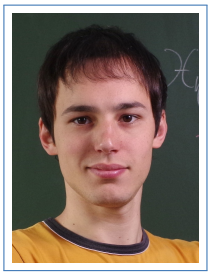
Lorenzo Fantini

Curriculum Vitæ



Personal Details

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Date of birth **20.05.1986**

Place of birth **Feltre (BL), Italy**

Current Affiliation

I am a Monge Professor at the Centre de Mathématiques Laurent Schwartz of the École Polytechnique.

Work address **Centre de Mathématiques Laurent Schwartz**
École Polytechnique
91128 Palaiseau Cedex - France

Research Interests

I'm interested in algebraic geometry. More specifically, I like to apply non-archimedean analytic geometry, especially from the point of view of Berkovich, to problems in birational geometry (singularity theory, Lipschitz geometry, motivic integration), arithmetic geometry (models of curves and ramification), and combinatorics (tropical geometry).

Work Experience

09/2021 – today **Professeur Monge**, *Centre de Mathématiques Laurent Schwartz, École Polytechnique (France).*

10/2019 – 08/2021 **Humboldt Fellow**, *Institut für Mathematik, Goethe-Universität Frankfurt am Main (Germany).*
Supported by the Alexander von Humboldt Foundation and hosted in Frankfurt by Prof. A. Werner.

10/2018 – 09/2019 **Postdoctoral fellow**, *Institut de Mathématiques de Marseille, Aix-Marseille Université (France).*
Supported by the ANR LISA, coordinated by Prof. A. Pichon.

10/2016 – 09/2018 **Postdoctoral fellow**, *Institut Mathématique de Jussieu, Sorbonne Université (France).*
Supported by the ANR DEFIGEO, coordinated by Prof. F. Loeser.

11/2014 – 09/2016 **Postdoctoral fellow**, *Centre de Mathématiques Laurent Schwartz, École Polytechnique (France).*
Supported by the ERC starting grant "nonarcomp" of Prof. C. Favre.

Education

10/2010 – 10/2014 **Ph.D. fellow**, *University of Leuven (Belgium).*
Title of dissertation: "Normalized Berkovich spaces and surface singularities".
Advisor: Prof. J. Nicaise.
PhD Jury: Prof. N. Budur, Prof. A. Ducros, Prof. P. Igodt, Prof. S. Payne, Prof. M. Temkin, Prof. W. Veys.
Supported by the Fund for Scientific Research - Flanders (G.0415.10).

2008 – 2010 **Master in Mathematics**, *ALGANT Erasmus Mundus Master Project.*
2009–2010: *Université Paris-Sud (Orsay, France).*
2008–2009: *Università degli Studi di Padova (Italy).*

2005 – 2010 **Galilean School of Higher Education**, *Padova (Italy).*

2005 – 2008 **Bachelor in Mathematics**, *Università degli Studi di Padova (Italy).*

Publications

[1] Lorenzo Fantini and Anne Pichon. Topological and bilipschitz types of complex surface singularities and their links, *Preprint arXiv:2501.03110*, 14 pages, 2025.

[2] Lorenzo Fantini and Anne Pichon. On Lipschitz normally embedded singularities, *Handbook of geometry and topology of singularities IV*, 497–519, 2023.

[3] Lorenzo Fantini and Daniele Turchetti. Triangulations of non-archimedean curves, semi-stable reduction, and ramification, *Annales de l'Institut Fourier*, 73(2), 695—746, 2023.

[4] André Belotto da Silva, Lorenzo Fantini, András Némethi, and Anne Pichon. Polar exploration of complex surface germs, *Transactions of the American Mathematical Society*, 379(9), 6747–6767, 2022.

[5] André Belotto da Silva, Lorenzo Fantini, and Anne Pichon. On Lipschitz normally embedded complex surface germs, *Compositio Mathematica*, 158(3), 623–653, 2022.

[6] André Belotto da Silva, Lorenzo Fantini, and Anne Pichon. Inner geometry of complex surfaces: a valuative approach, *Geometry & Topology*, 26(1), 163–219, 2022.

[7] Lorenzo Fantini and Michel Raibaut. Motivic and analytic nearby fibers at infinity and bifurcation sets, *in Arc Schemes and Singularities, World Scientific Publishing Co.*, 197–220, 2020.

[8] Lorenzo Fantini, Charles Favre, and Matteo Ruggiero. Links of sandwiched surface singularities and self-similarity, *Manuscripta Mathematica*, 162(1-2), 23–65, 2020.

[9] Lorenzo Fantini and Daniele Turchetti. Galois descent of semi-affinoid spaces, *Mathematische Zeitschrift*, 290(3), 1085–1114, 2018.

[10] Lorenzo Fantini. Normalized Berkovich spaces and surface singularities, *Transactions of the American Mathematical Society*, 370(11), 7815–7859, 2018.

[11] Man Wai Cheung, Lorenzo Fantini, Jennifer Park et Martin Ulirsch. Faithful realizability of tropical curves, *International Mathematics Research Notices*, 2016(15), 4706–4727, 2016.

[12] Lorenzo Fantini. Normalized non-archimedean links and surface singularities, *Comptes Rendus Mathématique*, 352(9), 719–723, 2014.

Teaching Experiences

2021 – 2024 **Course "Differential Geometry"**, *3nd year Bachelor*, École Polytechnique.

2021 – 2024 **Petites classes for "Algèbre et théorie de Galois"**, *2nd year Cycle Ingénieur*, École Polytechnique.

2021 – 2023 **Supervision and organization of the "Séminaire de Mathématiques des élèves"**, *Cycle Ingénieur*, École Polytechnique.

2018 – 2019 **Exercise sessions for "Analysis"**, *2nd year Bachelor*, École Polytechnique.

2013 – 2014 **Exercise sessions for "Algebraic Number Theory"**, *1st year Master in Mathematics*, University of Leuven.

2012 – 2013 **Exercise sessions for "Algebraic Geometry"**, *1st year Master in Mathematics*, University of Leuven.

2011 – 2012 **Exercise sessions for "Algebraic Geometry"**, *1st year Master in Mathematics*, University of Leuven.

2010 – 2011 **Co-organization and co-supervision for "Advanced Course in Algebraic Geometry"**, *2nd year Master in Mathematics*, University of Leuven.

2010 – 2011 **Exercise sessions for "Algebraic Number Theory"**, *1st year Master in Mathematics*, University of Leuven.

Language Skills

Italian **Mother tongue**

English **Fluent**

French **Fluent**

Spanish **Intermediate**