

ROIG SANCHIS

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I am a postdoc researcher at the Max Planck Institute for Mathematics in Leipzig. My mathematical interests lie in the geometry and topology of low-dimensional hyperbolic manifolds, studying them through probabilistic techniques. In particular, my PhD thesis focused on the study of typical behaviours of geometric invariants of random hyperbolic 3-manifolds.

- Post-doctoral researcher**
Max Plack Institute for Mathematics | Leipzig
Nov 2024 - current
- Teaching assistant**
Sorbonne Université | Paris
Sept 2022 - Feb 2024
- PhD student**
Sorbonne Université | Paris
Oct 2021 - Oct 2024

PhD in Mathematics <i>Sorbonne Université Advisor: Bram Petri</i>	Oct 2021 - Oct 2024
Master in teaching in secondary schools (specialization in Mathematics) <i>Universitat Autònoma de Barcelona (UAB)</i>	Sept 2020 - July 2021
Master in advanced Mathematics <i>Universitat de Barcelona (UB)</i>	Sept 2019 - July 2020
Bachelor in Mathematics <i>Universitat de Barcelona (UB)</i>	Sept 2015 - July 2019

TEACHING
EXPERIENCE

Teaching assistant	2022 - 2024
<i>Sorbonne Université</i> (To BSc and MSc students in Mathematics)	
• Topology and Differential Calculus I	Sept 2022 - Jan 2023
• Introduction to Probability	Jan 2023 - May 2023
• Topology and Differential Calculus I	Sept 2023 - Jan 2024
• Master course: Introduction to Teichmüller theory	Jan 2024 - Feb 2024

PUBLICATIONS

Articles	"The length spectrum of random hyperbolic 3-manifolds" (2025). In: <i>Advances in Mathematics</i> 466, p. 110158. doi: https://doi.org/10.1016/j.aim.2025.110158 .
	"The systole of random hyperbolic 3-manifolds" (2024). In: arXiv: 2406.11783.

TALKS

Conference: "Swiss Knots"	June 4, 2025
<i>University of Geneva</i> Geneva, Switzerland	
Conference: "Higher rank geometric structures, Higgs bundles and physics"	May 22, 2025
<i>Institut Henri Poincaré (IHP)</i> Paris, France	
Séminaire de Géométrie et Topologie	April 15, 2025
<i>Institut de Mathématiques de Toulouse</i> Toulouse, France	
Séminaire virtuel francophone Groupes et Géométrie	Jan 30, 2025
<i>Online</i>	
Séminaire Analyse	Oct 3, 2024
<i>Institut de recherche mathématique avancée (IRMA)</i> Strasbourg, France	
Séminaire de Géométrie	June 13, 2024
<i>Aix-Marseille Université</i> Marseille, France	
Conference: "Manifolds and groups in Bologna II"	April 18, 2024
<i>Università di Bologna</i> Bologna, Italy	

Conference: "Knot Theory Informed by Random Models and Experimental Data"

April 2, 2024

Banff International Research Station | Banff, Canada

Conference: "Surfaces, Manifolds and Related Topics"

March 20, 2024

University of Luxembourg | Luxembourg

Graduate geometry colloquium

March 7, 2024

ETH | Zurich, Switzerland

Spectra and Moduli seminar

Feb 26, 2024

Durham University | Durham, UK

Conference: "Discrete Mathematics and Probability"

Jan 29, 2024

Alfréd Rényi Institute of Mathematics | Budapest, Hungary

Conference: KAIST Geometric Topology Fair

Jan 19, 2024

University of Busan | Busan, Korea

Geometry seminar

Dec 5, 2023

Universitat Autònoma de Barcelona | Barcelona, Spain

Seminaire: "Les Probabilités de Demain"

Nov 15, 2023

Institut Henri Poincaré (IHP) | Paris, France

Conference: "Geometry and Probability in, on and at non-Euclidean spaces"

Oct 3, 2023

C.I.R.M | Marseille, France

Colloque de Géométrie

April 14, 2023

Université de Paris Est-Créteil | Créteil, France

Geometry seminar

March 28, 2023

University of Luxembourg | Luxembourg

Working group: Thin groups

March 24 2023

Sorbonne Université | Paris, France

Séminaire de Géométrie et Combinatoire

Feb 21, 2023

Sorbonne Université | Paris, France

Conference: "Combinatorics of finite-index subgroups"

Institut Henri Poincaré (IHP) | Paris, France

Nov 2, 2022

Conference: TSW2022

Georgia Tech | Atlanta, UE

July 28, 2022

Journée d'équipe ACG

Sorbonne Université | Paris, France

June 16, 2022

SKILLS

Digital C++, Sagemath

Languages

- Catalan (native)
- Spanish (native)
- English (Proficient)
- French (Advanced)
- Portuguese (Basic)

OTHERS

EWM Member of the "European Women in Mathematics" association.