

Mor Absa LOUM

Lecturer-researcher

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Education

- 4 months - 2023 **Visiting Scholar for Faculty Enrichment program at Jaline Gerardin's Laboratory, malaria modeling with EMOD and scientific writing, Northwestern University**, Dr Jaline Gerardin's Laboratory, Chicago, United-States
Title: Effective strategies for malaria burden reduction in KKT area (Senegal: modeling approach using EMOD)
Supervisor: Dr Jaline Gerardin
- 2018 - 2021 **Post-doctoral position in Applied Statistics to genomics, Montreal University & Sainte-Justine hospital**, Dr Jacquemont Laboratory, Montreal, Canada
Title: Estimating the effects size of single nucleotide variants on general intelligence and autism risk on European cohorts
Supervisor: Dr Sébastien Jacquemont
- 2014 - 2018 **Ph.D in Applied Mathematics, Paris-Saclay University & Gaston Berger University**, Mathematics Laboratory of Orsay & Statistics and development studies and research laboratory, Paris, France
Title: Mixture models and generalized linear models
Supervisors: Pr Elisabeth Gassiat and Pr Aliou Diop
- 2013 - 2014 **Msc (Master 2) in Fundamental and Applied Mathematics: Probability and Statistics, Paris-Saclay University**, Paris, France,
- 2012 - 2013 **Msc (Master 2) in Mathematical Sciences, African Institute for Mathematical Sciences (AIMS)**, M'bour, Senegal,
- 2011 - 2012 **Msc (Master 1) in Applied Mathematics and Computer Science: Probability-Statistics, Gaston Berger University**, Saint-Louis, Senegal,
- 2010 - 2011 **Bsc in Applied Mathematics and Computer Science, Gaston Berger University**, Saint-Louis, Senegal
- 2008 - 2010 **General University Diploma in Applied Mathematics and Computer Science, Gaston Berger University**, Saint-Louis, Senegal,

Work experiences

- Since April 2021 **Lecturer and researcher, Iba Der Thiam University**, Engineering Sciences Faculty, Thies, Senegal
- 2018 - 2020 **Post-doctoral researcher, Montreal University & Sainte-Justine hospital**, Dr Jacquemont Laboratory, Montreal, Canada
- 2017 - 2018 **Temporarily attached to education and research (Lecturer in mathematics), Paris-Saclay University**, University Institute of Technology Sceaux, Paris, France

Research contributions and impact

Publications

1. **Loum M. A.**, Poursat M. A., Sow A., Sall A. A., Loucoubar C. and Gassiat E. *Multinomial logistic model for coinfection diagnosis between arbovirus and malaria in kedougou*. **The International Journal of Biostatistics**, Volume 15, Issue 2, 20170015, eISSN 1557-4679, DOI: <https://doi.org/10.1515/ijb-2017-0015>.
2. Auder B., Gassiat E. and **Loum M. A.** *Least squares moment identification of binary regression mixture models*. **Metrika: International Journal for Theoretical and Applied Statistics** (2020). (Available online, <https://doi.org/10.1007/s00184-020-00787-x>)
3. **Loum M. A.** and Auder B. Package R : *Morpheus, Estimate Parameters of Mixtures of Logistic Regressions*. CRAN, 2018, **CRAN R**, <https://cran.r-project.org/web/packages/morpheus/>
4. Douard E., Zeribi A., Scharmm C., Tamer P., Nowak S., **Loum M. A.**, Loth E., Schumann G., Glahn D., Bourgeron T., Paus T., Mottron L., Greenwood C. M. T., Huguet G., Jacquemont S.: *6 Differential effects of deletions and duplications on autism risk across the genome* . **European Neuropsychopharmacology**, Volume 29, Supplement 5, S61-S62 (2019), doi: <https://doi.org/10.1016/j.euroneuro.2019.07.147>
5. Douard E., Zeribi A., Scharmm C., Tamer P., Jean-Louis M., Nowak S., Lord M. P., **Loum M. A.**, Saci Z., Rodriguez-Herreros B., Main A., Moreau C., Loth E., Schumann G., Pausova Z., Elsabbagh M., Almasy L., Glahn D., Bourgeron T., Labbe A., Paus T., Mottron L., Greenwood C. M. T., Huguet G., Jacquemont S.: *Effects-sizes of deletions and duplications on autism risk across the genome*. **The American Journal of Psychiatry** (2020), doi: <https://doi.org/10.1176/appi.ajp.2020.19080834>.
6. Tesfaye R., Huguet G., **Loum M. A.**, Douard E., Jean Louis M., Rouleau G., Jacquemont S.: *A gene first approach toward understanding sleep disturbances in autism*. **Journal of sleep research**, Volume 29, Issue S1, 249-250, 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY, 2020
7. Gagnon D., Zeribi A., Douard Elise, Courchesne V., Rodriguez-Herreros B., Huguet G., Jacquemont S., **Loum M. A.** and Mottron L.: *Distinct Speech Progression Following an Early Speech Regression in Autism: A Retrospective Study on 2047 Children, 2020*, **International Society for Autism Research**. (INSAR 2020 Virtual meeting)
9. **Loum M. A.** and Diop A. *Extreme value mixture model under random censoring over the threshold*, 2020. (Available on Arxiv: <https://hal.archives-ouvertes.fr/hal-02897820v1>)
10. Gagnon D., Zeribi A., Douard Elise, Courchesne V., Rodriguez-Herreros B., Huguet G., Jacquemont S., **Loum M. A.** and Mottron L.: *Bayonet-shaped language development in autism with regression: a retrospective study, 2021*, **Molecular Autism MOLA**, Volume 12, Issue 35, <https://doi.org/10.1186/s13229-021-00444-8>

11. Gagnon D., Zeribi A., Douard Elise, Courchesne V., Rodriguez-Herreros B., Huguet G., Jacquemont S., **Loum M. A.** and Motttron L.: *Using Developmental Regression to Reorganize the Clinical Importance of Autistic Atypicalities*, Volume 12, Issue 498, 2022, **Translation Psychiatry**
12. I. SY, M. Bousso, A.I. Correa, **M. A. Loum**, A. Diop, K. Toure, B. Traore, A.T. Diallo and M. Dieng, *Study of prognostic factors in gastric cancer: Application of a cox model and logistic regression*, **International Journal of Statistics and Applied Mathematics**, page 108-113, Volume 7, Issue 5, 2022
13. T. T. Landu, M. Bousso, **M. A. Loum**, O. Sall, L. Faty, Y. Dia, I. Sawadogo, *Machine Learning Algorithm for Text Categorization of News Articles from Senegalese Online News Websites*. **17th Iberian Conference on Information Systems and Technologies (CISTI)**, page 1-8, IEEE, 2022
14. Muhammed O. Afolabi, Doudou Sow, Schadrac C. Agbla, El Hadji Babacar Fall, Fatimata Bintou Sall, Amadou Seck, Isaac Akhénaton Manga, Ibrahima Marietou Mbaye, **Mor Absa LOUM**, Baba Camara, Diatou Niang, Babacar Gueye, Doudou Sene, Ndéye M'backé Kane, Boubacar Diop, Awa Diouf, Ndéye Aida Gaye, Marie Pierre Diouf, Aminata Colle Lo, Brian Greenwood and Jean Louis A. Ndiaye . *Feasibility and safety of integrating mass drug administration for helminth control with seasonal malaria chemoprevention among Senegalese children: a randomized controlled, observer-blind trial*. *Malar J* 22, 348 (2023). <https://doi.org/10.1186/s12936-023-04784-z>. *Malaria Journal*, 22, 348 (2023). <https://doi.org/10.1186/s12936-023-04784-z>
15. **Loum M. A.**, Scharmm C., Huguet G., Jean-Louis M., Alirezaie N., Labbé A. and Jacquemont S. *Estimating the impact of single nucleotide variants on general intelligence*. (working paper)

Seminars and conferences

- March 30, 2016 **Doctoral seminar**, Paris-Saclay University, Orsay
Tensorial method for learning generalized linear mixture model.
- July 11-15, 2016 **Workshop on Financial and Actuarial Mathematics**, AIMS-SENEGAL, Mbour-Sénégal
Tensorial method for learning generalized linear mixture model: asymptotic properties.
- December 1st, 2016 **Rencontre des jeunes chercheurs africains en FRANCE**, Institut Henri Poincaré, Paris
Modèle multinomial pour le diagnostic de la coinfection entre deux maladies: Arbovirus et paludisme à Kédougou.
- 24 Mars 2017 **Mini-Doctoriales**, Université Gaston Berger, Saint-Louis-Sénégal
Modèle multinomial pour le diagnostic de la coinfection entre deux maladies: Arbovirus et paludisme à Kédougou.
- June 13, 2017 **Séminaire de Probabilités et Statistiques du Laboratoire de Mathématiques d'Orsay**, Université Paris Sud, Paris
Méthode spectrale pour l'apprentissage de mélange de GLMs.
- July 4 - 6, 2017 **Doctoriales pluridisciplinaires internationales**, Université Gaston Berger, Saint-Louis-Sénégal
Méthode spectrale pour l'apprentissage de mélange de GLMs.
- May 28 - June 1st, 2018 **50 ièmes Journée de la Statistique**, Société Française de la Statistique, Paris
Mixture of generalized linear models: identifiability and applications.

- October 17, 2023 **AMMNET 2023 Annual meeting**, AMMNET and BMGF, Chicago
Poster: Effective strategies for malaria burden reduction in KKT area (Senegal: modeling approach using EMOD).
- November 27 - December 1st, 2023 **Edysa Moma Workshop 2023**, MOMA Group and WAMCAD Senegal, Thies, Senegal
Oral presentation: Effective strategies for malaria burden reduction in KKT area (Senegal: modeling approach using EMOD).
- November 27 - December 1st, 2023 **Edysa Moma Workshop 2023**, MOMA Group and WAMCAD Senegal, Thies, Senegal
Oral presentation: Introduction to EMOD).

Supervision of graduate students

- 2022 – 2023 *West African Modeling CCapacity co-superviseur* (Iba Der Thiam University).
- 2022 – 2023 Aphasatou Dia, *Master student in Data Science, Generalized linear model for poverty prediction* (Iba Der Thiam University).
- 2022 – 2023 Khadim Mbacké Ndiaye, *Master student in Data Science, Machine learning algorithms for co-infection diagnosis between arbovirus and malaria* (Iba Der Thiam University).
- 2019 – 2021 Nadine Younis, co-supervised with Dr Sébastien Jacquemont, *Msc student in bio-informatique* (Montreal University).
- 2019 – 2021 Mame Seynabou Diop, co-supervised with Sylvie Hamel, *Msc student in bio-informatique* (Montreal University).
- 2018 – 2020 David Gagnon, co-supervised with Laurent Mottron, *Msc student in medecine* (Montreal University).

Teaching activities

Lecturer at Iba Der Thiam University

- Since 01/2021 **Lecturer in general applied mathematics and informatic for many levels students**

Contractuel Lecturer

- 09/2018–12/2018 **Lecturer in Algebra and Analysis for second year physics students**

Temporarily attached to education and research (Lecturer in mathematics Paris-Saclay University)

- 2017–2018 **Lecturer in general applied mathematics for many levels students**

Ph.D student monitor (Lecturer in mathematics)

- 2014–2017 **Lecturer in general applied mathematics for many levels students**

Scientific leadership

- Since November 2023 **Nominated Program Director of the 2024 Faculty Enrichment Program in Thies, Training program on malaria modeling using EMOD**
- 2022 – 2023 **WAMCAD Junior Faculty**

- Since Mars 2021 **Statistical expert for the projects in Pr Jean Louis Ndiaye's Laboratory**
- 2018 – 2020 **Statistical expert of all the project in Dr Jacquemont Laboratory**
- 2018 – 2020 **Leading the biggest project in Dr Jacquemont laboratory concerning to give the first study estimating the effects size of single nucleotide variant**

Honors/Awards

- 2011-2012 *Major of the promotion in Master of Applied Mathematics and Computer Science. Probabilities and statistics option*
- 2012-2013 *One of the four granted students for the AIMS-SENEGAL scholarship at Gaston Berger University*
- 2012-2013 *One of the majors of the AIMS-SENEGAL Master with a score of **Distinction***
- 2013-2014 *Laureate of the Jacques Hadamard Mathematics Foundation Master's scholarship (10 000\$ euros/year).*
- 2014-2018 *Laureate of the Paris-Sud University thesis scholarship (35 500\$ CAD / year).*
- Juillet-2017 *2nd Post Prize for international multidisciplinary doctoral studies, UGB-Senegal*
- 2018-2021 *Post-Doc scholarship from the laboratory of Dr Sébastien Jacquemont, Research Center, Center Hospitalier Universitaire Sainte-Justine, University of Montreal (40 000\$ CAD/year).*
- June-November 2023 *Faculty Enrichment Program Laureat From Jaline Gerardin's Team Co-funded by Gerardin's team and WAMCAD Senegal.*

Languages

Wolof	Native	
English	Reading, writing and speaking	<i>Good Level</i>
French	Reading, writing and speaking	<i>Very Good Level</i>

Skills

Basic	Python, Matlab, Geogebra
Intermediate	C, C++, Scilab, EMOD
Expert	R, Pascal
–	Operating system: Windows, Linux, MacOS

Hobbies

Associative activities, Football, Tennis