

# Ivan HASENOHR

PhD Candidate in Applied Mathematics

🏠 [ivan-hasenohr.github.io](https://ivan-hasenohr.github.io)

🎂 18/12/2000

🗣️ French, English

💻 Python, Matlab,  $\text{\LaTeX}$

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## 🎓 Education

- 2022– **PhD**, *Applied Mathematics, Doctoral School ED-386, MAP5, Université Paris Cité.*  
**Title:** Computer-assisted proofs for the reachability analysis of constrained linear control systems.  
**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.
- 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 **I. Hasenohr**, C. Pouchol, Y. Privat and C. Zhang, *Computer-assisted proofs of non-reachability for linear finite-dimensional control systems*, Accepted in SIAM Journal on Control and Optimization, 2024, HAL.

## 🎤 Conferences and Scientific Events

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