

FEBRUARY 23, 2025

ALBERTO DINELLI

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EDUCATION

2024-09 – Present	Postdoc Département de biochimie · Université de Genève · <i>Geneva</i> Advisor: Karsten Kruse.
2021-10 – 2024-08	Ph.D. - Physique en Île de France Laboratoire Matière et Systèmes Complexes, Université Paris Cité · <i>Paris</i> Thesis: Scalar Active Matter across scales · Supervisor: Julien Tailleur.
2023-10 – 2023-11	· Visiting period at MIT, group of Prof. J. Tailleur · <i>Cambridge, US</i>
2023-07	· Visiting period at YITP, group of Prof. H. Hayakawa · <i>Kyoto, JP</i>
2022-10	· Visiting period at MIT, group of Prof. J. Tailleur · <i>Cambridge, US</i>
2019-09 – 2021-07	Master in Physics of Complex Systems - International track Politecnico di Torino · <i>Torino</i> — Université Paris-Saclay · <i>Paris</i> Final mark: 110/110 cum laude French M2 mark: 18/20 Thesis: Self-organization of active mixtures · Supervisor: Julien Tailleur.
2019-09 – 2020-02	· Visiting period at SISSA, ICTP · <i>Trieste</i>
2016-09 – 2019-07	Bachelor degree in Physics Università di Pisa · <i>Pisa</i> Final mark: 110/110 cum laude Thesis: Rayleigh Taylor instability on a thin layer of fluid accelerated by the radiation pressure. · Supervisor: Francesco Pegoraro.

TEACHING

- 2021 - 2024
- Teaching assistant, *Physics of Materials* (Bachelor, 1st year) · IUT Pajol (*Paris*)
 - Teaching assistant, *Photonics* (Bachelor, 2nd year) · IUT Pajol (*Paris*)

PUBLICATIONS

1. T. Lefranc, A. Dinelli, C. Fernández-Rico, R. Dullens, J. Tailleur, D. Bartolo, “Quorum sensing and absorbing phase transitions in colloidal active matter”. arXiv:2502.13919 (2025).
 2. A. Dinelli, “Scalar active matter across scales”. PhD Thesis (2024).
 3. A. Dinelli, J. O’Byrne, J. Tailleur, “Fluctuating hydrodynamics of active particles interacting via chemotaxis and quorum sensing: static and dynamics”. J. Phys. A 57, 395002 (2024).
 4. A. Dinelli, J. O’Byrne, A. Curatolo, Y. Zhao, P. Sollich, J. Tailleur, “Non-reciprocity across scales in active mixtures”. Nature Communications 14, 7035 (2023).
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TALKS

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| 2024-04 | · Seminar in K. Kruse’s group, (Université de Genève, Geneva) |
| 2024-02 | · Seminar at <i>Spring College of Physics of Complex Systems 2024</i> (ICTP, Trieste) |
| 2024-01 | · Flash talk at <i>Journées de Physique Statistique 2024</i> (ENS, Paris) |
| 2024-01 | · Seminar in M. Shelley’s group, (CCB, Flatiron Institute, New York) |
| 2023-10 | · Seminar in D. Nelson’s group, (Harvard University, Cambridge) |
| 2023-10 | · Seminar in P. Mehta and K. Korolov’s groups, (Boston University, Boston) |
| 2023-10 | · Seminar in M. Hagan’s group, (Brandeis University, Waltham) |
| 2023-08 | · Contributed talk at <i>STATPHYS28</i> , (University of Tokyo, Tokyo) |
| 2023-08 | · Contributed talk at <i>Frontiers in nonequilibrium physics: Active matter, topology and beyond</i> , (YITP, Kyoto) |
| 2023-07 | · Seminar at YITP, Advanced Statistical Dynamics Group, (YITP, Kyoto) |
| 2023-06 | · Contributed talk at <i>EDPIF Scientific Day</i> , (Sorbonne University, Paris) |
| 2023-03 | · Seminar at Institut Curie, Theory Group (Institut Curie, Paris) |
| 2023-01 | · Flash talk at <i>Journées de Physique Statistique 2023</i> (ENS, Paris) |
| 2022-11 | · Contributed talk at <i>Physics of Microbial Motility Workshop</i> (ESPCI, Paris) |
| 2022-10 | · Talk at <i>Greater Boston Area Statistical Mechanics Meeting</i> (UMass-Amherst, Amherst) |
| 2022-10 | · Seminar at MIT Physics of Living Systems (MIT, Cambridge) |
| 2022-06 | · Contributed talk at the CECAM Workshop: <i>New Frontiers in Liquid Matter</i> (Sorbonne Jussieu, Paris) |
| 2022-01 | · Flash talk at <i>Journées de Physique Statistique 2022</i> (ENS, Paris) |
| 2021-11 | · Flash talk at <i>Multiscale integration in Biological Systems</i> (Institut Curie, Paris) |
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POSTER PRESENTATIONS

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| 2023-08 | · <i>From Soft Matter to Biophysics 2025</i> (Les Houches) · Best Poster Prize |
| 2023-08 | · <i>Perspectives on Non-Equilibrium Statistical Mechanics</i> (YITP, Tokyo) |
| 2023-06 | · <i>Active matter at surfaces and in complex environments</i> (MPIPKS, Dresden) |
| 2023-05 | · <i>Workshop on Signatures of Nonequilibrium fluctuations in life</i> (ICTP, Trieste) |
| 2022-12 | · <i>Population dynamics: from rare events to evolution</i> (Université Grenoble Alpes, Grenoble) |
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OTHER INFORMATION

Awards

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| 2025 | · Best Poster Prize @ Les Houches Winter School |
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| 2023 | · International Mobility Fellowship |
| 2021 - 2024 | · IdEX International PhD Fellowship |
| 2020 - 2021 | · Paris-Saclay International Master's Scholarship |