

# Marcel ZODJI

## Curriculum Vitae

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### Personal Information

Date of Birth April 6, 1997 in Benin  
Personal Page <https://mzodji.github.io/home/>

### Experience

- Sept. 2025- **Postdoctoral researcher at LaMME**, *Université d'Évry Val d'Essonne*, France.  
**Advisors:** Mickaël Latocca and Thomas Alazard.
- 2025 - 2026 **Teaching Assistant**, *Université d'Évry-Val-d'Essonne*, France, (18 hours).  
◦ *Langage Mathématiques* (L1 – Portail Math-Info)
- 2024 - 2025 **Teaching Assistant (ATER)**, *Université Paris Cité*, France, (192 hours).  
◦ *Elementary Mathematics* (L1 – Physics)  
◦ *Differential Equations for Biologists* (L2 – Bio)  
◦ *Discrete Probabilities* (L2 – MIAHS)  
◦ *Mathematics for Engineers* (L2 – CUPGE)
- 2021- 2024 **Research Fellow and Instructor**, *Université Paris Cité*, France, (3 × 64 hours).  
◦ *Mathematics and Applications to Life Sciences*  
◦ *Discrete Probabilities* (L2 MIAHS)  
◦ *Office Software and Internet Tools* (L1 Maths-IT)
- Aug. 2019 **Internship**, *National Institute of Statistics and Economic Analysis*, Benin.

### Education

- 2021-2025 **Ph.D in Mathematics**, *IMJ-PRG*, *Université Paris Cité*, France.  
**Topic:** Qualitative study of the interface between two compressible fluids.  
**Thesis defense:** June 17, 2025  
**Supervisors:** Cosmin Burtea, David Gérard-Varet.
- 2020-2021 **Master 2 Mathematics of modeling**, *Sorbonne Université*, Paris, France.
- 2018–2020 **Master in fundamental Mathematics and applications**, *Institut de Mathématiques et de Sciences Physiques (IMSP)*, *Université d'Abomey-Calavi (UAC)*, Benin.
- 2017–2018 **Bachelor Degree in Mathematics**, *IMSP*, *UAC*, Benin.
- 2015–2017 **Preparatory classes for schools**, *IMSP*, *UAC*, Benin.
- 2015 **Baccalaureat C**, *High School*, Lokossa, Benin.

### Scientific contributions

- [4] Global-in-time Discontinuous Solutions for the Two-Phase Model of Compressible Fluids with Density-Dependent Viscosity.  
2025, preprint; <https://arxiv.org/abs/2510.11383> or <https://hal.science/hal-05312124>.
- [3] A well-posedness result for the compressible two-fluid model with density-dependent viscosity.  
2025, *J. Math. Fluid Mech.*, <https://doi.org/10.1007/s00021-025-00954-y>.

- [2] Global-in-time well-posedness of the compressible Navier-Stokes equations with striated density. 2025, with [Xian Liao](#), *Rev. Mat. Iberoam.*, <https://doi.org/10.4171/rmi/1561>.
- [1] Discontinuous solutions for the Navier-Stokes equations with density-dependent viscosity. 2024, *Ann. Inst. H. Poincaré C Anal. Non Linéaire*, <https://doi.org/10.4171/aihpc/145>.

## Research visits

- 2023-2025 Karlsruhe Institute of Technology, Karlsruhe, Germany.  
I was invited by **Xian Liao** for a one-week research stay each July.
- Oct.-Dec., '23 Karlsruhe Institute of Technology, Karlsruhe, Germany.  
**Host:** Xian Liao  
**Funding:** Project CRISIS (ANR-20-CE40-0020-01), **PI:** Francesco Fanelli

## Talks and Poster sessions

- Nov. 12, 25 **Online talk**, *School of Mathematical Sciences*, Beijing Normal University, China..
- Oct. 27-31, 25 **Poster**, *Workshop End of CRISIS*, Marseille.
- Sept. 21-26, 25 **Workshop**, *MathFlows' 25*, Porquerolles, France.
- Jun. 23-27, 25 **Poster**, *Summer school*, Particles in Flow, Bonn.
- April 15, 25 **Séminaire MAC**, *Institut de Mathématiques de Toulouse*, France.
- Mar. 20, 25 **Séminaire de l'équipe d'Analyse des E.D.P.**, *LaMME*, Université d' Evry Val d'Essone.
- Sept. 2-4, 24 **Meeting on Differential Equations in Ancona**, *Ancona*, Italy.
- Feb. 23, 24 **Séminaire EDPs2**, **LAMA**, **Université Savoie Mont Blanc**, *Chambéry*, France.
- Jan. 31, 24 **Séminaire des doctorants du LJLL**, *Paris*, France.
- Jan. 8-9, 24 **Poster**, *Journées de lancement de l'ANR BOURGEONS*, Paris, France.
- Nov. 16, 23 **Conférence "Maths pour la Géophysique"**, *Amiens*, France.
- Jul. 25, 23 **Seminar of the working group Nonlinear Partial Differential Equations**, *Karlsruhe*.
- Mar. 22, 23 **Poster**, *Journées Jeunes EDPistes*, Tours, France.

## Grants and Honors

- 2025 **FMJH postdoc fellow**, *Thematic programs*, Université d'Evry Val d'Essonne, France.
- 2021 **Cofund MathInParis2020 Ph.D fellow**, Paris, France.
- 2020 **PGSM grant from the Paris Mathematical Sciences Foundation (FSMP)**, *co-funded by the French Embassy in Benin*, Sorbonne Université, France.
- 2018 **Laureate of the German Academic Exchange Service (DAAD) scholarship**, *IMSP*, Benin.

## Responsibilities

- 2022-2024 **Volunteer at ZUPdeCO**, *To assist high school students with their homework*, France.
- 2022-2023 Advisor for FSMP scholarship recipients, France.
- Oct. 2021 **Fête de la Science**, *Paris*, France.

## Skills

- Language French (native), English (average).
- Computer Latex, Python.

## REFERENCES

- Mickaël Latocca, e-mail: [mickael.latocca@univ-evry.fr](mailto:mickael.latocca@univ-evry.fr);
- Thomas Alazard, e-mail: [thomas.alazard@polytechnique.edu](mailto:thomas.alazard@polytechnique.edu);
- Cosmin Burtea, e-mail: [cosmin.burtea@imj-prg.fr](mailto:cosmin.burtea@imj-prg.fr);
- David Gérard-Varet, e-mail: [david.gerard-varet@u-paris.fr](mailto:david.gerard-varet@u-paris.fr);
- Xian Liao, e-mail: [xian.liao@kit.edu](mailto:xian.liao@kit.edu).