

JAIME GÓMEZ

PHD STUDENT IN MATHEMATICS AT EPFL

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Education

EPFL

PhD studies in mathematics

Lausanne, Switzerland

2023–

Supervisor: Prof. Joachim Krieger.

Research group: Partial Differential Equations.

ETH Zurich

Master's degree in mathematics

Zurich, Switzerland

2021–2023

Master's thesis supervisors: Prof. Alessio Figalli & Dr. João Pedro Gonçalves Ramos.

Thesis title: Stability of Faber-Krahn inequalities in time-frequency analysis. [↗](#)

Graduated with an ETH medal for an outstanding master thesis and a GPA of 5.84/6.

Universidad Autónoma de Madrid

Bachelor's degree in mathematics with programming minor

Madrid, Spain

2017–2021

Bachelor's thesis supervisor: Prof. Ana Vargas Rey.

Thesis title: The Fourier transform and Hausdorff measures. [↗\(ES\)](#)

Graduated with honors on the bachelor's thesis and a GPA of 8.7/10.

Research

Stability of the Faber-Krahn inequality for the STFT

With André Guerra, João P.G. Ramos & Paolo Tilli. [↗](#)

Inventiones Mathematicae

2024

Uniform stability of concentration inequalities and applications

With D. Kalaj, P. Melentijević, & João P.G. Ramos. [↗](#)

Submitted

2024

Multisoliton solutions and blow up for the L^2 -critical Hartree equation

With Tobias Schmid & Yutong Wu. [↗](#)

Submitted

2025

Work and teaching experience

Teaching Assistant

TA in the courses “Analyse avancée I”, “Analyse avancée II”, “Introduction to dynamical systems” and “Calculus of variations”

EPFL

2023–2025

Teaching Assistant

Author of the official script for the course “Functional Analysis II” [↗](#)

ETH Zurich

2022, 2024

Student tutoring

Madrid, Spain

Awards and honors

2024 **Awarded** the ETH Medal [🔗](#) for an outstanding master thesis.

2017 **Awarded** the extraordinary high school award by the Castille and Leon autonomous region.

2017 **Awarded** for being among the best 100 grades in the selectivity exam in the university district of Salamanca.

2016 **5-th place** in the physics olympiad in Salamanca.

2016 **6-th place** in the mathematics olympiad in Salamanca.

Languages and skills

Language skills

- **Spanish:** Native.
- **English:** Fluent.
- **Italian:** Intermediate.
- **French:** Basic.

Musical and piano studies

Professional conservatory of Salamanca

Salamanca, Spain

2009–2015

Academic projects

QED magazine

Writer and proofreader

Madrid, Spain

2021–

QED [🔗^{\(ES\)}](#) is an association of mathematics students in Universidad Autónoma de Madrid. They regularly publish issues of a magazine where students write articles about mathematics.

Stability of Isoperimetric inequalities [🔗](#)

Supervisor: Prof. Alessio Figalli.

ETH Zurich

2022

Semester paper on stability of isoperimetric inequalities.

The Faber-Krahn inequality for the short time Fourier transform [🔗](#)

Supervisors: Prof. Alessio Figalli & Dr. João Pedro Gonçalves Ramos.

ETH Zurich

2023

Semester paper on signal processing and the theoretical limitations of energy concentration on the time-frequency plane.

Lecture notes [🔗](#)

Lecture notes for several courses in the master's degree in mathematics.

Programming skills and projects

Programming skills

Programming minor (C, 1 yr), with mathematics-oriented courses (R, Matlab, 1/2 yr, SageMath, 1 yr).

- **Intermediate/advanced:** C, GDScript, SageMath, \LaTeX .
- **Basic:** R, HTML & CSS, C++, C#, Swift, Matlab, JavaScript.

LaTeX2InD

Creator

Zurich, Switzerland

2023

LaTeX2InD [↗](#) is the first ever script designed to include \LaTeX functionality in Adobe InDesign. Open source, JavaScript.

Interests

I enjoy various sports, mostly endurance-based, such as running and cycling (both road and gravel), and I love using my bike to explore. I particularly enjoy the problem-solving aspects of climbing, and I love doing it outside, specifically lead climbing. In winter, skiing is my sport of choice.

Apart from sports, I thoroughly enjoy cooking (Spanish, Italian and Lebanese food are my favorites), cinema, game development and aviation.

Personal information

Citizenship: Spanish (European Union), with a **Swiss residence permit** (B).

Born in October 1999 in Salamanca, Spain.

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