

Oumy Niass

Data scientist/Biostatistics

Numerical University
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Current Position

Assistant Professor

Numerical University Cheikh Hamidou KANE
Ex-Virtual University of Senegal

head of training for the applied mathematics and computer science degree

Head of training for the Master's degree in Scientific Computing

Education

25 April 2019

[PhD in Applied Mathematics \(Option : Applied Statistics\)](#)

Defended at Gaston Berger University of Senegal in collaboration with Pasteur Institute of Dakar

Title of the thesis: Mathematical Modeling for the Development of a Tool for assessing Malaria Transmission Level using Antibody Responses to P. falciparum Antigens

Supervisors

Pr. Abdou Ka Diongue (Gaston Berger University)
Dr. Aïssatou Touré (Pasteur Institute of Dakar)
M. Philippe Saint-Pierre (Mathematical Institute of Toulouse, French)

2010-2011

[Master Degree in Applied Statistics for live Sciences](#) ,
Gaston Berger University (Senegal)

Title of the thesis: Analysis of immune responses against Plasmodium falciparum schizonts in a Senegalese malaria endemic village.

Supervisor

Pr. Aliou Diop (Gaston Berger University)
Dr. Aïssatou Touré (Pasteur Institute of Dakar)

2008-2010

[Master Degree in Applied Mathematics Finance and Computer Science](#),
Gaston Berger University (Senegal)

Supervisor

Title of the thesis: Security in banking transactions
Pr. Oumar Mbodj (Virtual University of Senegal)

2006-2008

[Bachelor Degree in Applied Mathematics and Social Sciences](#), Gaston Berger University (Senegal)
[high school diploma in mathematics and physical sciences](#)

1999-2006

High school Valdiodio Ndiaye, Senegal

Work experience

2021-	Assistant Professor at Numerical University Cheikh Hamidou KANE
2016-to Jul 2019	Teaching Assistant at AIMS-Senegal
2016-2018	Head Teaching Assistant at Virtual University-Senegal
2015-to date	Biostatistics teacher (Master of Animal Biology) at Cheikh Anta Diop University (Senegal).
2013-2015 (march)	Statistician at Pasteur Institute of Dakar.
2013-2014	Teaching Assistant at Gaston Berger University (Senegal).

Research Interests

- Data sciences / Data Analysis
- spatial and functional data analysis.
- Data mining/ Big Data
- Epidemiological modelling, survival and multi-states models, Generalised additive model,
- Missing data

Publications and works in progress

1. Mamadou Korka Diallo, Pascal Sara Sene, **Oumy Niass**, Babacar Mbaye and Jean Baptiste Yannick Sambou . *Impact of climatic hazards on crop yields in Senegal: The case of groundnuts*. African Journal of Agricultural Research 22, no. 1 (2026): 10-25.<https://doi.org/10.5897/AJAR2025.16944>
2. DIA, Yoro,THIAM, Mouhamadou Djimba, **NIASS, Oumy**, SALL, Ousmane, LANDU, Tony TONA and SOW, Abdramane, *Setting Up a Georeferenced Road Accident Database in Senegal: Automatic Data Extraction and GIS Integration*, 2025 8th International Conference on Data Science and Machine Learning Applications (CDMA), Riyadh, Saudi Arabia, 2025, pp. 156-161,[doi: 10.1109/CDMA61895.2025.00032](https://doi.org/10.1109/CDMA61895.2025.00032).
3. Ladislav Ndabarushimana, Papa Ngom, Abdou Ka DIONGUE, **Oumy NIASS** and Anabelle Niyongabo, *Survival comparison of groups of people living with infection of HIV/AIDS and failure factors of treatment in the structure of therapeutic and psychological care , ANSS in Burundi*, Far East Journal of Theoretical Statistics, Volume 68, Number 1, 2024, Pages 117-145,<http://dx.doi.org/10.17654/0972086324007>.
4. **O. Niass**, A. K. Diongue, P. Saint-Pierre and A. Toure, *Using Markov assumption with covariates to assess Plasmodium falciparum malaria serological markers evolution* . African Journal of applied Statistics (AJAS), Vol (7), 2020, pages 915-932. DOI :<http://dx.doi.org/10.16929/ajas/2020.915.247>.
5. O. Niass et al., *Modelling dynamic change of malaria transmission in a holoendemic setting (Dielmo, Senegal) using longitudinal measures of antibody prevalence to Plasmodium falciparum crude schizonts extract*, Malaria J(2017) 16:409.[DOI 10.1186/s12936-017-2052-0](https://doi.org/10.1186/s12936-017-2052-0).
6. M. Niang, O. Niass et al., *Temporal analysis of IgG antibody responses to Plasmodium falciparum antigens in relation to changing malaria epidemiology in a West African setting*, Malaria Journal. (2017) 16:283 [DOI 10.1186/s12936-017-1928-3](https://doi.org/10.1186/s12936-017-1928-3).
7. R. Perraut, L. Varela, C. Loucoubar, O. Niass, ... and A. Toure, *Serological signature of declining exposure following intensification of integrated malaria control in two rural Senegalese communities*. . Plos One Journal. (2017) [PONE-D-17-09267R1](https://doi.org/10.1371/journal.pone.0170926).
8. O. Niass, A. K. Diongue and A. Toure, *Analysis of missing data in sero-epidemiological studies*, African Journal of applied Statistics (AJAS). Vol. 2, 2015, pages 29-37. DOI : <http://dx.doi.org/10.16929/ajas/2015.1.29.73>.
9. O. Niass, A. K. Diongue, P. Saint-Pierre and A. Toure, *Time dependant covariate effects in a flexible semi-Markovian model*. (in progress).
10. O. Niass, P. Ch. Ndiaye, A. K. Diongue and A. Deme, *Missing data on modelling relationship between climate parameters and mortality* (in progress).

Talks given

Orleans University 15/05/2025	Survival and Functional Data Analysis for Lung Cancer Prognosis and Malaria Transmission Assessment
Polytechnical School of Thies, 26-28/11/2024	Survival and fonctionnal data analysis.
SADA'16-Benin, Nov 28, Dec 03/2016	Flexible Semi-Markov model based on a modified Weibull distribution with an illustration for serological malaria disease.
University Lille 1 and 3, 26-28/11/2015	Serological measurement of malaria transmission in Dielmo of Senegal by a Markovian model.
JSCD/UGB?2015, 11-13/06/ 2015,	Using immunological markers to evaluate malaria transmission level by Markov models
ENSAE-Rennes (France), 16/02/ 2016	Missing data handling in sero-epidemiological studies.
University Cheikh Anta Diop, March 17-21/2014	Homogeneous Markov Model and Extensions: Application to Malaria sero-epidemiology.

Conferences and Schools

South Africa, 3-14 February, 2025	CIMPA School on Mathematical and Statistical Modeling in Oncology. https://natural-sciences.nwu.ac.za/paa/3MC-CIMPA-School-2025
Cotonu (Benin), Nov 28, Dec 03/2016	SADA'16 :Applied Statistics for Development in Africa.
Gaston Berger University, April 5-8/2016	CIMPA School in Statistical methods for extreme risk assessment: Applications to Environment, Food and Insurance.
University Lille 3, March 26-28/ 2015	15th Mathematicians Youth Forum
Gaston Berger University, June 11-13/2015	Scientific Days of the Collective of PhD Students of the UGB.
ENSAE-Rennes (France), June 02-06/2014	JdS'2014: 46th Statistics Day of the French Statistics Society
University Cheikh Anta Diop, March 17-21/2014	DICDAS: Dakar International Conference on Recents Developments in Applied Statistics.
Cotonu (Benin), March 4-8/2013	SADA'13: Applied Statistics for Development in Africa.
IRD, Oct 23/2012	13th Dakar Parasitology Day.

Awards and Grants

2024	WINNER of IBNI PRIZE 2024 : https://www.idpoisson.fr/prix-ibni/ , CIMPA, SMAI, SFDS
09-12-2014	Mobility grant for PhD research given by the Service of Cooperation and Cultural Action (SCAC), French Embassy in Senegal
09-12-2015	Mobility grant for PhD research given by the Service of Cooperation and Cultural Action (SCAC), French Embassy in Senegal
09-12-2016	Mobility grant for PhD research given by the Service of Cooperation and Cultural Action (SCAC), French Embassy in Senegal
13-06-2014	Mobility Grant of CEA-MITIC, Gaston Berger University

Short Research Visits

may 2025	Laboratory Paul Painleve (CNRS 8525),team ONCOLille, Lille
December 2023	Laboratory Paul Painleve (CNRS 8525),team ONCOLille, Lille
September-December 2014	Laboratory of Theoretical and Applied Statistics,Pierre and Marie Curie University, Paris.
September-December 2015	Mathematical Institute of Toulouse, Paul Sabatier University
July 2016	Mathematical Institute of Toulouse, Paul Sabatier University
September-December 2016	Mathematical Institute of Toulouse, Paul Sabatier University

Scientific Software

- R
- Python
- C++

Languages

Woloof	advanced (Mother tongue)
French	advanced (First language)
English	advanced (writing, reading), intermediate (Oral Interaction)
Arabe	Beginner (reading)

Give back events and Community live

8-10 July 2025	Co-organizer of the Francophone Conference on Statistics, Probability, and Interactions. AIMS-Senegal/UGB.
1-5 July 2019	Co-organizer of the Summer School in Statistics and Data Science for young researchers from French-speaking on Africa. AIMS-Senegal
	Active membre of SWMA (Senegalese Women in Mathematics Association)

References

Pr. Moussa	Rector of the Cheikh Hamidou Kane Numerical University (UN-CHK), moussa.lo@unchk.edu.sn
Pr. Abdou Ka Diongue	Head of the Laboratory of study and research in statistics and development Gaston Berger University, abdou.ka.diongue@ugb.edu.sn
Pr. Ahmadou Alioum	Professor of biostatistics, Deputy Director of the college of Health Sciences, Bordeaux University, ahmadou.alioum@u-bordeaux.fr
Dr Matar Niang	Pasteur Institut of Dakar, mniang@pasteur.sn
M. Philippe Saint-Pierre	Mathematical Institut of Toulouse, philippe.saint-pierre@math.univ-toulouse.fr
Pr. Sophie Dabo Niang	Professor of statistics, Lille 3 University, sophie.dabo@univ-lille.fr
Pr Mbacké Sembene	Head of Animal Biology Master, Faculty of Science-UCAD, mbacke.sembene@ucad.edu.sn
Dr Aïssatou Touré,	Head of Immunology Laboratory, Pasteur Institute of Dakar. atoure@pasteur.sn
Dr Adama Tall	Pasteur Institute of Dakar, atall@pasteur.sn