

Ivan HASENOHR

PhD Candidate in Applied Mathematics

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18/12/2000
French, English
Python, Matlab, L^AT_EX
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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

- Paper **I. 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).