Ivan HASENOHR

PhD Candidate in Applied Mathematics

ivan-hasenohr.github.io
18/12/2000
French, English
Python, Matlab, LaTeX
ivan.hasenohr@math.cnrs.fr

Education

2022–2025 **PhD**, *Applied Mathematics, Doctoral School ED-386*, MAP5, Université Paris Cité.
Title: Computer-assisted Proofs of Reachability Analysis for Linear Control Systems under Bounded Constraints.
Supervisors: Camille Pouchol, Yannick Privat, and Christophe Zhang.

2022 **Internship**, MAP5, Université Paris Cité.
Title: Convex analysis methods for controllability under constraints in finite dimension.
Supervisor: Camille Pouchol **Duration:** 3 months

2021–2022 **Master 2**, *Mathematical Modeling*, Sorbonne Université, Paris.

2021 **Project**, Tikhonov regularisation for solving ill-posed inverse problems.
Supervisor: Camille Pouchol **With**: Mateo Vial.

2020–2021 **Master 1**, *Mathematics, Modeling, and Learning*, Université Paris Cité, Paris.

2019–2020 **Bachelor's Year 3**, *Double Bachelor's in Mathematics and Computer Science*, Sorbonne Université, Paris.

2017–2019 **Preparatory Classes for Grandes Écoles**, *Mathematics-Physics*, Lycée Chaptal, Paris.

Scholarships and Awards

2022 **Recipient of a PhD Scholarship**, *Ecole Doctorale Sciences Mathématiques de Paris Centre*.

2021 **Recipient of the PGSM Master Scholarship**, *Fondation Sciences Mathématiques de Paris*.

Publications

Preprint **Ivan Hasenohr,** C. Pouchol, Y. Privat and C. Zhang, *Computer-assisted proofs of non-reachability for linear parabolic PDEs under bounded control constraints*, Submitted in November 2025, HAL, .

Paper **Ivan Hasenohr,** C. Pouchol, Y. Privat and C. Zhang, *Computer-assisted proofs of non-reachability for linear finite-dimensional control systems*, Published in SIAM Journal on Control and Optimization, 2025, HAL, .

Conferences and Scientific Events

June 2025 **Presentation**, *12ème biennale de la SMAI*, Carcans-Maubuisson.
Topic : Computer-Assisted Proofs of Non-Reachability for Linear Parabolic Control Problems with Bounded Constraints

April 2025 **Presentation**, *MR-DYNAMO Seminar*, University of Graz, Austria.
Topic : Computer-Assisted Proofs of Non-Reachability for Linear Parabolic Control Problems with Bounded Constraints

January 2025 **Presentation, with Camille Pouchol**, *Workshop of the Modeling, Analysis and Simulation Group*, IHP, Paris.
Topic: Separation methods for reachability of constrained linear control systems.

October 2024 **Presentation**, *Congress of Young Researchers in Mathematics and Applications*, ENS Lyon.
Topic: Computer-assisted proofs of non-reachability for linear parabolic control systems.

May 2024 **Presentation**, *National Congress of Numerical Analysis*, Île de Ré.
Topic: Computer-assisted proofs of non-reachability for constrained linear control problems.

May 2024 **Presentation**, *Éphémères Working Group*, MAP5, Paris.
Topic: Computer-assisted proofs of non-reachability for constrained linear control problems.

April 2024 **Workshop**, *Scientific meeting of the ANR TRECOS*, Control, Stabilisation, and PDEs, Nancy.

March 2024 **Study Stay**, *Fondation des Treilles*.
Topic: Computer-assisted proofs for reachability in constrained linear control theory.

November 2023 **Presentation**, *Modeling, Analysis, and Simulation Group*, MAP5, Paris.
Topic: Computer-assisted methods for rigorous description of reachable sets in constrained linear control problems.

October 2023 **Oberwolfach Seminar**, *Control of PDEs Models for Living Systems*, Mathematisches Forschungsinstitut Oberwolfach, Germany.

September 2023 **Poster Presentation**, *Congress of Young Researchers in Mathematics and Applications*, Centrale Supélec, Gif-sur-Yvette.
Topic: Rigorous approximations of reachable sets.

June 2023 **Presentation**, *Scientific meeting of the ANR TRECOS*, Control, Stabilisation, and PDEs, Rennes.
Topic: Computer-assisted methods for the rigorous description of reachable sets in constrained linear problems.

April 2023 **Mathematical Study Week for Industry**, *AMIES*.
Topic: Characterisation of a water leak with air
Company: DELABIE **In collaboration with:** Nicolas Beuvin, Chabane Meziane, and Étienne Peillon.

November 2022 **Presentation**, *Groupe de Travail des Éphémères*, MAP5, Paris.
Topic: Convex analysis methods for controllability under constraints in finite dimension.

Teaching

2024–2025 **Mathematics and Calculus 1 - L1 Mathematics**, *Université Paris Cité*, with Quentin Denoyelle.
Course Content:

- Complex numbers and polynomials
- Sequences
- Functions: continuity, differentiability, standard functions
- Taylor expansions

2022–2024 **Calculus 4 - L2 Mathematics**, *Université Paris Cité*, with Camille Pouchol and Eric Luçon.
Course Content:

- Sequences and series of functions
- Power series
- Fourier series

2022–2024 **Calculus 3 - L2 Mathematics**, *Université Paris Cité*, with Quentin Denoyelle.
Course Content:

- Properties of real numbers
- Real and complex sequences
- Limits and continuity
- Differentiability

Responsibilities and Scientific Volunteering

2024–2025 Supervision of two **MATh.en.JEANS** workshops in Créteil and Fontenay-sous-Bois.

2024–2025 Elected member of the MAP5 **Laboratory Board**.

2023–2024 Co-organiser of the MAP5 PhD seminar with Clémence Fournié and Eloi Tanguy.

June 2023 Organiser of the **Workshop on Career Opportunities after a PhD in Mathematics**, with Mariem Abaach and Sonia Velasco, at MAP5 (Paris).