

Sergi Burniol Clotet

IMERL, Udelar
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PROFILE

I am interested in dynamical systems having some weak form of hyperbolicity. My research interests include geodesic flows and horospheres on manifolds without conjugate points and foliated horocyclic flows.

JOBS

Assistant Grade 2

CMAT, Facultad de Ciencias, Universidad de la República, Montevideo
August 2025 - Present

Assistant Grade 2

IMERL, Facultad de Ingeniería, Universidad de la República, Montevideo
March 2024 - Present

Postdoc PEDECIBA

Universidad de la República, Montevideo
September 2023 - Present

Attaché temporaire d'enseignement et de recherche

Sorbonne Université, Paris
September 2022 - August 2023

STUDIES

PhD: Ergodic properties of horospheres on manifolds without conjugate points

Sorbonne Université, Paris
Supervisor: Yves Coudène
October 2019 - December 2022

Master's Degree (M2) in Fundamental Mathematics

Sorbonne Université, Paris
September 2018 - June 2019

Bachelor's Degree in Physics and Bachelor's Degree in Mathematics

Autonomous University of Barcelona, Barcelona
Minor in Fundamental Mathematics
September 2013 - September 2018

ARTICLES

Rigidity of the unstable foliation, 2025 (submitted).

Unique ergodicity of horocyclic flows on nonpositively curved surfaces. *Israel Journal of Mathematics*, 265 :185–215, 2025.

Topology of horocycles on geometrically finite nonpositively curved surfaces. *Geom Dedicata* 218, 92 (2024). <https://doi.org/10.1007/s10711-024-00941-z>

Unique ergodicity of the horocycle flow of a higher genus compact surface with no conjugate points and continuous Green bundles. *J. Mod. Dyn.*, 19:795– 813, 2023.

Equidistribution of horospheres in non-positive curvature. *Ergodic Theory and Dynamical Systems*, 1-20 (2021). doi:10.1017/etds.2021.124

TALKS

Geometry seminar, 12 January 2026, IRMA, Strasbourg

Dynamical systems seminar UB-UPC, 12 November 2025, Barcelona

Dynamical systems seminar, 3 October 2025, IMERL, Udelar, Montevideo
 Beyond Uniform Hyperbolicity, 10 June 2025, ICTP, Trieste.
 Séminaire de Théorie Ergodique de Rennes, 20 January 2025, IRMAR, Rennes
 Séminaire de Géométrie et de Topologie, 17 January 2025, I2M, Marseille
 Séminaire de Topologie, 10 January 2025, Institut Fourier, Grenoble
 Workshop in Dynamical Systems, 8 November 2024, UFRGS, Porto Alegre
 Students seminar, 23 September 2024, CMAT (Udelar), Montevideo
 Dynamical systems seminar, 6 September 2024, (Udelar) Montevideo
 Ergodic Theory Seminar, 4 June 2024, LPSM, Sorbonne Université
 8th Uruguayan Mathematics Colloquium, 21 December 2023, (Udelar) Montevideo
 Geometry and Group Actions unit meeting, 18 November 2023, (Udelar), Montevideo
 Dynamical systems seminar, 10 November 2023, (Udelar) Montevideo
 Students colloquium, 19 September 2023, CMAT (Udelar), Montevideo
 PG Forum, 5 June 2023, University of Lancaster (online)
 École de Printemps en Géométrie et Dynamique, 21-24 March 2023, Lille
 VI Congreso de Jóvenes Investigadores de la Real Sociedad Matemática Española, 8 February 2023, León
 Geometry, algebra, dynamics and topology seminar, 12 January 2023, Dijon
 Dynamical systems seminar, 10 January 2023, Bochum
 Lightning talk GDR Platon, 23 November 2022, Orsay
 Wild dynamics working group, 16 November 2022, IMJ-PRG, Jussieu
 Geometry seminar, 2 November 2022, ICMAT, Madrid
 Dynamical systems seminar, 17 June 2022, IMERL, UDELAR
 Dynamical systems seminar, 12 May 2022, IMPA
 Dynamical systems seminar, 6 May 2022, UFRJ
 Mini course "Ergodic theory of geodesic flows", April-May 2022, PUC-Rio
 Geometry seminar, 22 March 2022, Université de Tours
 Working group "Ergodic properties of the geodesic flow", 18 March 2022, LPSM, Jussieu
 Wild dynamics working group, 2 February 2022, IMJ-PRG, Jussieu "stratifications de Thom-Boardman et de singularités stables en dimensions 3 et 4"
 Conference (in honour of Selim Ghazouani's 30th birthday), 13-17 December 2021, Aussois
 Ergodic theory seminar, 22 November 2021, Université de Rennes
 PhD students working group, 15 November 2021, LPSM, Sorbonne Université
 Geometry Topology Dynamics seminar, 28 October 2021, IMO, Université Paris-Saclay
 Students/professors in dynamics meeting, 1 July 2021, Université de Paris
 Ergodic theory seminar, 13 October 2020, LPSM, Sorbonne Université

OTHER CONTRIBUTIONS	Poster "Rigidity of the unstable foliation", 6 November 2025, 8th Brazilian School of Dynamical Systems, IMPA, Rio de Janeiro
OUTREACH	Participation in a round table at the Forum des Métiers, 28 August 2025, Lycée Français Jules Supervielle, Montevideo Interview for the outreach series "Mis profes en Fing", 2025 Talk on the profession of a mathematics researcher, 25 September 2024, Lycée Français Jules Supervielle, Montevideo Participation in a round table at the Forum des Métiers, 29 August 2024, Lycée Français Jules Supervielle, Montevideo Participation in the Ingeniería de Muestra exhibition organized by the Faculty of Engineering, 2024 Participation in the Open House Days of the Faculty of Sciences, 2024
TEACHING	• Functions of a Complex Variable, Faculty of Sciences, 2nd semester 2025. Teaching of one exercise class (in-person). • Differential and Integral Calculus in Several Variables, 1st year, Faculty of Engineering, 2nd semester 2025. Teaching of two exercise classes (in-person). • Differential and Integral Calculus in One Variable, 1st year, Faculty of Engineering, 1st semester 2025. Teaching of two exercise classes, one in-person and one online. • Differential and Integral Calculus in One Variable, 1st year, Faculty of Engineering, 1st and 2nd semesters 2024. Teaching of four exercise classes (in-person). • Linear Differential Equations, Numerical Methods, 2nd year (L2) Mathematics, 2nd semester 2022/23. Teaching of one exercise class. • Functional Analysis, 3rd year (L3) Mathematics, 2nd semester 2022/23. Teaching of one exercise class. • Topology and Differential Calculus II, 3rd year (L3) Mathematics, 1st semester 2022/23. Teaching of two exercise classes. • Functional Analysis, 3rd year (L3) Mathematics, 2nd semester 2020/21. Teaching of one exercise class. • Topology and Differential Calculus II, 3rd year (L3) Mathematics, 1st semester 2020/21. Teaching of one exercise class.
OTHER TEACHING ACTIVITIES	I have served on an examination committee for the Bachelor's thesis in Mathematics "Clausuras de órbitas en dinámica homogénea" presented by Pedro Erniaga under the supervision of Prof. Rafael Potrie and Prof. León Carvajales, 2024.
CONFERENCES ATTENDED	Winter School Côte d'Azur, 13-15 January, Université Côte d'Azur, Nice IFUMI's Launching Conference, 28 October - 1 November 2024, (Udelar) Montevideo Group actions with hyperbolicity and measure rigidity, 27-31 May 2024, IHP (Paris) From Dynamics to Complexity, and Back Again, 31 January - 3 February 2024, (Udelar) Montevideo Escuela de acciones de grupos, 23-25 October, Montevideo IMJ-PRG Summer School, 3-7 July, Paris Zurich Dynamics Conference and School, 8-16 June, University of Zurich

Anosov Dynamics, 10-14 April, CIRM (Marseille)

Topics on the Geometry of Locally Symmetric Spaces, 28 February - 9 March, UDELAR (Montevideo)

Paroles aux jeunes chercheuses et chercheurs, 23-25 November 2022, LMO (Paris-Saclay)

Global and local aspects in dynamical systems: 5-9 July 2022, CRM (Barcelona)

VI Escola Brasileira de Sistemas Dinâmicos, 25-29 October 2021, UFC (Fortaleza) - online

Journées de dynamique, 7-8 October 2021, Université Paris Diderot

École d'été finistérienne en systèmes dynamiques (GDR Platon), 21-25 June 2021, Université de Brest

Spring School on Transfer Operators (Classical and Modern Techniques), Centre Interfacultaire Bernoulli, Ecole Polytechnique Fédérale de Lausanne, 22-26 March 2021 - online

A hyperbolic day online, 4 February 2021 - online

Statistical aspects of geodesic flows in negative curvature, 20-23 January 2020, University of Warwick

Paroles aux jeunes chercheur·es en géométrie et dynamique (GDR Platon), 25-27 November 2019, Université de Lorraine

Journées de dynamique, 16-18 October 2019, Université Paris Diderot

JAE School of Mathematics, June 2017, ICMAT, Madrid

INTERNSHIPS **Internship in the Department of Mathematics September - December 2017**
Autonomous University of Barcelona

Task: Read articles and work on finding better results, under the supervision of a member of the department.

Introduction to research Severo Ochoa **Summer 2017**
ICMAT, Madrid

Topic: Galois structure of Mordell-Weil groups.

Task: Read and study advanced topics from books and articles, under the supervision of an ICMAT researcher.

**AWARDS AND
SCHOLARSHIPS**

- Emmy Noether Mention for Bachelor's Final Year Project 2019.
- Extraordinary Award in Bachelor's Degree 2018.
- Paris Graduate School of Mathematics scholarship 2018 (FSMP).
- University Entrance Exam (PAU) Honours 2013.
- Silver medal at the Spanish Physics Olympiad 2013.
- Young research award 2013 for the research project in Bachillerato.