

David Fisac

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Employment

- Postdoctoral researcher** at Laboratoire d'Analyse et de Mathématiques Appliquées (LAMA) at Université Paris-Est Créteil mentored by [Federica Fanoni](#). Oct 2025 – Present
- Postdoctoral researcher** at Universitat Autònoma de Barcelona at the [Universal Geometric Structures and Inequalities](#) group. Feb 2025 – Sept 2025

Education

- Université du Luxembourg - Universitat Autònoma de Barcelona**, PhD in Mathematics, Feb 2021 – Jan 2025
Arcs, curves, and the surfaces they live on: [e-print](#).
Under the co-supervision of [Florent Balacheff](#) and [Hugo Parlier](#).
- Imperial College London**, MSc in Pure Mathematics *with Distinction*, Sept 2019 – Sept 2020
Conformal geodesics on Lorentzian conformal manifolds motivated by connectedness.
Under the supervision of Marie-Amélie Lawn.
- Universitat Autònoma de Barcelona**, Grau en Matemàtiques, Sept 2015 – June 2018
Menció en Matemàtica Fonamental.

Research Interests

I study hyperbolic, topological and Riemannian surfaces, of finite and infinite type. More specifically, arcs, curves, and laminations on them, their length spectra, and their intersection.

(Pre)Publications

- Markov's conjecture on integral necklaces**, Published
Bull. Lond. Math. Soc. (2025) *online ready*,
[arXiv:2501.15550](#).
- Word-length curve counting on the once-punctured torus**, Submitted
with Mingkun Liu,
[arXiv:2404.09372](#).
- A Basmajian-type inequality for Riemannian surfaces**, Published
with Florent Balacheff,
J. Topol. Anal. (2025) *online ready*,
[arXiv:2311.03182](#).

Invited Talks

- Geometry seminar**, MPI MiS, Leipzig, Germany. June 2025
- Combinatorics mitagsseminar**, ETH, Zurich, Switzerland. May 2025
- Perspectives on Markov Numbers (lightning session)**, BIRS, Banff, Canada. Jan 2025

Colloque de Géométrie, Université Paris-Est Créteil, Paris.	Nov 2024
2nd International AMS-UMI Joint Meeting, Palermo, Sicily.	Jul 2024
Hengstberger Symposium: Geometry and dynamics of surfaces beyond finite-type, Heidelberg, Germany.	Jul 2024
Surfaces, Manifolds and Related Topics (SMaRT), Mar 2024, Luxembourg.	Mar 2024
Seminari de Geometria, UAB, Barcelona.	Jan 2024
Geometry, Probability and their Synergies, Les Diablerets, Switzerland.	Mar 2023
VI Congreso de Jóvenes Investigadores de la RSME, León, Spain.	Feb 2023

References

Hugo Parlier, University of Fribourg, hugo.parlier@unifr.ch.
 Florent Balacheff, Universitat Autònoma de Barcelona, florent.balacheff@uab.cat.
 Federica Fanoni, Université Paris-Est Créteil, federica.fanoni@u-pec.fr.
 Tommaso Cremaschi, Trinity College Dublin, cremasct@tcd.ie.

Teaching

Caculus for the Statistics BSc TA, Universitat Autònoma de Barcelona.	2025
Mathematics for Geology: Statistics TA, Universitat Autònoma de Barcelona.	2025
Math Forge (all-round tutoring for Mathematics BSc), University of Luxembourg.	2021-2023-2024
Linear Algebra I TA, University of Luxembourg.	2022

Languages

Catalan: native.
 Spanish: native.
 English: proficient.
 Italian: proficient.
 French: basic.

Programming

Languages: Python, C, Java.
 Mathematical programming: Mathematica, SageMath, R.