Federico Ghimenti

Physics PhD student

Laboratoire Matière et Systèmes Complexes
Université de Paris Cité
(+39) 3319040506
federico.ghimenti@u-paris.fr
My Webpage

Education

2021–Present **PhD**, *Université Paris Cité*, Laboratoire Matière et Systèmes Complexes.
Supervisor: Frédéric van Wijland **Title**: *Glassiness and chaotic dynamics in high space dimensions*

2019–2021 **M. Sc.**, *ENS ICFP*.
Theoretical Physics, **Final Grade**: 17.2/20

2016–2019 **B. Sc.**, *Sapienza University of Rome*.
Physics, **Final grade**: *110/110 cum laude*

2011–2016 **Diploma**, *Liceo Scientifico Talete*, Rome.
High Schoold education, **Final grade**: *100/100*

Internships

2021 **M2 Internship**, *Laboratoire Matière et Systèmes Complexes, Université de Paris Cité*, **Supervision**: Frédéric Van Wijland. **Project**: *Accelerating Brownian Dynamics*.

2020 **M1 Internship**, *LPENS, Paris*.
Supervision: Giulio Biroli, Gilles Tarjus, Misaki Ozawa. **Project**: *Plastic flow of two-dimensional solids*

Teaching

2024 *Teaching assistant*, Logical Electronics (Bachelor, 1st year) IUT Université Paris Cité

2023 *Teaching assistant*, Electromagnetism (Bachelor, 2nd year) IUT Université Paris Cité

2023 *Teaching assistant*, Logical Electronics (Bachelor, 1st year), IUT Université Paris Cité

2022 *Teaching assistant*, Optics (Bachelor, 1st year) IUT Université Paris Cité

2022 *Teaching assistant*, Logical Electronics (Bachelor, 1st year), IUT Université Paris Cité

Publications

2024 Federico Ghimenti, Ludovic Berthier, and Frédéric van Wijland. Irreversible Monte Carlo algorithms for hard disk glasses: from event-chain to collective swaps. *arXiv:2402.06585*, 2024.

2024 Federico Ghimenti, Ludovic Berthier, Grzegorz Szamel, and Frédéric van Wijland. Transverse forces and glassy liquids in infinite dimensions. *arXiv preprint arXiv:2402.10856*, 2024.

2023 Federico Ghimenti, Misaki Ozawa, Giulio Biroli, and Gilles Tarjus. Shear-Induced Phase Behavior and Topological Defects in Two-Dimensional Crystals. *arXiv:2310.05094 (Accepted by Phis. Rev. B)*, 2023.

2023 Federico Ghimenti, Ludovic Berthier, Grzegorz Szamel, and Frédéric van Wijland. Sampling efficiency of transverse forces in dense liquids. *Physical Review Letters (Editors' Suggestion)*, volume 131, page 257101. APS, 2023.

2022 Federico Ghimenti and Frédéric van Wijland. Accelerating, to some extent, the p-spin dynamics. *Phys. Rev. E*, volume 105, page 054137. American Physical Society, May 2022.

Awards

2021–2024 **PhD fellowship** from Ecole Doctorale Paris Ile de France (EDPIF)

2019–2021 **ICFP scholarship** for International students

2016–2019 **Excellent Student** at *Sapienza University of Rome*.

Talks and Posters

January 2024 Short talk, *Journeé de Physique Statistique*, Paris, France

Sep 2023 Talk, Probabilistic sampling for physics, Paris, France

June 2023 Seminar, M. Michel's group, Université Clermont - Auvergne, France

May 2023 Poster, Cecam workshop on *Mesoscale modelling of driven disordered materials: from glasses to active matter*, Lausanne, Switzerland

March 2023 Seminar, K. Miyazaki's group, Nagoya, Japan

March 2023 Seminar, A. Ikeda and H. Ikeda group, Tokyo, Japan

March 2023 Seminar, H. Yoshino Lab, Osaka, Japan

Feb 2023 Seminar, Yukawa Institute for Theoretical Physics, Kyoto, Japan

April 2022 Poster, Cecam workshop on *Numerical techniques for nonequilibrium steady states*, Mainz, Germany

June 2022 Poster, *The Beg Rohu Summer School*, poster, Saint Pierre Quiberon, France

Computer Skills

Languages C, Python, HTML, Latex, Mathematica

Softwares Ovito, Excel, PowerPoint

Other

Languages **Italian** (Mothertongue), **English** (Fluent), **French** (fluent)

Interests Piano, hiking, climbing, music