

Contact details

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Research interests

Geometric group theory, groups acting on cube complexes, hierarchically hyperbolic groups, mapping class groups of surfaces, braid groups, random walks on groups.

Positions

Sept 2021 - present Heilbronn Research Fellow, University of Bristol.
Postdoc position under mentorship of Mark Hagen.

Education

Aug 2015 - June 2021 Ph.D. in Mathematics, City University of New York Graduate Center.
Completed under advisor Jason Behrstock.

Oct 2010 - June 2015 MMath integrated BSc and Master's degree, University of Warwick.
First class honours degree in mathematics. One year was spent at the University of Göttingen. Master's advisor was Saul Schleimer.

Publications and preprints

- [1] Random quotients of hierarchically hyperbolic groups, with Carolyn Abbott, Thomas Ng, and Alexander Rasmussen. In preparation. When ready, it will be available at http://www.berlyne.net/assets/random_quotients.pdf/
- [2] Hierarchical hyperbolicity of graph products, with Jacob Russell. **Groups, Geometry, and Dynamics** 16, no. 2, pp. 523–580, 2022.
- [3] Graph of groups decompositions of graph braid groups. Preprint. [arXiv:2209.03860](https://arxiv.org/abs/2209.03860), 2022.
- [4] Hierarchical hyperbolicity of graph products and graph braid groups. Ph.D. thesis, City University of New York. **CUNY Academic Works**, 2021.
- [5] *Appendix to* Largest acylindrical actions and stability in hierarchically hyperbolic groups, with Jacob Russell. Primary article by Carolyn Abbott, Jason Behrstock, and Matthew G. Durham. **Transactions of the AMS**, Series B. Vol. 8, pp. 66–104, 2021.
- [6] Teichmüller's theorem and its applications. Master's thesis, University of Warwick. <http://www.berlyne.net/assets/master.pdf>, 2015.
- [7] Ideal Theory in Rings (Translation of “Idealtheorie in Ringbereichen” by Emmy Noether). Preprint. [arXiv:1401.2577](https://arxiv.org/abs/1401.2577), 2014.

Grants and awards

2022	Heilbronn Small Grants Scheme, Heilbronn Institute for Mathematical Research.
2020–2021	Dissertation Year Fellowship, CUNY Graduate Center.
2019–2020	Doctoral Student Research Grant, CUNY Graduate Center.
2018	University Fellowship, CUNY Graduate Center.
2017–2018	Doctoral Student Research Grant, CUNY Graduate Center.
2015–2020	Graduate Center Fellowship, CUNY Graduate Center.
2013	Undergraduate Research Scholarship Scheme, University of Warwick.

Teaching experience

Sep 2022 - present	Adjunct lecturer , University of Bristol. <i>Currently teaching “Topics in Modern Geometry”.</i>
Aug 2016 - Jun 2019	Adjunct professor , Hunter College. <i>Taught “Algebra for College Students” for one semester, “Matrix Algebra” for three semesters, and “Calculus II” for two semesters.</i>
Aug 2016 - Dec 2017	Teaching assistant , Baruch College. <i>Worked as a teaching assistant for the Master’s-level class “Probability and Stochastic Processes for Finance”.</i>

Service

Sep 2022 - present	Seminar organiser , University of Bristol. <i>Currently organising the Bristol Geometry & Topology seminar.</i>
Aug 2022	Conference organiser , University of Bristol. <i>Secured funding for and organised a workshop and conference on the topic “Quotients of Hierarchically Hyperbolic Groups”.</i> <i>Conference website: https://sites.google.com/view/hhgquotients/</i>
Aug 2019 - May 2020	Math Curriculum Fellow , Baruch College. <i>Developed a new mathematics curriculum for Baruch’s business school.</i>

Selected talks

May 2023	Newcastle University Algebra & Geometry Seminar.
Apr 2023	Cardiff University Geometry, Algebra, Mathematical Physics and Topology Seminar.
Oct 2022	University of Warwick Geometry and Topology Seminar.
Jun 2022	Hyperbolic Groups and Their Generalisations, conference at Institut Henri Poincaré, Paris.
May 2022	University of Bristol Mathematics Colloquium, Women in Mathematics Day.
Mar 2022	University of Michigan Complex Analysis, Dynamics & Geometry Seminar.

- Dec 2021 **Metric Graph Theory and Related Topics**, conference at Centre International de Rencontres Mathématiques (CIRM), Marseille.
- Aug 2021 **World of Groupcraft**, online conference.
- Jun 2021 **Geometric and Asymptotic Group Theory with Applications (GAGTA 14)**, conference at International Centre for Mathematical Sciences (ICMS), Edinburgh.
- Jan 2021 **The Ohio State University Geometric Group Theory Seminar.**
- Oct 2020 **AMS Fall Eastern Sectional Meeting Special Session: Geometry of groups and 3-manifolds.**
- Oct 2019 **University of Bristol Algebra and Geometry Seminar.**
- Jul 2019 **Young Geometric Group Theory VIII**, conference at University of the Basque Country.
- Jun 2019 **Graduate Student Conference in Algebra, Geometry, & Topology**, conference at Temple University.
- Jun 2018 **Graduate Student Conference in Algebra, Geometry, & Topology**, conference at Temple University.