

Loth Damagui CHABI ¹

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ABOUT ME

I am a third year PhD student under [Philippe SOUPLET](#) at "Laboratoire d'Analyse Géométrie et Applications" ([LAGA](#)), in "Université Sorbonne Paris Nord" ([USPN](#)) on the asymptotic blow-up behavior and Liouville-type properties for nonlinear parabolic equations (see [project](#) for more details).

RESEARCH AREAS

Qualitative analysis of partial differential equations (Nonlinear Heat and Hamilton-Jacobi equations, parabolic-elliptic Keller-Segel system), Functional analysis.

PUBLICATIONS

Journal Articles

- ✓ Refined blow-up behavior for reaction-diffusion equations with non-scale invariant exponential nonlinearities, [J. Dyn. Differ. Eq. \(2025\)](#). [ArXiv:2502.06426](#)
- ✓ Asymptotic blow-up behavior for the semi-linear heat equation with non scale invariant nonlinearity, [Journal of Differential Equations \(2025\)](#), [arXiv:2409.12660](#).
- ✓ Refined behavior and structural universality of the blow-up profile for the semi-linear heat equation with non scale invariant nonlinearity (with Philippe Souplet), [Math. Annalen \(2025\)](#), [arXiv:2404.11863](#).

Preprint

- ✓ Classification of entire and ancient solutions of the diffusive Hamilton-Jacobi equation (with Philippe Souplet), [arXiv:2507.12214](#).
- ✓ Optimal Hamilton-type gradient estimates for the heat equation on noncompact manifolds (with Philippe Souplet), [arXiv:2507.12190](#).

EDUCATION

PhD project in Mathematic 2023-2026

[Laboratoire d'Analyse Géométrie et Applications \(LAGA-USPN\)](#)

Master of Mathematics Research (M2) 2022-2023

[Université Sorbonne Paris Nord](#)

Masters of Fundamental Mathematics and Applications (M1-M2) 2020-2022

[Institut de Mathématiques et de Science Physique \(IMSP\), Dangbo-Bénin](#)

Undergraduate at IMSP: 2017-2020

- [1st and 2nd years](#): "Classes Préparatoires Scientifiques et Technologiques [MPSI-PCSI](#)": October 2017 - June 2019
- [3rd year](#): "Licence spéciale des classes préparatoires", **option** mathematics: September 2019 - August 2020

RESEARCH PROJECTS

Research internship M2-USNP (May & June 2023):

"Non-linear Dirac equation for nucleons" under [Simona ROTA NODARI](#) ([Université Côte d'Azur](#))

¹Colored text indicates URLs, except for section titles and text in blue.

Research internship M2 - IMSP (June - August 2022):

"Study of the linearized Ginzburg-Landau operator" under Rémy RODIAC (Université Paris- Saclay)

Short research projet L3 - IMSP (July 2020):

"Measure of non - compactness and its applications" under Guy DEGLA (IMSP - Bénin)

PROFESSIONAL EXPERIENCES & OTHERS

- 09/2023 - : Teaching assistant (exercice sessions) at USPN - Department of mathematics (villetaneuse).
- LAGA-USPN 2025 - 2026 PhD student's seminar: co-organiser with Nicolas Guès and Lucas Lagarde.
- Participation in the Master's Mathematics program improvement council - USPN (2025).
- Private Mathematics Tutor - COMPLETUDE (09/2023 - 01/2024).

PRESENTATIONS

Conference talks

- ✓ ReaDiNet 2025: International Conference on Recent Topics in Reaction-Diffusion Systems and Their Applications (Poster presentation): Hokkaido University Sapporo - Japan (20th - 24th, October 2025)
- ✓ Non-linear elliptic PDE in Hauts-de-France - fourth edition (without talk): Calais - France (16-19, June 2025)
- ✓ Journées EDP 2025 (without talk): Centre Paul Langevin - Aussois - France (June 2-6, 2025)
- ✓ Mostly Maximum Principle: PUC - Rio de Janeiro (24-28, June 2024)
- ✓ Modern Methods in Nonlinear Elliptic and Parabolic PDE: ICMS - Plovdiv (27-31, May 2024)
- ✓ Euro-Japanese Conference on Nonlinear Diffusion (without talk), ICMAT - Madrid (16-20, October 2023)

Class presentations

- ✓ PhD Students Seminar & Others. CY Cergy Paris Université (France) (April 29, 2025)
- ✓ PhD Seminar (LAGA), USPN - Villetaneuse (February 15 & May 23, 2024; April 17, 2025)

TEACHING (EXERCISE SESSIONS)

2025 - 2026

Semester 1

- "Analysis 3: Numerical series and generalized integrals" (2nd year undergraduate, Computer Science)
- "Algebra 1: Introduction to mathematical structures" (1st year undergraduate, Mathematics)

2024 - 2025

Semester 1

- "Analysis 3: Numerical series and generalized integrals" (2nd year undergraduate, Computer Science)

Semester 2

- "Algebra 1: Introduction to mathematical structures" (1st year undergraduate, Mathematics and Computer Science (PAM track))

2023 - 2024

Semester 1

- "Analysis 3: Numerical series and generalized integrals" (2nd year undergraduate, Computer Science)
- "Analysis 1: Numerical sequences and usual functions" (1st year undergraduate, Mathematics)

Semester 2

- "Algebra 1: Introduction to mathematical structures" (1st year undergraduate, Mathematics and Computer Science (PAM track))

SCHOLARSHIPS & FUNDING

- September 2023 - August 2026: PhD project at LAGA-USPN
- September 2022 - August 2023: **PGSM** scholarships for M2 Mathematics at USPN
- September 2020 - August 2022: **CEA-SMIA** Scholarships for the master Mathematics at IMSP
- September 2017 - August 2020: "Bourse d'excellence du gouvernement Béninois" for Undergraduate at IMSP

AWARDS & DISTINCTIONS

- Prize – **Hubi & Vinciane** Summer School 2017 (Tchaourou, Benin) Awarded during the project "Bananas in Every Family", focused on sustainable agriculture and community impact.
- Top Student – "**Jour des premiers**" in the commune of Tchaourou (BAC 2017):
 - Best Score in Mathematics
 - Best Score in Physics–Chemistry–Technology (PCT)
 - 1st Overall Ranking in the Commune