Alessandro Pinzi

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https://alessandropinzi.github.io/

Research interest

- My interests lie between optimal transport and non-smooth geometry. In particular, I am interested in many problems from evolution of measures: non-local continuity equations; gradient flows in metric spaces; Wasserstein gradient flow and its applications to problems from both statistics and machine learning.

Education

Sep 2022 – in progress
Ph.D. in Statistics and Computer Science, Bocconi University, Milan
Advisors: *Prof. Giuseppe Savaré and Prof. Dario Trevisan*

Oct 2019 – May 2022
M.Sc. Mathematics, Università di Pisa, Pisa
Thesis: *Optimal maps in metric measure spaces with Ricci curvature bounded from below*
Supervisor: *Prof. Luigi Ambrosio*
Final grade: *110/110 cum laude*

Sep 2016 – Oct 2019
B.Sc. Mathematics, Università di Pisa, Pisa
Thesis: *Random optimal transport problems: two and three marginal distributions*
Supervisor: *Prof. Dario Trevisan*
Final grade: *110/110 cum laude*

Teaching

Università di Pisa

2019 — **Counselling**: orientation for University of Pisa, aimed to high school students.

2020-2022 — **Tutoring**: tutor for first year students in 2020; tutor for the bachelor course 'Analisi Matematica 1' in 2020/2021; tutor for the master course 'Istituzioni di Analisi Matematica' in 2021/2022.

Bocconi University

2023-2024 — **TA**: 'Mathematical Analysis 1' (BAI), 'Probability 1' (BAI), 'Elements of Real and Fourier Analysis' (BAI).

2024-2025 — **TA**: 'Mathematical Analysis 1' (BAI), 'Probability' (BAI), 'Mathematical Analysis 2' (BAI), 'Machine Learning (Introduction)' (BIG).
Instructor: 'Probability' (BAI), 'Machine Learning (Introduction)' (BIG).

2025-2026 — **TA**: 'Mathematical Analysis 1' (BAI), 'Algebraic and topological methods' (BAI).
Instructor: 'Probability' (BAI).

Publications

Preprints

- Totally convex functions, L^2-Optimal transport for laws of random measures, and solution to the Monge problem- A. Pinzi and G. Savaré, https://arxiv.org/abs/2509.01768, 2025
- Nested superposition principle for random measures and the geometry of the Wasserstein on Wasserstein space - A. Pinzi and G. Savaré, 2025, https://arxiv.org/abs/2510.07523
- First order equation on random measures as superposition of weak solutions to the McKean-Vlasov equation - A. Pinzi, 2025, https://arxiv.org/abs/2510.07542

Talks

Invited talks

28 Nov 2024, Pisa
- Continuity equation on random measures and a new superposition principle for the non-local case. Given at University of Pisa in the cycle of MAP seminars.

Contributed talks

26 Jan 2025, Folgarida
- Nested superposition principle: from the continuity equation on random measures to interacting particle systems. Given at the DolomitesWS25: https://sites.google.com/view/dolomitesws25

13 Oct 2025, Lausanne
- On the geometry of (laws of) random measures. Given at the OTMG2025: https://sites.google.com/view/otmg2025/home

Poster sessions

24-28 Jul 2023, UK
- On dynamic Schrödinger bridge and link to the Wasserstein gradient flow of the Fisher information. Presented at the ImperialCollege-Oxford-Bocconi StatML summer school: https://statml.io/index.php/statml-cdt-summer-school-july-2023/

9-13 Jun 2025, Como
- Evolution of random measures and non-local continuity equation. Presented at the summer school "Mathematical Analysis and Applications": https://mmaa.lakecomoschool.org/

Skills

Languages
- Italian: mother tongue
  English: fluent

Coding
- LaTeX: excellent
  Matlab, Python: good
  Julia: basic