

FAGUEYE NDIAYE

Teacher and Researcher at Faculty of Sciences and Technologies of Education and Training
at University Cheikh Anta Diop of Dakar, Senegal.

PERSONAL DATA

- **Place and Date of Birth** : Senegal, 15 May 1966.
- **Phone** : (00221) · 76 621 · 37 · 02
- **Email** : fagueye.ndiaye@ucad.edu.sn
- **Attached Institution** : University Cheikh Anta Diop of Dakar (UCAD), Senegal.

MATHEMATICAL INTERESTS

Non-Linear Analysis and Applications, Inverse problems of identification of parameters, Shape optimization, Mathematical Modeling and real world problems.

EDUCATION

- # Unique Ph.D in Mathematics and its Applications** Defended in November 2014.
 - **Title of the thesis:** Study of Localization Problems: Identification of Sites and Data.
 - **Institution(s):** University Cheikh Anta Diop of Dakar, Senegal.
 - **Advisor(s):** Idrissa LY and Babacar Mbayes Ndiaye (University Cheikh Anta Diop of Dakar, Senegal.)
- # Diploma of Advanced Studies** 20 July 2010.
 - **Institution(s):** University Cheikh Anta Diop of Dakar, Senegal.
 - **Advisor(s):** Idrissa LY (University Cheikh Anta Diop of Dakar, Senegal)

ACADEMIC POSITIONS

- University Cheikh Anta Diop of Dakar (UCAD)** July 2023 - Present
Assimilated Professor and Researcher by CAMES 2023
Dakar, Senegal
 - Member of the Laboratory "Mathématiques de la Dcision et d'Analyse Numrique"
- University Cheikh Anta Diop of Dakar (UCAD)** March 2018
Senior Lecturer and Researcher by Ministerial Order
Dakar, Senegal
 - Member of the Laboratory "Mathématiques de la Dcision et d'Analyse Numrique"
- University Cheikh Anta Diop of Dakar (UCAD)** Juillet 2017
Master Assistant and Researcher registered on the CAMES aptitude list
Dakar, Senegal
 - Member of the Laboratory "Mathématiques de la Dcision et d'Analyse Numrique"
- University Cheikh Anta Diop of Dakar (UCAD)** February 2015
Assistant and Researcher
Dakar, Senegal
 - Member of the Laboratory "Mathématiques de la Dcision et d'Analyse Numrique"
- Generally Inspection of Education and Formation(IGEF)** November 2015 - Present
Generally Inspector of Education and Formation
Dakar, Senegal

- Collaborator of Minister of Education. President of the National Mathematics Commission

General Inspection of Education and Formation(IGEF) October 2015 - Present
President of the National Mathematics Commission *Dakar, Senegal*

- Collaborator of Minister of Education for programs and curricula.

Academy Inspection of Dakar August 2007 - January 2015
Inspector of middle and secondary Teaching *Dakar, Senegal*

- Pedagogique collaboration with Inspector of Academy of Dakar.

Academy Inspection of Diourbel June 2003 - July 2007
Educational consultant *Diourbel, Senegal*

- Educational consultant in regional training center

High School of Diourbel December 1997 - May 2003
Teacher *Diourbel, Senegal*

- Teaching High School in High School of Diourbel.

High School of Thies October 1995 - November 1997
Teacher *Thies, Senegal*

- Teaching High School in High School of Thies.

NATIONAL RESEARCH AND TRAINING ACTIVITIES

Participation in Relevant national Workshop and Conferences May 1998- August 2020
National Research and Training Activities

- Seminar on access, retention and performance of girls in science, in May 1998 at Dakar.
- Training of Mathematics Teachers in Diourbel, Fatick and Kaolack on evaluation, demonstration and reasoning, statistics and probability, spatial geometry with the BAD, BID and Quality Project in the academies, from 2003 to 2006 at Academies of Dakar, Fatick and Diourbel.
- Validation seminar of the USAID/TPLM 6th-5th grade manual, in June 2008 at Dakar.
- Seminar to impregnate the Specialty Mathematics Inspectors of the second promotion on the structures of the Ministry of Education, in August 2008 at Dakar.
- Capacity building training in Mathematics for temporary workers 2006/2007 in the framework of the BAD IV project, on 17 - 19 November 2008 at Dakar.
- Capacity building of Specialty Mathematics Inspectors on assessment and competency-based entry, on 30 - 31 December 2008 at Dakar.
- Capacity building of the Specialty Mathematics Inspectors on the project approach in G15, on 1 - 2 April 2009 at Dakar.
- Seminar on the use of the USAID/TPLM manual 6th-5th grade, on 10 -12 August 2009 at Dakar.
- Training of contractual teachers in the framework of distance learning, on October 2010 ? September 2013 at Dakar.
- National orientation workshop for pedagogical advisors, elementary education inspectors and middle-secondary education inspectors on tuberculosis, on 30 - 31 March 2010 at Dakar.
- Training on the use of the observation grid in the classroom, on 18 - 19 May 2010 at Dakar.
- Leadership Training Session, on 16-18 August 2010 at Dakar.
- Capacity building seminar for Specialty Mathematics Inspectors on the curriculum, on 3 - 6 August 2010 at Dakar.
- Training of trainers for curriculum improvement in middle school, on 30 August - 4 September 2010 at Dakar.

- Training of middle school teachers on the Competency-Based Approach in the context of improving the middle school curriculum, on 4 - 16 October 2010 at Fatick.
- Training of middle school teachers on the Competency-Based Approach in the context of improving the middle school curriculum, on 17 - 30 December 2010 at Dakar.
- Sharing workshop at CNRE on time credits, coefficients assigned to different subjects, conduct, notebook and computer grades, system of calculating averages for promotion to the next grade, on 23 - 25 August 2011 at Dakar.
- Training of trainers on the administration of standardized tests and CAP assessments (knowledge, attitudes and practices), on 19 - 20 November 2011 at Dakar.
- Close training on the use of the user's guide, the pedagogical guide and the toolbox, for middle school teachers, on 15 - 16 December 2011 at Dakar.
- Gender Training for Specialty Mathematics Inspectors, on 22 - 24 February 2012 at Dakar.
- Administration of standardized tests and CAP (knowledge, attitudes and practices) assessments in the Dakar Academy, on 21 - 25 November 2012 and on 14 - 29 June 2012 at Dakar.
- Participation in the "Webinar on the use of online educational resources", on 23 - 25 June at UVS at Dakar.
- Training workshop for trainers of the Ministry of National Education in publishing and administration of online courses (educational platforms and media) "Distance learning and E-Learning", on 18 - 26 August 2020 at Dakar.

INTERNATIONAL RESEARCH AND TRAINING ACTIVITIES

Participation in Relevant International Workshop and Conferences April 2011- Present *International Research and Training Activities*

- Participation in CIMPA research school on Theory of control (exact controllability, geometric control E.D.O, topological shape optimization), modeling of physical, biological and complex systems, and problems of nonlinear analysis such as EDP and mass transport problems, in April 2011 at UCAD, Senegal.
- Participation in Workshop on Femmes-Math at University of Ouagadougou, on 26 -27 October 2012 at Ouagadougou, Burkina Faso.
- Participation in CIMPA research school on Discrete mathematics: combinatorial aspects, dynamic and algorithmic, on 28 October-9 November 2012 at Bobo Dioulasso, Burkina Faso.
- Participation in CIMPA research school on Equations derivatives Partial, Differential Geometry, and Applications, in April 2013 at African Institute for Mathematical Sciences (AIMS), Senegal.
- Participation in Workshop on Femmes - Math, in July 2013 at AIMS, Cape Town, South Africa.
- Participation in Workshop on UNESCO Chair launch in Scientific and Technological of Education and Training Teacher, in February 2013 at Superior Normal School of technical teaching and professional (ENSEPT), Senegal,.
- Participation in Workshop on Femmes-Math, in July 2015 at Naivasha, Kenya.
- Participation in CIMPA research school on Geometrical analysis of optimal shapes, in May 2016 at UCAD, Senegal.
- Participation in 2nd Workshop of "Seismic Metamaterials" on Introduction to the Mathematics and the Physics of Metamaterials, Application to Civil Structures, Disaster Risks, Prevention And Resilience: seismic as a case study, in May 2016 at UCAD, Senegal.
- Participation in International Conference of Mathematics on "Mathematics and Sustainable Development" and to the Round Table on " The problems of mathematics education, on November 29 to December 1st at UADB, Bambey Senegal.
- Participation in 9th Pan African Congress of Mathematicians (PACOM 2017) , on 3 - 7 July 2017 at the Faculty of Sciences, Mohammed V University in Rabat, Morocco.

- Study trip to Elie Cartan Institute, Faculty of Sciences, University of Lorraine and to Faculty of Sciences, University of Metz, on 14 - 30 September 2017, France.
- Participation in World Conference of **Women in Mathematics (WM²)**, on **30 July 2018 and International Mathematics Conference (ICM)**, on **31 July - 09 August 2018** at in Rio De Janeiro, Brasilia.
- Participation in Training of Trainers on "Gender Responsive Quality Education", on 3 -14 September 2018 at CEMASTEPA, Nairobi, Kenya.
- Participation in Regional Workshop for UEMOA Bachelor, on 06 - 09 November 2018 at Bamako, Mali.
- Participation in Trainer in the training for French-speaking African countries on "Deciphering the Code: Gender-responsive quality STEM education" under the auspices of the Ministry of Education and UNESCO, on 12 - 16 November 2018 at Ngor Diarama, Dakar.
- Participation in the "First edition of the International Biennial of Mathematics around the themes: Nonlinear Analysis, Geometry and Applications", on 24 - 28 juin 2019 at UCAD, Dakar.
- Participation in AWMA Regional Workshop: Women in Mathematics for Information Security in Africa, on 13 - 14 July 2019 at AIMS Cameroon, Limbe, Cameroon.
- Participation in Connections for Women: Microlocal Analysis, on 29-30 August 2019 at MSRI Berkeley, California, USA.
- Participation in Introductory Workshop: Microlocal Analysis, on 3-6 September 2019 at MSRI Berkeley, California, USA.
- Participation in the "Regional Workshop on the Production of Contents, Competences and Resources for the Harmonisation of the Baccalaureate in UEOMA Member Countries", on 21- 25 October 2019 at Ouagadougou, Burkina Faso.
- Panelist on the theme: "Africa: the gender issue in Mathematical Sciences" at the Symposium of Young Senegalese Researchers in Pure and Applied Mathematics, on 16 -19 December 2019, in Saly Mbour, Senegal.
- Participation in the international conference: "School of Didactics and Mathematics EDIMATHS 2020", on 12 -14 March 2020 at FASTEF/UCAD, Dakar.
- Fellow of the 6th Edition of the "Science by Women" programme of the Foundation "Mujeres for Africa" for research in Mathematics, on 5 May - 31 October 2021 at ICMAT/ Madrid, Spain.
- Participation in the Second Edition of the Non-Linear Analysis Geometry and Applications Biennial International Research Symposium (Second Edition NLAGA-BIRS), 26 - 29 January 2022 at Cap Skirring, Ziguinchor, Senegal.
- Participation in the EMF 2022 international conference with a paper on : "Modélisation Mathématique : Outil efficace d'enseignement-apprentissage des mathématiques et de résolution de problèmes." Cotonou, Benin, 12-16 December 2022.
- Participation in the EMF 2022 international conference, at the Round Table on the theme: : "La contribution des mathématiques et des activités mathématiques à la citoyenneté." Cotonou, Benin, 12-16 December 2022.
- Participation in the Third Edition of the Non-Linear Analysis Geometry and Applications Biennial International Research Symposium (Third Edition NLAGA-BIRS), 21 - 25 August 2023 at Aims-Senegal, Mbour, Sngal.
- Participation as CR of Senegal in the General Assembly of ICMI, 7 July 2024 at Sydney, Australia.
- Participation in ICME-15, 7-14 July 2024 at Sydney, Australia.
- Participation in EMA (African Mathematical School, 19-31 August 2024 at Ouagadougou, Burkina Faso.
- Participation in International conference on "Recent trends in optimisation and control", 01-03 October 2024 at CIGASS, UCAD, Senegal.
- Recipient of an Erasmus+ 2025 scholarship, Suceava, Romania.
- Participation in the Espace Mathématique Francophone (EMF), from 26 to 31 May 2025, Montreal, Canada.

RELEVANT PUBLICATIONS

1. **F. Ndiaye**, I. Ly, B. M Ndiaye, D. Seck : "Application of the p-Median Problem in School Allocation". AJOR-American Journal of Operation Research, 2(2): 253-259, 2012.
2. **F. Ndiaye**, I. Ly, B. M Ndiaye, D. Seck : "Reconstruction method for conformal mapping in two dimensions". AMO-Advanced Modeling and Optimization, 16(3): 143-163, 2014.
3. **F. Ndiaye**, B. M Ndiaye, M. Ndiaye, D. Seck, I. Ly : "Conformal transformation method for irrigation Dirichlet problem". In a Collection of Papers in Mathematics and Related Sciences, a festschrift in honor of the late Galaye DIA. Spas Edition, Euclid Series Books, 2018, (DOI: 10.16929/sbs/2018.100-03-05). pp. 265-285. ISBN 978-2-9559183-0-2
4. **F. Ndiaye** : "Domain Identification for Inverse Problem via Conformal Mapping and Fixed Point Methods in Two Dimensions". Hindawi - Abstract and Applied Analysis. Vol. 2020, pages 1-12. <https://doi.org/10.1155/2020/1745656>. ISBN 978-2-9559183-0-2
5. **F. Ndiaye**, I. Ly : "Inverse Problem Related to Boundary Shape Identification for a Hyperbolic Differential Equation". Hindawi - International Journal of Mathematics and Mathematical Sciences, Volume 2021, Article ID 1716027, 12 pages. <https://doi.org/10.1155/2021/1716027>.
6. **F. Ndiaye** : "An explicit formula of the Dirichlet-to-Neumann map for a radial potential in Dimension 3", Journal of Applied Mathematics and Physics, Volume 2022, 10, 379-404. <https://doi.org/10.4236/jamp.2022.102030>.
7. **F. Ndiaye** : "Inverse Problem for the Schrödinger Equation in Dimension 3 ", Hindawi - Journal of Mathematics, Volume 2021, Article ID 2935392, 8 pages <https://doi.org/10.1155/2022/2935392>.
8. **F. Ndiaye**, B. M Ndiaye : "Uniqueness and stability in an inverse problem for electromagnetic forming of a metal jet", Trends in Mathematics. Nonlinear Analysis, Geometry and Applications. Birkhäuser / Springer, Cham, pp. 255-274, 2022.
9. **F. Ndiaye**, M. Ngom, D. Seck : "Dirichlet-to-Neumann map for a Hyperbolic Equation", Journal of Applied Mathematics and Physics, Volume 2023, 11, 2231-2251. <https://doi.org/10.4236/jamp.2023.118145>.

RELEVANT NETWORKING AND COLLABORATION ACTIVITIES

- . **Godmother "Miss-Maths / Miss-Sciences"** 2017 edition.
- . **Member of the SWMA** (Senegalese Women in Mathematics Association), since November 2015.
- . **Member of the CNM** (National Mathematics Commission), since October 2015.
- . **Member of the AWMA** (African Women in Mathematics Association), since July 2013.
- . **Member of the NLAGA-Project** funded by the AMP-Simons grant, since April 2013.

ADMINISTRATIVE POSITIONS

- . **General Inspection of Education and Formation(IGEF)**, since November 2015.
- . **President of the National Mathematics Commission** , since October 2015.

TECHNICAL STRENGTHS

Computer Languages C, C++, Scilab, Matlab, Latex.

LANGUAGE SKILLS

- . **French:** Proficient user.
- . **English:** Moderate user.
- . **Wolof :** Mother tongue.

I certify on my honour the accuracy of the information and declarations contained in this CV.