

# Sergi Burniol Clotet

IMERL, Udelar  
Facultad de Ingeniería  
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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** **Postdoc PEDECIBA**  
Udelar, 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** Topology of horocycles on geometrically finite nonpositively curved surfaces.  
arXiv:2312.07719 [math.DS] (2023)

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.

Unique ergodicity of the horocyclic flow on nonpositively curved surfaces (2021). To appear in *Israel Journal of Mathematics*.

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

**TEACHING**

- Equations différentielles linéaires, méthodes numériques, L2 Mathematics, 2nd semester 22/23
- Analyse fonctionnelle, L3 Mathematics, 2nd semester 22/23
- Topologie et calcul différentiel II, L3 Mathematics, 1st semester 22/23 (2 groups)
- Analyse fonctionnelle, L3 Mathematics, 2nd semester 20/21
- Topologie et calcul différentiel II, L3 Mathematics, 1st semester 20/21

**TALKS** 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, (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

**CONFERENCES ATTENDED** 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 SCOLARSHIPS**

- 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.

**OTHERS**

- Computer skills: LaTeX, Maple, Sagemath, C, R and Python.
- Language skills: Catalan and Spanish as mother tongues. High level of English and French. Intermediate knowledge of Portuguese. Basic knowledge of Italian.
- Work experience as private teacher (2013-2018). Private lessons to students from school to university.