

Eduardo Reyes

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Employment

- 08/2024 - present Gibbs Assistant Professor at Yale University.
- 08/2023 - 07/2024 Postdoctoral Fellow at the Max Planck Max Planck Institute for Mathematics at Bonn.

Education

- 08/2018 - 05/2023 *PhD in Mathematics*, University of California Berkeley.
Advisor: Ian Agol.
- 03/2017 - 07/2018 *MSc in Mathematics*, Pontifical Catholic University of Chile (PUC).
Advisor: Jairo Bochi.
- 03/2013 - 12/2016 *BSc in Mathematics*, Pontifical Catholic University of Chile (PUC).

Scientific Work

9. *Approximating hyperbolic lattices by cubulations* (with Nic Brody). Preprint (2024), arXiv:2404.01511. Submitted.
8. *Rigidity phenomena and the statistical properties of group actions on $CAT(0)$ cube complexes* (with Stephen Cantrell). Preprint (2023), arXiv:2310.10595. Submitted.
7. *Marked length spectrum rigidity from rigidity on subsets* (with Stephen Cantrell). Preprint (2023), arXiv:2304.13209. Submitted.
6. *Manhattan geodesics and the boundary of the space of metric structures on hyperbolic groups* (with Stephen Cantrell). To appear in *Commentarii Mathematici Helvetici*, arXiv:2210.07136.
5. *On cubulated relatively hyperbolic groups*. *Geometry & Topology*, **27**, 575-640 (2023).
4. *The space of metric structures on hyperbolic groups*. *Journal of the London Mathematical Society*, **107**, 914-942 (2023).
3. *A new inequality about matrix products and a Berger-Wang formula*. *Journal de l'École polytechnique - Mathématiques*, **7**, 185-200 (2020).
2. *The avalanche principle and negative curvature*. *Mathematische Zeitschrift*, **294**, 1397-1412 (2020).
1. *Properties of sets of isometries of Gromov hyperbolic spaces*. *Groups, Geometry, and Dynamics*, **12**(3), 889-910 (2018).

Invited Talks

- Jun 5 2024 Randomness and Geometry Seminar (Thematic Program on Randomness and Geometry at Fields Institute), *Approximating hyperbolic lattices by cubulations.*
- Jun 4 2024 Randomness and Geometry Seminar (Thematic Program on Randomness and Geometry at Fields Institute), *Marked length spectrum rigidity on hyperbolic groups.*
- May 24 2024 Lille Geometry and Dynamics Seminar, *Comparing length functions for actions on $CAT(0)$ cube complexes.*
- Apr 30 2024 KIT Topology and Geometric Group Theory Seminar, *Approximating hyperbolic lattices by cubulations.*
- Apr 19 2024 GTA, Gran Bilbao V, *Cubulable relatively hyperbolic groups and virtual specialness.*
- Mar 15 2024 GGSE, Warwick, *Approximating hyperbolic lattices by cubulations.*
- Jan 23 2024 Vienna Geometry and Analysis on Groups Seminar, *Comparing group actions on $CAT(0)$ cube complexes.*
- Feb 28 2024 Warwick Ergodic Theory and Dynamical Systems Seminar, *Comparing length functions for actions on $CAT(0)$ cube complexes.*
- Jan 23 2024 Vienna Geometry and Analysis on Groups Seminar, *Comparing group actions on $CAT(0)$ cube complexes.*
- Jan 10 2024 Topologías en Santiago, *Topología profinita en grupos infinitos.*
- Dec 19 2023 Dynamical Systems Session, XCI Meeting of SOMACHI, *Comparación estadística de acciones en complejos cúbicos $CAT(0)$.*
- Dec 5 2023 MPI MiS Geometry Seminar, *Approximating hyperbolic lattices by cubulations.*
- Nov 17 2023 Cambridge Geometric Group Theory Seminar, *Approximating hyperbolic lattices by cubulations.*
- Oct 30 2023 Luxembourg Geometry & Topology Seminar, *Approximating hyperbolic lattices by cubulations.*
- Oct 26 2023 MPIM Oberseminar Differentialgeometrie, *Approximating hyperbolic lattices by cubulations.*
- Oct 18 2023 Bonn GGT Seminar, *Comparing group actions on $CAT(0)$ cube complexes.*
- Jul 7 2023 PUCV Dynamical Systems Seminar, *Geodesic currents and the space of metric structures on hyperbolic groups.*
- Jun 7 2023 UCH Colloquium, *Grupos, topología en dimensioned bajas, y curvature no positiva.*
- Jun 4 2023 GTiNY, New York, *The space of metric structures on hyperbolic groups.*
- May 1 2023 Chicago Dynamics Seminar, *Geodesic currents and the space of metric structures on hyperbolic groups.*
- Feb 9 2023 KIT Topology and Geometric Group Theory Seminar, *The space of metric structures on hyperbolic groups.*
- Feb 3 2023 UC Riverside Geometry-Topology Seminar, *The space of metric structures on hyperbolic groups.*
- Dec 1 2022 Princeton Topology Seminar, *The space of metric structures on hyperbolic groups.*
- Nov 17 2022 UC Davis Geometry/Topology Seminar, *The space of metric structures on hyperbolic groups.*
- Nov 6 2022 Workshop in Dynamical Systems and Related Topics, Penn State, *Continuity of Bowen-Margulis measures for hyperbolic groups.*
- Aug 22 2022 PUC Dynamical Day, *Continuity of Bowen-Margulis measures for hyperbolic groups.*
- Apr 8 2022 Special Session on Geometric Group Theory, JMM, Online, *Cubulated relatively hyperbolic groups.*

Jun 21-25 2021	GGTwB II, Online, Minicourse, <i>Cubulated groups and virtual specialness.</i>
May 13 2021	GGT Session, STDC, <i>Cubulated relatively hyperbolic groups and virtual specialness.</i>
Mar 24 2021	McGill GGT Seminar, <i>Cubulated relatively hyperbolic groups and virtual specialness.</i>
Feb 23 2021	Yale Geometry and Topology Seminar, <i>Cubulated relatively hyperbolic groups and virtual specialness.</i>

Selected Meetings Attended

28 May-8 June 2024	Thematic Program on Randomness and Geometry. Fields Institute, Toronto, Canada.
13-17 May 2024	Conference: Homology Growth in Topology and Group Theory. Bonn, Germany.
15-19 Apr 2024	Conference: GTA Gran Bilbao V. Bilbao, Spain.
8-12 Apr 2024	Conference: Young Geometric Group Theory XII. Bristol, UK.
18-22 Mar 2024	Conference: Topological and Homological Methods in Group Theory. Bielefeld, Germany.
15 Mar 2024	Meeting: Groups and Geometry in South England. Warwick, UK.
8-10 Jan 2024	Meeting: Topologías en Santiago. PUC, Chile.
18-21 Dec 2023	XCI Meeting of the Chilean Mathematical Society. UCH, Chile.
2-4 Jun 2023	Workshop: Geometric Topology in New York. Columbia University, US.
13-17 Feb 2023	Conference: Young Geometric Group Theory XI. Münster, Germany.
3-6 Nov 2022	Workshop in Dynamical Systems and Related Topics. Penn State, US.
5-9 Sep 2022	Workshop: Modern advances in geometric group theory. University of Manchester, UK.
6-9 Apr 2022	Joint Mathematics Meetings. Online.
25-27 Feb 2022	Texas Geometry and Topology Conference. UT Dallas, US.
21 Jun-2 Jul 2021	School: Geometric Group Theory without Boundaries. Online.
17-21 May 2021	SIAM Conference on Applied Linear Algebra. Online.
12-15 May 2021	Spring Topology and Dynamical Systems Conference. Online.
6-10 Jul 2020	Topology Students Workshop. Online.
24-28 Feb 2020	Workshop: Young Geometric Group Theory IX. Saint-Jacut-de-la-Mer, France.

Service

2021-present	Served as a referee for publication.
Fall 2021-Spring 2023	Coorganizer of the student 3-manifold seminar (with Chi Cheuk Tsang), UC Berkeley.
Dec 2017	Organizing committee for the First Conference of math graduate students of Chile (PostMat), UCH, USACH, and PUC.
2017-Spring 2018	Organizer of the graduate student seminar, PUC.

Activities related to Mathematical Olympiads

- 2016-2018 Instructor of the Chilean Team for International Math Olympiads (International, Cono Sur, and Iberoamerican).
- Oct 2017 Grader for the Chilean Math Olympiad.
- Sep 2017 Deputy Leader of the Chilean Team at the Iberoamerican Math Olympiad, Argentina.
- Aug 2017 Deputy Leader of the Chilean Team at the Cono Sur Math Olympiad, Ecuador.
- Oct 2016 Grader for the Chilean Mathematical Olympiad.
- Sep 2016 Grader for the Iberoamerican Mathematical Olympiad, Chile.

Activities related to Outreach

- Nov 2018 Volunteer for Julia Robinson Mathematics Festival (JRMF).
- Jul 2017 *Double Pendulum*. Stand at Math Festival, Vicuña.
- Jun 2017 *Mathematical Research Workshop*. Talk for Teachers at Explora Program, CONICYT, Santiago.
- Mar 2017 *Fractals: The beautiful representation of Chaos*. Exhibition Monitor for Oh! Santiago event, PUC.
- Mar 2016 *II Math Camp* (CaMat). Member of Academic Team, Santiago.

Teaching

Graduate Student Instructor (T.A.), UC Berkeley

- Spring 2023 Math 55, Discrete Mathematics.
- Spring 2022 Math 55, Discrete Mathematics.
- Fall 2021 Math 16A, Analytic Geometry and Calculus.
- Spring 2021 Math 55, Discrete Mathematics.
- Fall 2020 Math 1B, Calculus.
- Spring 2020 Math 55, Discrete Mathematics.
- Spring 2019 Math 1B, Calculus.
- Fall 2018 Math 1A, Calculus.

Tutoring, PUC

- 2017 - Spring 2018 Instructor of Mathematics Research Workshop (TIM). Course for Talented High School Students. Mathematics Department.
- 2017 Tutor of Mathematical Reasoning Program (PRM). Lectures given to High School Teachers of Primary Instruction Society (SIP). Mathematics Department.

T.A., PUC

- 2014-2017 T.A. for several courses in the Mathematics Department, including *Pre-Calculus*, *Calculus*, *Number Theory*, *Group and Ring Theory*, *Dynamical Systems*, *Real Analysis*, *Algebraic Geometry*, *Complex Variables*.