

Curriculum Vitæ

Jules Berry – Postdoctoral Researcher

Personal Information

Jules Berry, born August 4, 1996 in La Teste-de-Buch (33), French citizen.

Postdoctoral Researcher in Applied Mathematics at Université Paris-Saclay – CentraleSupélec, France.

Languages: French (native), English (fluent)

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Academic Positions

Since 11/2025 **Postdoctoral Researcher**, L2S – Université Paris-Saclay – CentraleSupélec, France.

Supervisors: Riccardo Bonalli (L2S – CentraleSupélec) and Laurent Pfeiffer (INRIA).

Research topic: Risk-averse stochastic optimal control.

Education

2022 – 2025 **Ph.D. in Mathematics and their Interactions**, IRMAR – Université de Rennes – INSA Rennes, France.

Thesis: Contributions to the study of second order mean field games: approximation of stable solutions and sticky processes on networks.

Defense date: October 23, 2025 at INSA Rennes.

Advisors: Olivier Ley (IRMAR – INSA Rennes) and Francisco Silva (XLIM – Université de Limoges).

2020–2022 **Master in Fundamental Mathematics**, Université de Rennes, France, with Highest Honors.

Track: Analysis and Applications.

Publications

[J3] Berry, J., & Colantoni, F. (2026). Sticky diffusions on star graphs: characterization and Itô formula. To appear in *Stochastic Processes and their Applications*.

[J2] Berry, J., & Camilli, F. (2025). Stationary Mean Field Games on networks with sticky transition conditions. *ESAIM: Control, Optimisation and Calculus of Variations*.

[J1] Berry, J., Ley, O., & Silva, F. J. (2025). Approximation and perturbations of stable solutions to a stationary mean field game system. *Journal de Mathématiques Pures et Appliquées*.

Preprints

[P2] Berry, J. (2025). Some error estimates for semidiscrete finite element approximations of stable solutions to mean field game systems, hal-05365007.

[P1] Berry, J., Ley, O., & Silva, F. J. (2025). A nonsmooth extension of the Brezzi-Rappaz-Raviart approximation theorem via metric regularity techniques and applications to nonlinear PDEs, hal-05136613.

Talks

Invited Talks

- Sept. 2025 **Durham Symposium on Mean Field Games**, *Approximation of stable solutions to second order mean field game systems*, Durham, United Kingdom.
- Oct. 2024 **ANR COSS Workshop**, *Sticky diffusion processes on networks and corresponding Mean Field Games*, Rennes, France.
- Feb. 2024 **Rennes-Tours Workshop**, *Approximation of stable solutions to a stationary mean field game system*, Rennes, France.

Communications in Seminars

- Dec. 2024 **MOD Seminar**, *Sticky diffusion processes on networks and corresponding Mean Field Games*, Université de Limoges, Limoges, France.
- April 2024 **Seminario di Modellistica Differenziale Numerica**, *Approximation of stable solutions to second order mean field game systems*, La Sapienza Università di Roma, Rome, Italy.

Other Communications

- March 2025 **European Conference on Numerical Mathematics and Advanced Applications (ENUMATH)**, *Approximation of stable solutions to second order mean field game systems*, Heidelberg, Germany.
- June 2024 **Summer School on Machine Learning and Optimal Control – Poster Session**, *Approximation of non-differentiable nonlinear problems*, Gaeta, Italy.
- March 2024 **SMAI MODE Conference – Poster Session**, *Approximation of stable solutions to a stationary mean field game system*, Lyon, France.
- Jan. 2024 **3rd International Conference on Variational Analysis and Optimization – In Honor of Boris Mordukhovich**, *A theorem of Brezzi, Rappaz, and Raviart from the point of view of variational analysis*, Santiago, Chile.
- Jan. 2024 **Conference on Numerical methods for optimal transport problems, mean field games, and multi-agent dynamics**, *Approximation of stable solutions to a stationary MFG system*, Valparaiso, Chile.

Teaching

- 2022–2025 **Analysis 3**, INSA Rennes, Tutorial sessions (48h/year), Undergraduate level (2nd year).
Topics: improper integrals, numerical series, power series, Fourier series, differential calculus.
Analysis Tools for Engineering, INSA Rennes, Tutorial sessions (10h/year), Undergraduate level (3rd year).
Topics: Lebesgue integrals, Fourier transform, complex analysis.

Academic Supervision

Master's Students

- 11/2025 – 3/2026 **Chaimae El Omari**, research initiation project, CentraleSupélec.
Co-supervised with Laurent Pfeiffer (L2S – INRIA).
Topic: Potential mean field games with non-differentiable Hamiltonians.
- 11/2024 – 12/2024 **Angelina Jammart**, Master's student seminar, Université de Rennes.
Co-supervised with Othmane Jerhaoui (IRMAR – INSA Rennes).
Topic: Introduction to viscosity solutions for Hamilton-Jacobi equations.

Funding

- 2025 **SMAI BOUM**, Funding for a week of collaborative research at CIRM.
Project: Comparison of macroscopic models for crowd motion.
In collaboration with Théo Girard (Univ. Tours) and Florian Peru (Univ. Franche-Comté).

Awards

2024 **Poster Award:** First prize ex-aequo, SMAI MODE Conference, Lyon.

Research Visits

March–May 2024 **Università di Roma la Sapienza**, invited by Fabio Camilli, 3 months.

2022–2025 **Université de Limoges**, invited by Francisco Silva, 6 one-week visits.

Institutional Activities

2024–Present **Reviewer** for *J. Math. Anal. Appl.* (1), *NoDEA* (1), *Electron. J. Probab.* (1).