

Dounia Darkaoui

Université de Caen Normandie
Laboratoire de Mathématiques Nicolas Oresme
UFR des sciences - Campus 2
14032 Caen, France
Office: S3 111
✉ dounia.darkaoui@unicaen.fr

Background

- 2024-ongoing **PhD in Number Theory**, Université de Caen Normandie (LMNO)
Advisors: *Denis Simon* and *Martin Weimann*
Title: *Applications and generalisations of the OM algorithm for the factorisation of polynomials in local fields*
- 2020-2024 **ENS Rennes**
- 2021-2024 **Master's degree Mathematics and Applications**, Algebra and Geometry, Université de Rennes
with highest honor
- 2023 **Agrégation de Mathématiques**, Option C (Algebra and formal calculus), (french teaching exam)
- 2021 **Bachelor's degree Mathematics and Applications**, Université de Rennes
with highest honor
- 2018 **Baccalauréat - General Scientific**, Option: Mathematics, Lycée Guillaume Apollinaire, Nice, France

Experiences

- Apr.-Jul. 2024 **Research Internship**, Université de Caen Normandie, France
Advisors: *Prof. Denis Simon* and *MCF. Martin Weimann*
Title: *On polynomials factorisation in complete fields*
- May-June 2022 **Research Internship**, University of Copenhagen, Denmark
Advisor: *Nathalie Wahl*
Title: *Lens spaces (algebraic topology)*
- Apr.-May 2021 **Research Internship**, Laboratoire J-A Dieudonné, Nice, France
Advisor: *Indira Chatterji*
Title: *Polya's theorem and random walks in groups*

Organization

- Dec. 2020 **Organizer**, *Rendez-vous des jeunes mathématiciennes et informaticiennes RJMI* (Rennes), the goal of the event is to support and help female high school students to pursue in science majors such as mathematics and computer science.

Outreach

- Jan. 2024 **RJMI**, Conference on tropical geometry intended for an audience of high school students
- Dec. 2022 **RJMI**, Supervised research activity with a group of high school students

Dec. 2021 **RJMI**, Supervised research activity with a group of high school students

Talks

- Apr. 2026 **Fast computation of Riemann–Roch spaces** (Cheltenham, France), WINGs 2026
- Mars. 2026 **Fast computation of Riemann–Roch spaces** (Marseille, France), Journées nationales de calcul formel, CIRM
- Dec. 2025 **Espaces de Riemann–Roch : de la géométrie à l’arithmétique** (Lille, France), Young researchers seminar, Laboratoire Paul Painlevé
- Oct. 2025 **De la factorisation de polynômes aux espaces de Riemann–Roch** (Marseille, France), Summer school Ethén, CIRM
- May 2025 **Espaces de Riemann–Roch et calcul de Base** (Bordeaux, France), Lambda seminar, IMB
- May 2025 **Espaces de Riemann–Roch et calcul de Base** (Caen, France), Young researchers seminar, LMNO

Formation

- May 2025 **Formation on discrimination and violence**, ED MIIS (Caen, France)
- Jan. 2025 **Scientific Integrity**, MOOC (Bordeaux, France)
- Dec. 2024 **Formation on educational resources**, INSPE - ED MIIS (Caen, France)

Workshops and Conferences

- Apr. 2026 **Women in Number Theory and Geometry** (Cheltenham, England), Retreat
- Mar. 2026 **Journées nationales de calcul formel** (Marseille, France), French Computer Algebra Days
- Jan. 2026 **Journées Louis Antoine: Algebraic curves over finite fields and their rational points** (Rennes, France)
- Jan. 2026 **Final ANR meeting: Barracuda** (Marseille, France)
- Dec. 2025 **Number theory retreat** (Bayeux, France)
- Oct. 2025 **Ethén** (Marseille, France), Summer school on number theory
- Jul. 2025 **Journées arithmétiques 2025** (Esch-sur-Alzette, Luxembourg)
- Mar. 2025 **Journées nationales de calcul formel** (Marseille, France), French Computer Algebra Days
- Feb. 2025 **Sagedays 128** (Le Teich, France)
- Jan. 2025 **ANR meeting 2025: Barracuda** (Bayeux, France)
- Nov. 2024 **Number theory retreat** (Bayeux, France)
- Sep. 2024 **Ethén** (Marseille, France), Summer school on number theory

Teaching

2025 **Teaching Assistant**

- Algorithmics (second-year-mathematics students) (55h)
- Analysis and visualisation on Geogebra (second-year-mathematics students) (9h)

2024 **Teaching Assistant**

- Algorithmics (second-year-mathematics students) (35h)
- Python (third-year-mathematics students) (25h)

2023-2024 **Colles CPGE**, *Lycée Chateaubriand*, Rennes, France
MP* and MP (second-year-mathematics students) ($\sim 45h$)

Skills

Languages **French** (*native*), **English** (*fluent*), **Arabic** (*basics*)
Programming **SageMath**, **LaTeX**, **Python**, **OCaml**