwara L](#) and Saha-Chaudhuri P. Predictive modeling under data privacy restrictions. Statistical Society of Canada annual Conference, Virtual, 2020. [*Poster + Travel award*]

5. 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, Toronto, 2018. [*Poster + Travel award*]
6. 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*]

Work Experience

- 01/20-04/21 **Graduate Teaching Assistant in Statistics, Math 324**, McGill University
- Sampling distributions, point and interval estimation, hypothesis testing, analysis of variance, contingency tables, nonparametric inference, regression, and Bayesian inference.
- 01/19-06/22 **Biostatistician**, iMD Research Inc, Montreal QC
- Statistical consulting, Study design, data analysis, and report writing.
- 09/17-01/19 **Data Analyst**, Lady Davis Institute at the Jewish General Hospital , Montreal QC
- Study design, analysis, and report writing.
- Summer 2017 **Visiting Research Scholar**, South African Centre for Epidemiological Modeling and Analysis
- Developed web based applications for HIV incidence estimation (UNAIDS project)
 - R Shiny Framework

Software & other services

- 2020-Now Frequent Reviewer for Several Q1 Journals:
- International Journal of Medical Informatics
 - JMIR AI
 - Journal of Survey Statistics and Methodology (JSSM)
 - Co-Reviewer for JMIR Medical Informatics (×1)
- 05/2019 Incidence estimation tools AIDS surveillance (UNAIDS) [[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, SAS, and Office suites
- Intermediate HTML, Visual Basics, and SPSS.

Languages

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| Official | English | <i>First Language</i> |
| | Arabic, Mandingo, Wollof | <i>Fluent</i> |
| | French | <i>Basic</i> |

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. Archer Yi 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