

# Antoine Gagnebin,

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🏠 ETH Zürich, Department of Mathematics Rämistrasse 101, 8092 Zurich, Switzerland

🌐 Personal webpage

## Education

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- 2020 – . . . . . ■ **Ph.D. in Mathematics, ETH Zürich .**  
Advisor: *Prof. Mikaela Iacobelli*
- 2018 – 2020 ■ **M.Sc. in Mathematics, University of Neuchâtel.**  
Thesis title: *The Vlasov-Poisson equation.*  
Advisor: *Prof. Mikaela Iacobelli*
- 2015 – 2018 ■ **B.Sc. in Mathematics, University of Neuchâtel**

## Employment History

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- 2020 – . . . . . ■ **Teaching assistant**, at ETH Zürich.
- 2021 ■ **Civil service**, at University hospital Zürich.  
Division of infectious diseases and hospital epidemiology.
- 2018 – 2020 ■ **Teaching assistant**, at University of Neuchâtel.
- **Supply teacher** at the high school of Neuchâtel.
- 2018 ■ **Internship** at the national centre for nuclear research in Warsaw, Poland.  
Simulation of X-ray spectra emitted in tokamak plasmas.








## Teaching

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- 2020 – . . . . . ■ **ETH Zürich**  
*Mathematik I*, Exercise sessions in 1st-year B.Sc. medical students, Fall 2025.  
*Bachelor thesis*, topics in analysis, co-supervision with Prof. Mikaela Iacobelli, Fall 2024.  
*Analysis III*, Exercise sessions in 2nd-year B.Sc. engineering students, Fall 2024.  
*Euclidean Harmonic Analysis*, Exercise sessions for M.Sc maths students, Spring 2024.  
*Bachelor thesis*, topics in analysis, co-supervision with Prof. Mikaela Iacobelli, Spring 2024.  
*Analysis III*, Exercise sessions in 2nd-year B.Sc. engineering students, Fall 2023.  
*Analysis III*, Exercise sessions in 2nd-year B.Sc. engineering students, Fall 2022.  
*An Introduction to Mean-Field Limits for Vlasov Equations*, Student seminar for M.Sc maths students, Spring 2022.  
*Topics in Non-Collisional Kinetic Theory*, Student seminar for M.Sc maths students, Spring 2021.  
*Mathematical method in physics*, Exercise sessions in 2nd-year B.Sc. maths students, Fall 2020.
- 2018 – 2020 ■ **University of Neuchâtel**  
*Physics*, Exercise sessions in 1st-year B.Sc. maths students.

## Talks




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- November 2024  Arpilysm 1: Applications of Mathematics to Mathematics, Arpino, Italy.  
Title: Landau damping and Final data problem on the torus.
- September 2024  SwissMAP Annual General Meeting, Les Diablerets, Switzerland.  
Title: Final data problem for Vlasov-type equations.
- May 2024  Swiss Mathematical Society Doctoral Day 2024, University of Basel, Switzerland.  
Title: Asymptotic time behaviour of Vlasov-type equations.
- April 2024  Minisymposium on PDE and Mathematical Physics, ETH Zürich, Switzerland.  
Title: Landau damping for Vlasov-type systems on the torus.
- January 2024  Vlasovia 2024, Florence, Italy.  
Title: Landau damping in Plasma physics.
- November 2023  Oberwolfach Graduate Seminar, Będlewo, Poland.  
Title: Landau damping for Vlasov-type systems.
- September 2023  SwissMAP Annual General Meeting, Les Diablerets, Switzerland.  
Title: Landau damping for Vlasov-type systems.



## Research Publications

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### Published papers

- 1 D. Benedetto, E. Caglioti, A. Gagnebin, M. Iacobelli, and S. Rossi, “Scattering problem for vlasov-type equations on the  $d$ -dimensional torus with gevrey data,” *Annales de l’Institut Henri Poincaré C, Analyse Non Linéaire*, 2025.  DOI: 10.4171/AIHPC/159.
- 2 A. Gagnebin, “Backward problem for the 1d ionic vlasov-poisson equation,” *Kinetic and Related Models*, vol. 17(2), pp. 312–330, 2024, ISSN: 0022-0396,1090-2732.  DOI: 10.3934/krm.2023024.
- 3 A. Gagnebin and M. Iacobelli, “Landau damping on the torus for the Vlasov-Poisson system with massless electrons,” *J. Differential Equations*, vol. 376, pp. 154–203, 2023, ISSN: 0022-0396,1090-2732.  DOI: 10.1016/j.jde.2023.08.020.

### Preprints

- 1 I. Ben-Porat, A. Gagnebin, M. Iacobelli, and J. Junné, *Propagation of velocity moments for the magnetized Vlasov-Poisson system with space-time dependent magnetic fields*, 2025. arXiv: 2510.22753 [math.AP].  URL: <https://arxiv.org/abs/2510.22753>.
- 2 A. Gagnebin, M. Iacobelli, A. Rege, and S. Rossi, *From relativistic Vlasov-Maxwell to electron-mhd in the quasineutral regime*, 2025. arXiv: 2505.11428 [math.AP].  URL: <https://arxiv.org/abs/2505.11428>.