




# Teo Gil Moreno de Mora i Sardà

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 0009-0003-9464-1107

## Education

- 2022 – 2025 **PhD in Mathematics**, *Université Paris-Est Créteil, Universitat Autònoma de Barcelona*, (cotutelle)  
**Thesis:** A metric approach to the study of manifolds of positive scalar curvature.  
Supervisors: Stéphane Sabourau, Florent Balacheff  
Expected defense date: September 2025
- 2021 – 2022 **M2 Master in Fundamental Mathematics**, *Sorbonne Université, Université Paris Cité, Université Sorbonne Paris Nord, France*  
**Thesis:** Filling volume minimality for metrics close to the Euclidean metric.  
Supervisor: Stéphane Sabourau
- 2017 – 2021 **BSc in Mathematics**, *Universitat Autònoma de Barcelona, Spain*  
**Thesis:** Generalizations of the first Minkowski's theorem from a systolic geometry perspective.  
Supervisor: Florent Balacheff
- 2015 – 2021 **BSc in Physics**, *Universitat Autònoma de Barcelona, Spain*  
**Thesis:** Dynamical Superfluid-Insulator Transition of Bose-Einstein condensates in optical lattices.  
Supervisor: Prof. Verònica Ahufinger.

## Publications

- Preprints T. Gil Moreno de Mora Sardà, *Urysohn width of hypersurfaces and positive macroscopic scalar curvature*, arXiv:2504.06737 (2025).
- [2] F. Balacheff, T. Gil Moreno de Mora Sardà and S. Sabourau, *Complete 3-manifolds of positive scalar curvature with quadratic decay*, Math. Ann. (2025).
- [1] F. Balacheff and T. Gil Moreno de Mora Sardà, *Isosystolic inequalities on two-dimensional Finsler tori*. EMS Surv. Math. Sci. 11 (2024), no. 2, pp. 205-233

## Talks

### Talks in conferences

- Jun 2025 Flows and Singular Spaces, *Centre Henri Lebesgue*, Nantes, France
- Apr 2025 Rencontre de l'ANR OrbiScaR, *Université Paris-Est Créteil*, France
- Mar 2025 Systolic and Diastolic Geometry, *Instituto de Matemática Pura e Aplicada*, Rio de Janeiro, Brazil
- Nov 2024 Reunión de investigadores jóvenes de la REAG, *Universidad de Santiago de Compostela*, Spain
- Oct 2024 Math SOMMa Junior Meeting, *Centre de Recerca Matemàtica*, Barcelona, Spain
- Nov 2023 Forum des jeunes mathématicien-nes, *Université Libre de Bruxelles*, Belgium

- May 2023 Journées des Doctorants du LAMA, *Université Gustave Eiffel and Université Paris-Est Créteil*, France
- Mar 2020 Bernardo Cascales Functional Analysis School, *Universidad de La Laguna*, Spain
- Seminar talks**
- Jul 2025 Geometry Seminar, *Max Planck Institute*, Leipzig, Germany
- Apr 2025 Séminaire de Théorie Spectrale et Géométrie, *Institut Fourier*, Grenoble, France
- Feb 2025 Séminaire des Doctorants, *Institut Élie Cartan de Lorraine*, Nancy, France
- Dec 2024 Séminaire Gaston Darboux, *Institut Montpelliérain Alexander Grothendieck*, Montpellier, France
- Dec 2024 Geometry and Topology Seminar, *Université du Luxembourg*, Luxembourg
- Dec 2024 Hodge Club, *University of Edinburgh*, United Kingdom
- Oct 2024 Séminaire de Géométrie, *Institut de Mathématiques de Bordeaux*, France
- Jun 2024 Seminari de Geometria, *Universitat Autònoma de Barcelona*, Spain
- May 2024 Séminaire de Géométrie, *Institut de Mathématiques de Jussieu - Paris Rive Gauche*, France
- Apr 2024 Colloque de Géométrie, *Université Paris-Est Créteil*, France
- Apr 2024 Séminaire des doctorants du LAMA, *Université Paris-Est Créteil*, France
- Jun 2023 Seminari Informal de Matemàtiques de Barcelona, *Universitat de Barcelona*, Spain
- Mar 2023 Seminari de Geometria, *Universitat Autònoma de Barcelona*, Spain

### Poster presentations

- Nov 2024 Curvature and Geometric Analysis in Rome, *Sapienza Università di Roma*, Italy
- Jun 2024 European Doctorate School of Differential Geometry, *Instituto de Matemáticas de la Universidad de Granada*, Spain

## Teaching

- Jan 25–Apr 25 Analyse Réelle (L1 Mathématiques) *Université Paris-Est Créteil*, 36h Tutorials
- Jan 24–Apr 24 Analyse Réelle (L1 Mathématiques) *Université Paris-Est Créteil*, 36h Tutorials
- Sep 22–Dec 22 Calculus 1 (L1 Chimie) *Université Paris-Est Créteil*, 30h Lectures and Tutorials

## Organization of Scientific Activities

- May 2024 Journées des Jeunes Chercheurs-ses du LAMA, *Institut Henri Poincaré*, France (22-24 May 2024)
- 2022 – 2024 Séminaire des doctorants, *Laboratoire d'Analyse et Mathématiques Appliquées*, *Université Paris-Est Créteil*, France

## Awards and Scholarships

- 2021 – 2022 **PGSM Master Scholarship**, granted by the *Fondation Sciences Mathématiques de Paris*.
- 2020 – 2021 **Beca de Colaboración grant BDNS 512590** by the *Spanish MEFP*
- 2015 – 2021 Academic Merit State Scholarship, funded 33% of my undergraduate degrees.
- 2015 Extraordinary University Entrance Examination Award, awarded by the *Generalitat de Catalunya*.
- 2015 University Entrance Scholarship, awarded by the *Fundació Catalunya La Pedrera*.

## Languages

<b>Catalan</b>	Native	<b>Spanish</b>	Native
<b>English</b>	Fluent <i>C2 Level - Cambridge Certificate</i>	<b>French</b>	Fluent <i>DEL F B2</i>
<b>Japanese</b>	Intermediate <i>B1 Level - JLPT N3</i>		

## Computer skills

<b>Programming Languages</b>	Python, C, R	<b>Other</b>	SageMath, $\text{\LaTeX}$
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## Undergraduate Research Experience

- Sep 20 –Jul 21 **Research Assistant, Mathematics department UAB, Barcelona, Spain**  
**Supervisor:** Prof. Florent Balacheff  
Research project in systolic geometry, with further development of my BSc thesis.
- Jul 20 –Sep 20 **ICMAT Introduction to Research Program, Madrid, Spain**  
**Supervisor:** Prof. Francisco Presas  
Project on contact geometry and Legendrian submanifolds, and their application to the space of light geodesics of a Lorentz manifold.
- Jul 2019 **IFISC Summer Undergraduate Research Internship, Palma de Mallorca, Spain**  
**Supervisor:** Prof. David Sánchez  
Project on the analysis of language variation in the United Kingdom using Twitter data and Big Data techniques.
- Jul 18 – Oct 18 **ICFO Summer Fellows Program, Barcelona, Spain**  
**Supervisor:** Prof. Leticia Tarruell – Ultracold Quantum Gases group  
Project on the development of an active stabilization system in order to stabilize the magnetic field fluctuations in the experimental set-up of the group.
- Jul 2016 **ICFO Introductory internship, Barcelona, Spain**  
**Supervisor:** Dr. Miguel Ángel García  
Programming based experience on the study of random walks on different geometrical settings.

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## Attended conferences and schools

- Jun 2025 Flows and Singular Spaces, *Centre Henri Lebesgue*, Nantes, France
- Apr 2025 Rencontre de l'ANR OrbiScaR, *Université Paris-Est Créteil*, France
- Mar 2025 Systolic and Diastolic Geometry, *Instituto de Matemática Pura e Aplicada*, Rio de Janeiro, Brazil
- Jan 2025 Analysis and Geometry on Groups and Spaces Winter School, *Hausdorff Research Institute for Mathematics*, Bonn, Germany
- Nov 2024 Reunión de investigadores jóvenes de la REAG, *Universidade de Santiago de Compostela*, Spain
- Nov 2024 Curvature and Geometric Analysis in Rome, *Sapienza Università di Roma*, Italy
- Oct 2024 Math SOMMa Junior Meeting, *Centre de Recerca Matemàtica*, Barcelona, Spain
- Aug 2024 Metric Geometry and Geometric Measure Theory, *Université de Fribourg*, Switzerland
- Jun 2024 European Doctorate School of Differential Geometry, *Instituto de Matemáticas de la Universidad de Granada*, Spain
- Mar 2024 Surfaces, Manifolds and Related Topics, *Université du Luxembourg*, Luxembourg
- Nov 2023 Forum des jeunes mathématicien-nes, *Université Libre de Bruxelles*, Belgium
- Oct 2023 Probability and Geometry in, on and of non-Euclidian spaces, *Centre International de Rencontres Mathématiques*, Marseille, France
- Jun 2023 Interactions between geometry and topology, *Banyuls de la Marenda*, France
- Mar 2023 Geometry, probability and their synergies, *Les Diablerets*, Switzerland
- Nov 2022 Paroles aux jeunes chercheuses et chercheurs en géométrie et dynamique, *Institut Mathématique d'Orsay*, France
- Sep 2022 Workshop on Topological Methods in Geometry, *Centre de Recerca Matemàtica*, Barcelona, Spain
- Mar 2020 Bernardo Cascales Functional Analysis School, *Universidad de La Laguna*, Spain