

Lorenzo Cecchi

Curriculum vitae

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Personal information

Birth Pontedera (PI), February 15, 1997
Citizenship Italian

Research activity

Preprints and publications

2025 Optimal transport between fibers: Riemann surfaces (to appear).

Talks

- 2025 I gave the talk “Optimal transport between fibers”, as part of the conference “New challenges across Analysis and Geometry” at SISSA.
- 2024 I gave the talk “Optimal Transport in Algebraic Geometry”, as part of the SISSA Junior Seminar.
- 2024 I gave the talk “Some interactions between optimal transport and algebraic geometry”, as part of the conference in Metric Algebraic Geometry at KTH, Stockholm.
- 2023 I gave an introductory talk on smooth calculus in topological vector spaces and infinite dimensional manifolds, as part of the SISSA Junior Seminar.

Education

- 2022– **PhD in Geometry and Mathematical Physics, SISSA, Trieste.**
Admitted by public contest as first ex aequo, with grade 98/100. I am working under the supervision of prof. Antonio Lerario on geometric structures on complex moduli spaces, induced by optimal transport.
- 2022 **PF24, University of Pisa.**
I have acquired the 24 credits in Psychology, Pedagogy, Anthropology and Education required for admission to FIT (Formazione Iniziale e Tirocinio).
- 2019–2022 **Master’s degree in Mathematics, University of Pisa, 110/110 cum laude.**
My studies were mainly focused on Functional Analysis, Differential Geometry and Algebraic Topology. My master thesis “On the sectional curvature of Fréchet manifolds”, written under the supervision of Prof. Valentino Magnani, lays the foundation for smooth calculus in Fréchet manifolds in order to investigate some expressions for the computation of the sectional curvature, motivated by an implicit conjecture of P. Michor and D. Mumford (2005) which correlates positively unbounded sectional curvatures to vanishing geodesic distance.
- 2016–2019 **Bachelor’s degree in Mathematics, University of Pisa, 110/110 cum laude.**
My bachelor thesis “The problem of immersing compact manifolds into Euclidean spaces” (in Italian), written under the supervision of Prof. Riccardo Benedetti, reviews an axiomatic treatment of the Stiefel–Whitney classes and provides an exposition of an article by W. Massey (1960) on the computation of some (dual) Stiefel–Whitney classes of immersed compact manifolds, motivated by a conjecture which is now known as Cohen immersion theorem (1985).

2011–2016 **High school scientific diploma**, *Istituto superiore “XXV Aprile”*, Pontedera, 100/100 cum laude.
Extracurricular activities include: participation to the National Mathematics Olympiads (2015, 2016), bioethics weekly meeting on the biological foundation of free will (2015), participation to “Certamen in Ponticulo Herae” (2013).

Work experience

2023–2024 **Teaching assistant**, *University of Trieste*, Department of Engineering and Architecture.
Teaching assistant for the course in Mathematical Analysis 2 held by prof. Enzo Mitidieri.

2021 **Tutor**, *University of Pisa*, Department of Computer Science.
I worked from 03/03/2021 to 15/07/2021 as a tutor in Mathematical Analysis under the supervision of Prof. Elisabetta Chiodaroli (for the didactic part) and Prof. Pietro Di Martino (as part of a project aiming to identify the most common weaknesses of the Italian high school syllabus in mathematics).

2019–2020 **Teaching assistant**, *University of Pisa*, Department of Physics.
From 11/11/2019 to 31/07/2020 I supported Prof. Emanuele Paolini in delivering lectures for his Mathematical Analysis B class and grading papers.

Honors and awards

2016–2019 **Scholarship**, *Istituto Nazionale di Alta Matematica*.
Scholarship funded by INdAM, won by public national contest (9th place), confirmed during the three years of bachelor according to the academic requirements (least grade greater or equal than 24/30, average grade greater or equal than 27/30).

2016 **“Alberto Ottolenghi” prize**, *Federazione dei Maestri del Lavoro*, Pisa.
Awarded to six students in the province of Pisa for outstanding academic records.

2016 **Participation**, *National Mathematics Olympiad*, Cesenatico.

2015 **Bronze medal**, *National Mathematics Olympiad*, Cesenatico.

2013 **Certamen in Ponticulo Herae**, *Associazione Italiana di Cultura Classica*, Pontedera, 2nd position.
Regional (Tuscany) Latin translation and interpretation contest.

Languages

Italian Native
English Advanced user (C1)
French Basic user (A1)