Meissa MBAYE.

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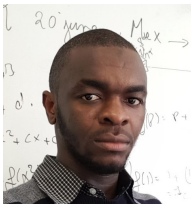
http://www.fpl.math.cnrs.fr/node/1278



Current situation	**PhD,** in joint thesis supervision between of Nantes University and Cheikh Anta Diop University.
Discipline	**Applied mathematics. Numerical analysis and simulation**.
Area	Hydrodynamics, fluid mechanics, coastal oceanography.
Main research topics	Shallow Water equations, Hyperbolic systems, Finite Volumes, Finite Differences, Discontinuous Galerkin, Entropy schemes, Well-balanced.

Career and qualifications

2018 –2021 **PhD, between Nantes University (UN) and Cheikh Anta Diop University (UCAD)**, in numerical analysis.
Title: *Contributions to schemes preserving stationary solutions at non-zero speed for Shallow-water equations. Defense scheduled for January 2022.*

2017 – 2018 **Master, Nantes University**, in Sciences, Technologies, Health with specialization in Mathematics and Applications. Internship between the DENIS POISSON laboratory of Orleans University and the JEAN LERAY mathematical laboratory of Nantes University ,
Title: *Implementation of two new numerical schemes on FullsWof.*

2016 – 2017 **Master, African Institute for Mathematical Science (AIMS), Senegal**, en Science of mathematics. Internship with INRIA,
Title: Formal verification of mathematical proofs with Coq.

2014 – 2015 **Master, Gaston Berger de Saint-louis university** in Applied Mathematics and Computer Science (MAI).
Title: Lotka-Volterra prey-predator model.

2013 – 2014 **Licence, Gaston Berger de Saint-louis university**, in Applied Mathematics and Computer Science (MAI).

2011 – 2013 **DEUG, Gaston Berger de Saint-Louis university**, in Applied Mathematics and Computer Science (MAI).

Teaching experience

2019 – 2020 **Temporary lecturer at Nantes university**

- Mathematics BGC (Cours and TD – 48h)
- Mathématics 1 MPI (TD– 12h)

2018 – 2019 **Temporary lecturer at Nantes university**

- Mathématics BGC (Cours and TD – 48h)
- Linear algebra MPI (TD– 12h)

Works and publications

Articles

1. Berthon, C., Bulteau, S., Foucher, F., M'Baye, M., & Michel-Dansac, V. (2021). A very easy high-order well-balanced reconstruction for hyperbolic systems with source terms.
2. Berthon, C., M'Baye, M., Le, M., & Seck, D. (2021). A well-defined moving steady states capturing godunov-type scheme for shallow-water model. *International Journal on Finite Volumes*.
3. James, F., M'Baye, M., Msheik, K., & Nguyen, D. (2020). A lubrication equation for a simplified model of shear-thinning fluid.

Computer skills

Programming	Pascal, C, C++, Matlab, Fortran, Python.
Scientific calculation software	Administrator FullsWof, Coq
Text editor	LaTeX, Word, Vim, emacs, ...
OS	Lunix, Windows.

Certification

2021 **Maîtriser le shell Bash- Session 3**. Université de la Réunion, FUN MOOC.

Scientific activities

Seminars and Conferences

2018 **6ième école EGRIN**, VVF Le Grand Lioran, June 18-21, 2018. https://indico.math.cnrs.fr/event/3345/overview.

2019 **Seminars - Journée Rennes-Nantes d'analyse**, Nantes, January 24,2019. https://www.lebesgue.fr/fr/content/seminars-journeeanalyse.

NumHyp (Numerical Methods for hyperbolics problems) 2019, Malaga, 17-21 June 2019. https://eventos.uma.es/27166/speakers/numerical-methods-for-hyperbolic-problems-2019.html.

7ième école EGRIN, VVF Le Grand Lioran, June 24-27, 2019. https://indico.math.cnrs.fr/event/4391/.

CEMRACS 2019, CIRM, Luminy, Marseille, Bouches du Rhône 15 July - 23 August 2019. Theme: Geophysical Fluids, Gravity Flows. http://smai.emath.fr/cemracs/cemracs19/.

LEBESGUE Doctoral Meetings, Nantes, October 23-30, 2019. https://www.lebesgue.fr/sites/default/files/attach/Mini-notebook.pdf.

2021 **8ième école EGRIN**, 25-28 Mai 2021. https://indico.math.cnrs.fr/event/6427/.

Communications

Scientific activities (continued)

2019 — **La 30e journée du projet CaSciModOT**, July 04, 2019, at the City of Creation and Innovation MAME, 49 boulevard Preuilly 37000 Tours. Title: Two new numercicals schems for the simulation of fluidic flows with FULLSWOF (Full Shallow Water equations for Overland Flow). http://cascimodot.fdpoisson.fr/?q=node/100.

2021 — **Seminar Landau, Rennes**, April 19, 2021.
Title: Godunov-type scheme which captures all stationary states for the Shallow water equation. https://irmar.univ-rennes1.fr/seminaire/seminaire-landau/meissa-mbaye

NLAGA Young Researchers Seminar, Dakar, Mars 19, 2021.
Title: Godunov-type scheme which captures all the stationary states at non-zero speed for the shallow water equation.

Seminar LMDAN, Dakar, April 28, 2021.
Titre: Godunov-type scheme which captures all the stationary states at non-zero speed for the shallow water equation.

8ième école EGRIN, Mai 25, 2021.
Title: Godunov-type scheme which captures all the stationary states at non-zero speed for the shallow water equation with topography source term. https://indico.math.cnrs.fr/event/6427/timetable/#20210525.detailed.

Other skills

Languages — **French**, **English**, **Wolof**.

Interests — **Football, sewing, kitchen**.

References

Christophe BERTHON — Professor of universities in France, Nantes university,
christophe.berthon@univ-nantes.fr.

François JAMES — Professor of universities in France, Orleans university,
francois.james@math.cnrs.fr.

Assia MAHBOUBI — Research Director at INRIA,
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