

Curriculum Vitæ

Andrés SAMBARINO

Date and place of birth : June 6, 1984, Montevideo, Uruguay.
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Employment

- **Directeur de Recherche** CNRS at Université Sorbonne Paris Nord, since October **2025**.
- **Chargé de Recherche** CNRS at Sorbonne Université, **2014 - 2025**.
- **Dickson Instructor** at the University of Chicago throughout the year **2013**.
- **Post-doc** at Université Paris-Sud XI on the ERC project HIGH TEICH, **2011-2013**.

Education

- **Habilitation à Diriger des Recherches**, IMJ-PRG, Sorbonne Université, **2019**.
- **PhD, Doctorat en Mathématique**, LAGA, Université Paris XIII, under the supervision of Jean-François Quint. **2011**.
- **Master Mathématique Recherche**, LAGA, Université Paris XIII. **2008**.
- **Licenciatura en Matemática**, Universidad de la República Oriental del Uruguay. **2007**.

Short visits

- **Universidad de la República Oriental del Uruguay**, 1 month in 2023, 1 month in 2017, 2 months in 2016, 2 months in 2015.
- **Université Nice-Sophia-Antipolis**, Nice, one week, 2017.
- **Universidade Federal Fluminense**, Niteroi, November 2015.
- **MSRI**, Berkley, 2 months, participant of the program *Dynamics on moduli spaces of geometric structures* in 2015.
- **The University of Chicago**, 1 month in 2014.
- **University of Michigan**, two weeks in 2012.
- **Boston College**, one week in 2012.
- **Princeton University**, two weeks in 2011.

Publications in press

- [1] J. Bochi, R. Potrie, and A. Sambarino. Anosov Representations and dominated splittings. *J. Eur. Math. Soc.*, 21(11) :3343–3414, 2019.
- [2] M. Bridgeman, R. Canary, F. Labourie, and A. Sambarino. The pressure metric for Anosov representations. *Geom. & Funct. Anal.*, 25(4) :1089–1179, 2015.
- [3] M. Bridgeman, R. Canary, F. Labourie, and A. Sambarino. Simple roots flows for Hitchin representations. *Geom. Dedic. William Goldman’s 60th birthday special edition*, 192 :57–86, 2018.

- [4] M. Bridgeman, R. Canary, and A. Sambarino. An introduction to Pressure metrics on higher Teichmüller spaces. *Ergod. Th. & Dynam. Sys.*, 38 :2001–2035, 2018.
- [5] M. Bridgeman, B. Pozzetti, A. Sambarino, and A. Wienhard. Hessian of Hausdorff dimension on purely imaginary directions. *Bull. Lond. Math. Soc.*, 54(3) :1027–1050, 2022.
- [6] R. Potrie and A. Sambarino. Eigenvalues and entropy of a Hitchin representation. *Invent. Math.*, 209 :885–925, 2017.
- [7] B. Pozzetti, A. Sambarino, and A. Wienhard. Conformality for a robust class of non-conformal attractors. *J. Reine Angew. Math.*, 2021(774) :1–51, 2021.
- [8] B. Pozzetti, A. Sambarino, and A. Wienhard. Anosov representations with Lipschitz limit set. *Geom. & Top.*, 27 :3303–3360, 2023.
- [9] A. Sambarino. Hyperconvex representations and exponential growth. *Ergod. Th. & Dynam. Sys.*, 34(3) :986–1010, 2014.
- [10] A. Sambarino. Quantitative properties of convex representations. *Comment. Math. Helv.*, 89(2) :443–488, 2014.
- [11] A. Sambarino. The orbital counting problem for hyperconvex representations. *Ann. Inst. Fourier*, 65(4) :1755–1797, 2015.
- [12] A. Sambarino. On entropy, regularity and rigidity for convex representations of hyperbolic manifolds. *Math. Annalen*, 364(1) :453–483, 2016.
- [13] A. Sambarino. A report on an ergodic dichotomy. *Ergod. Th. & Dynam. Sys.*, 44(1) :236–289, 2024.
- [14] A. Sambarino. Infinitesimal Zariski closures of positive representations. *J. Differential Geom.*, 128(2) :861–901, 2024.

Preprints

- [PS23] B. Pozzetti and A. Sambarino. Metric properties of boundary maps : Hilbert entropy and non-differentiability. <https://hal.archives-ouvertes.fr/hal-03898485>, 2023.
- [Sam24] A. Sambarino. Asymptotic properties of infinitesimal caracteres and applications. <https://arxiv.org/abs/2406.06250>, 2024.

Organization of scientific events

- **Trimestre thématique à l’Institut Henri Poincaré : Higher rank geometric structures**, from April 14 to July 11 2025, co-organized with Ken Bromberg, Beatrice Pozzetti and Nicolas Tholozan.
<https://indico.math.cnrs.fr/event/11551/overview>
- School on **Topics on the geometry of locally symmetric spaces**, February 28 to March 9, Montevideo, Uruguay. Organizer. 2023
<https://sites.google.com/view/symmetricspaces2023>
- **Arbeitsgemeinschaft : Higher rank Teichmüller theory**, October 9-15, Oberwolfach, Germany. Organizer. 2022
<https://www.mfo.de/occasion/2241/www.view>
- **Groups, Geometry and Dynamics : A conference in honor of François Labourie**, Juin 6-10, Cargèse, France. Organizer. 2022
<https://sites.google.com/view/labourie2021/home>
- **Workshop on groups geometry and dynamics, with a homage to Ricardo Mañé**, Montevideo, Uruguay. Organizer. 2018.
<https://ggdworkshop.cmat.edu.uy>

- International Conference **Geometry of Groups**, April 11 - 15 Montevideo, Uruguay. Organizer. **2016**.
<https://geometryandgroupsinmontevideo.wordpress.com/>.
- CIMPA School **Hyperbolic groups and representations**, March 31st to April 8th, Piriápolis. **2016**. Organizer and scientific responsible.
<https://cimpapiriapolisuy.wordpress.com/>

Supervision

PhD thesis supervision

- **Jaques Audibert**, *Arithmetic constructions of thin representations in higher rank Teichmüller spaces*, defended on **June 28th 2023**. Referees : Yves Benoist (Université Paris Saclay) and Ursula Hamenstädt (Bonn Universität).
- **León Carvajales**, *Quantitative aspects of Anosov groups acting on symmetric spaces*, co-direction with Rafael Potrie, defended on **July 10th 2021**. Referees : Françoise Da'lbo (Université Rennes 1) and Amir Mohammadi (University of California, San Diego).
- **Joaquín Lejtregger**, ongoing, beginning of PhD in Septembre 2022.
- **Barthélémy Doba**, ongoing, beginning of PhD in October 2024.

Supervision of Master's thesis

- **Roméo Troubat**, M2 dissertation, **2021**.
- **Jacques Audibert**, M2 dissertation, **2020**.
- **Vanessa Mancini**, M1 dissertation. (TER) , **2018**.

Other supervisions

- **Xenia Flamm**, Thesis student at ETH Zürich, spent one semester at IMJ-PRG under my supervision financed by ETH, **2023**.
- **Aya Bayna**, introductory research internship of 4 hours a week for 15 weeks, L2 student at Université PSL. **2022**.

Service

- Member of **selection committee** for a Maître de Conference position at Université Lille 1, **2023**.
- Member of **selection committee** for a Maître de Conference position at Université Aix-Marseille, **2023**.
- Twice **Referee** for Amibizione scholarship of the 'Swiss National Science Foundation'.
- Member of **PhD thesis jury** of Nguyen-Thi DANG at Université de Rennes 1, **2019**.
- **FSMP ambassador** in Uruguay, since **2017** to date.

Activities related to everyday life at the department

- **Project Responsable** of the research team *Analyse Complexe et Géométrie* (ACG) at Sorbonne Université, **2020-25**.
- **Co-organizer** of the *Géométrie et Topologie* seminar at l'IMJ-PRG, since **2019**.
- **Co-organizer of working seminar** *Groupes Fins* in **2022-23**.
- **Co-organizer of working seminar** *Groupes Arithmétiques* in **2018-19**.

Projects

- Member of ANR project Dynamics and Geometric structures (DynGeo), 2016 – 2022.
- Laureate of *Projet Exploratoire Premier Soutien* (PEPS) in 2016.

Mini-courses at international conferences or research schools

- *Dynamical systems associated to Anosov representations : some geometric consequences*, 2h, **IHES**, Bures-sur-Yvette. **2023**.
- *Dominated splittings, thermodynamical formalism and (higher rank) geometric structures*, 6h, **Uniwersytet Jagielloński**, Cracovie. **2023**.
- *Dominated splittings and discrete subgroups of (semi-simple) Lie groups*, 3h, V Escola Brasileira de Sistemas Dinâmicos, **Universidade Federal de Minas Gerais**, Belo Horizonte. **2019**.
- *Anosov representations : some general aspects*, 4h, GEAR Junior Retreat, **University of Stanford**, Stanford. **2017**.
- *Introducción al trabajo de Maryam Mirzakhani*, 6to coloquio Uruguayo de Matematica, 3h, **Universidad de la República Oriental del Uruguay**, Montevideo. **2017**.
- *Geometry and dynamics*, 2h, Summer School on Arithmetic and Dynamics, **Universidad de los Andes**, Bogotá. **2017**.
- *Introduction to hyperbolic geometry of surfaces*, 4h, BB Summer school on dynamical systems, **Matej Bel University**, Banská Bystrica. **2017**.
- *Anosov representations : The thermodynamical viewpoint*, 2h, **Université de Strasbourg**, Strasbourg. **2015**.
- *Asymptotic properties of negative curvature*. CIMPA school, **Universidad de Santiago de Chile**, Santiago de Chile. **2014**.
- QGM Masterclass : Pressure and Weil-Petersson metrics. **Centre for Quantum Geometry of Moduli Spaces**, Aarhus. Duration d'une semaine partagée avec M. Bridgeman et R. Canary. **2013**.

Lectures at international conferences

- 20 years of Anosov representations, **Leipzig**. 2024.
- 60th Sophis Lie seminar, **Paderborn**. 2024.
- Moving to higher rank : from hyperbolic to Anosov. A conference in honnor of Dick Canary, Cetraro, 2024.
- Higgs bundles, character varieties and higher Teichmüller spaces, **Madrid**. 2023.
- Marc Burger's prime, **Zurich**. 2022.
- Miniworkshop (Anosov)³, **Oberwolfach**. 2021.
- VII Conferencia de Matemáticos Ecuatorianos en Paris, **Paris**. 2021.
- VI Congreso Latinoamericano de Matemáticos, **Montevideo**. 2021.
- Differentialgeometrie im Großen, **Oberwolfach**. 2021.
- 7° Coloquio Uruguayo de Matemática, **Montevideo**. 2019.
- Riemann Surfaces and Teichmüller Theory, **Saint Petersburg**. 2019.
- Perspectives on convex projective geometry, **Sète**. 2019.
- Dynamics of group actions - A conference in honor of Yves Benoist, **Cetraro**. 2019.
- Workshop on geometry of Teichmüller space, **Toronto**. 2018.
- Geometric Structures and Representation Varieties, **Heidelberg**. 2018.
- Workshop on groups, geometry and dynamics, **Montevideo**. 2018.
- Dynamics on representation varieties, **Rennes**. 2017.
- Moduli spaces and applications in Geometry, Topology, Analysis and Mathematical Physics, **Pékin**. 2017.

- Workshop on Moduli spaces of geometric structures, **Singapour**. 2016.
- Geometric group theory and low dimensional topology, **Trieste**. 2016.
- French-Japanese workshop on Teichmüller theory and mapping class groups, **Strasbourg**. 2015.
- Dynamics on Moduli spaces, **Berkeley**. 2015.
- Teichmüller Theory and surfaces in 3-manifolds, **Pisa**. 2014.
- Journées Nancéiennes de géométrie, **Nancy**. 2013.
- Workshop on Hyperbolic geometry, geometric structures and bounded cohomology, **Séoul**. 2012.
- Midwest Dynamical Systems seminar, **Notre Dame**. 2012.
- The 8th Hamilton Geometry and Topology workshop, **Dublin**. 2012.
- GEAR Retreat, **Urbana-Champaign**. 2012.
- Dynamics of the Weil-Petersson geodesic flow, **Palo Alto**. 2012.
- Surface groups in Paris, **Paris**. 2012.
- 3er Coloquio Uruguayo de Matemática, **Montevideo**. 2011.
- GDR Platon Paroles aux jeunes géomètres, **Paris**. 2011

Mini-courses at short visits

- *Espacios simétricos de volumen finito : el caso de álgebras de cuaterniones.*, 4h30, **Universidad de la República Oriental del Uruguay**, Montevideo. 2023.
- *Introducción a los espacios simétricos*, 12h, **Universidad de la República Oriental del Uruguay**, 2017.
- *Thermodynamical formalism and geometry of surfaces*, 8h, **Universidade Federal Fluminense**, Niteroi. 2015.
- *Formalismo termodinámico y geometría de superficies*, 3h, **Universidad de la República Oriental del Uruguay**, Montevideo. 2014.

Teaching

- *Sous-groupes discrets des groupes de Lie*, cours M2 à Sorbonne Université, 2024.
- *Introduction aux espaces symétriques*, cours M2 à Sorbonne Université, 2024.
- *Introduction aux espaces symétriques*, cours M2 à Sorbonne Université, 2021.
- *Introduction aux espaces symétriques*, cours M2 à Sorbonne Université, 2020.
- Chargé des TD de *Géométrie hyperbolique*, cours M2 par E. Falbel. 2016.
- Chargé des TD de *Géométrie hyperbolique*, niveau Master 2 par E. Falbel. 2015.
- Chargé de deux cours de première année de Licence à l'University of Chicago. 2013
- Cours *Géométrie hyperbolique et déformation* de niveau Master 2 à l'Universidad de la República, Montevideo. Durée de 45h partagées en parties égales entre moi, J. Alonso et M. Carrasco. 2013.
- Moniteur à l'Université Paris Sud. 2011-2013.
- Moniteur à l'Université Paris XIII. 2010-2011.
- Professeur Auxiliaire du Centro de Matemática, Universidad de la República, Montevideo. 2005-2007.