

Ivan HASENOHR

PhD in Applied Mathematics

 ivan-hasenohr.github.io

 18/12/2000

 French, English, German

 Python, MATLAB, $\LaTeX$

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Experience

- 2026–now **Postdoctoral position**, *Institut für Mathematik*, Alpen-Adria Universität, Klagenfurt (Austria).
Main topic: Controlled parameter identification in time-dependent PDEs.,
Supervisor: Barbara Kaltenbacher, **Funding:** FWF 10.55776/F100800.
- 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.

Education

- 2022–2025 **PhD**, *Applied Mathematics, Doctoral School ED-386*, MAP5, Université Paris Cité.
- 2021–2022 **Master (Year 2)**, *Mathematical Modeling*, Sorbonne Université, Paris.
- 2020–2021 **Master (Year 1)**, *Mathematics, Modeling, and Learning*, Université Paris Cité, Paris.
- 2019–2020 **Bachelor**, *Double degree 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**, *École 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*, Accepted subject to major revision at IMA Journal of Numerical Analysis,  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 2026 **Presentation**, *17th French-Romanian Colloquium on Applied Mathematics*, Nancy, France.
Topic: Online parameter estimation for a bilinear control problem.
- June 2026 **Presentation**, *National Congress of Numerical Analysis*, Saint-Jacut-de-la-Mer, France.
Topic: Online parameter reconstruction of a bilinear control problem.
- May 2026 **Workshop**, *Mathematical Methods in MRI – SFB MR-DYNAMO Workshop*, TU Graz, Austria.
- May 2026 **Presentation**, *Austrian Numerical Analysis Day*, Graz, Austria.
Topic: Computer-assisted Proofs of Non-Reachability for Linear Parabolic Control Problems with Bounded Constraints
- November 2025 **PhD defence**, *MAP5*, Paris.
Topic: Preuves assistées par ordinateur pour l'analyse d'atteignabilité de problèmes de contrôle linéaires sous contraintes bornées.
- June 2025 **Presentation**, *12ème biennale de la SMAI*, Carcans-Maubuisson, France.
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, France.
Topic: Computer-assisted proofs of non-reachability for linear parabolic control systems.
- May 2024 **Presentation**, *National Congress of Numerical Analysis*, Île de Ré, France.
Topic: Computer-assisted proofs of non-reachability for constrained linear control problems.
- May 2024 **Presentation**, *Éphémères Working Group*, MAP5, Paris, France.
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, France.
Topic: Rigorous approximations of reachable sets.
- June 2023 **Presentation**, *Scientific meeting of the ANR TRECOS*, Control, Stabilisation, and PDEs, Rennes, France.
Topic: Computer-assisted methods for the rigorous description of reachable sets in constrained linear problems.
- April 2023 **Mathematical Study Week for Industry**, *AMIES*, Lille, France.
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

- April 2026 Assistant organiser of a *Lange Nacht der Forschung* workshop at the University of Klagenfurt.
- 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).