Julio Sampietro Christ

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Research Interests

Symplectic topology, in particular Lagrangian Floer theory, equivariant Floer homology and symplectic reduction; algebraic topology; geometry.

Employment

2026–present **Instituto de Matemáticas, UNAM, Unidad Cuernavaca**, Mexico
Postdoctoral position, Simons Geometry Program

Education

2022–2026 **Ph.D. in Mathematics**, Université Paris-Saclay, France
Thesis: *Floer homology and symplectic reduction*
Advisor: Claude Viterbo

2021–2022 **M2 Analyse, Arithmétique, Géométrie**, Université Paris-Saclay, France
Second year of Master's program in pure mathematics
Master's thesis: *Floer homology and symplectic reduction*. Supervisor: Claude Viterbo

Fall 2019 **University of California, Berkeley**, United States
Study-abroad semester (Santander Study Abroad Scholarship)

2016–2020 **B.Sc. in Mathematics**, Facultad de Ciencias, Universidad Nacional Autónoma de México (UNAM)
GPA 10.00/10.00, best academic performance of the graduating class (Gabino Barreda Medal)
Thesis: *Conley Index*. Advisor: Dr. Ernesto Rosales González. Honorary distinction from the jury

Publications and Preprints

Research articles

2025 (with Dylan Cant) **Equivariant Lagrangian displacements**.
Quantum Topology. Published version · arXiv:2510.20756

2025 **Equivariant Floer homology is isomorphic to reduced Floer homology**.
To appear in *Journal of Symplectic Geometry*. arXiv:2505.02647

Expository articles

2024 (with Carlos Segovia) **The exotic world of Milnor's spheres**.
Revista Colombiana de Matemáticas 57 (1), 37–85. Journal page · PDF

Talks

Research talks

Apr 2026 *Localisation en théorie de Floer lagrangienne*
Séminaire de topologie, géométrie et algèbre, Nantes

Nov 2025 — *Equivariant Lagrangian non-displacements*
Symplectic Zoominar (online)

Oct 2025 — *A Cartan isomorphism for equivariant Lagrangian Floer theory*
Symplectix Seminar, Paris

May 2025 — *Equivariant Lagrangian Floer homology and the Cartan isomorphism*
Seminar Symplektische Geometrie, Humboldt-Universität zu Berlin

May 2024 — *A Cartan isomorphism for Lagrangian Floer homology*
Topology and Dynamics Team Seminar, Orsay · slides

Expository talks, workshops and student seminars

Nov 2026 — *Surfaces, triangles et champs de vecteurs*
Club Math, Université de Montréal · notes

Mar 2026 — *Kuranishi spaces, CF-perturbations and virtual fundamental chains*
Second European Kylerec

Mar 2026 — *What is… Lagrangian Floer homology?*
Graduate Colloquium, ETH Zürich

Mar 2025 — *Fukaya's approach, part I*
First European Kylerec

May 2024 — *Proof of the main theorem, part 2*
Floer Homotopy Theory Spring School

May 2024 — *Equivariant Lagrangian Floer homology*
COSY Student Seminar, Orsay

Jan 2024 — *An overview of Hamiltonian Floer homology*
COSY Student Seminar, Orsay

Feb 2023 — *Maslov and Conley–Zehnder indices*
Workshop on Pseudoholomorphic Curves in Hamiltonian Dynamics

Jul 2021 — Poster: *Homotopy theory of digraphs: a categorical viewpoint*
Mathematical Congress of the Americas (MCA 2021) · abstract · video

Jun 2021 — *Reachability in Petri nets*
Petri nets reading seminar, Seminario de Categorías, UNAM

Feb 2021 — *Exotic spheres: the Hirzebruch signature theorem*
VI Escuela de Invierno de Oaxaca, UNAM, Mexico

Teaching

Université Paris-Saclay — Teaching Assistant

Spring 2026 — Real Analysis I; Linear Algebra (two groups)

Fall 2025 — Analysis for Physicists; Algebra for Physicists; Math 101 (for biology and chemistry students)

Spring 2025 — Linear Algebra (two groups)

Spring 2024 — Linear Algebra (two groups)

Spring 2023 — Integral Calculus; Linear Algebra

Universidad Nacional Autónoma de México — Teaching Assistant

Spring 2021 — Integral and Differential Calculus IV; Linear Algebra II

Fall 2020	Integral and Differential Calculus III; Analytic Geometry II
Summer 2020	Linear Algebra I
Spring 2020	Ordinary Differential Equations I; Graph Theory
	Also: contributions to course notes; co-writer of an undergraduate project on graph homology

Outreach

2018, 2020	**CCH Sur**, Mexico City (summers) Volunteer two-month course for high-school students preparing to enter the Faculty of Sciences, UNAM

Other Academic Activities

Jan 2021	Workshop on Characteristic Classes and Exotic Spheres, VI Escuela de Invierno de Oaxaca, UNAM, Mexico

Awards and Scholarships

	Gabino Barreda Medal, Facultad de Ciencias, UNAM: best GPA of the graduating class
Fall 2019	**Santander Study Abroad Scholarship** (UC Berkeley)
2019–2021	**Scholarship holder**, Instituto de Matemáticas, UNAM (Spring 2019, Fall 2020, Spring 2021)

Languages

Spanish	Native
French	Fluent (French Baccalauréat, Lycée Franco-Mexicain)
English	Fluent, C2 (IELTS 8.5/9)
Portuguese	Intermediate