

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).

Education

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| 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). |
| 2021–2022 | Master 2 in Fundamental Mathematics , Analysis and Applications track, Université de Rennes, France. |
| 2020–2022 | Master in Fundamental Mathematics , Université de Rennes, France, with Highest Honors. |
| 2017–2020 | Bachelor in General Mathematics and Applications , Université de Lyon, France, with High Honors. |
| 2015–2017 | Undergraduate Cycle , INSA Lyon, Lyon, France. |

Research Internships

March–June 2022 IRMAR – INSA Rennes, Rennes, France.

Topic: Mean field games on networks.

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

June–July 2021 INRIA Rennes, Rennes, France, SIMSMART team.

Topic: Generalization of screening methods to quadratic programming problems.

Supervisor: Cédric Herzet (INRIA Rennes).

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

- Nov.–Mar. 2025 **Chaimae El Omari**, research initiation project, CentraleSupélec.
Co-supervised with Laurent Pfeiffer (L2S – INRIA).
Topic: Potential mean field games with non-differentiable Hamiltonians.
- Nov.–Dec. 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).

Computer Skills

L^AT_EX, Python, FreeFEM, Linux.