Harrison Bray

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Dept. of Mathematical Sciences
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Positions

Aug 2022–present	**Assistant Professor**. *George Mason University*. Fairfax, VA.
Aug 2020–May 2022	**Term Assistant Professor**. *George Mason University*. Fairfax, VA.
Aug 2020–May 2022	**Director of Outreach for the Mason Experimental Geometry Lab**. *George Mason University*. Fairfax, VA.
Sep 2016–May 2020	**Visiting Assistant Professor**. *University of Michigan*. Ann Arbor, MI.
Sep 2019–May 2020	**Parekh Family Fellow**. *University of Michigan*. Ann Arbor, MI.
Sep 2016–Aug 2018	**Research Training Grant (RTG) Postdoctoral Fellow**. *University of Michigan*. Ann Arbor, MI.

Education

PhD, 2016	**Tufts University**. *Graduate School of the Arts and Sciences*. Medford, MA. Mathematics. **Advisor**: Boris Hasselblatt
MS, 2016	**Tufts University**. *Graduate School of the Arts and Sciences*. Medford, MA. Mathematics
BA, 2011	**Hamilton College**. *School of Arts and Sciences*. Clinton, NY. Major: Mathematics. Minor: Psychology

Research Interests

My research interests are in geometry, topology, and dynamical systems. More specifically, I am interested in geodesic flows, geometric structures on manifolds, convex projective structures, Hilbert geometries, Patterson-Sullivan theory, ergodic theory, thermodynamic formalism, symbolic dynamics, (nonuniformly) hyperbolic dynamical systems, and (rel) hyperbolic spaces and groups.

Grants and Awards

Jun. 2019	**LG&TBQ: a conference celebrating LGBTQ+ mathematicians in geometry, topology, and dynamical systems**. *National Science Foundation*. ($40,000)
Jun. 2019	**University of Michigan College of Literature, Science, and the Arts Mini-Grant**. *University of Michigan College of Literature, Science, and the Arts*. ($2,500)
Apr. 2019	**The Frederick Gehring Award for Postdoctoral Excellence**. *The University of Michigan Mathematics Department*.

2018 – 2022	**AMS Simons Research Travel Grant**. *American Mathematical Society*. ($4,000) Awarded to early career mathematicians with strong research potential.
Apr. 2016	**Outstanding Academic Scholarship Nominee**. *Tufts University Graduate School of Arts and Sciences*. (Finalist)
Oct. 2015	**Distinguished Teaching Prize**. *Tufts University Department of Mathematics*.
Apr. 2015	**The Robert P. Guertin Graduate Student Leadership Award**. *Tufts University Graduate School of Arts and Sciences*.
May – Dec. 2015	**Graduate Institute for Teaching Fellowship**. *Tufts University Graduate School of Arts and Sciences*.
Aug. 2016	**GEAR Graduate Intern Travel Grant**. *Geometric Structures and Representation Varieties (GEAR) Network*. ($3,100)
Jan. 2016	**AMS Graduate Student Travel Grant**. *American Science Foundation*.
2012 – 2014	**Tufts GSAS Conference Travel Grant**. *Tufts University Graduate School of Arts and Sciences*.

Mentoring and Advising

Fall 2022 – present	**Director**. *Mason Experimental Geometry Lab*.
Fall 2020 – Fall 2022	**Supervisor**. *George Mason Learning Assistant Program*.
Fall 2020 – Spring 2022	**Director of Outreach**. *Mason Experimental Geometry Lab*.
Summer 2020	**Advisor**. *University of Michigan Mathematics Department first year honors advising*.
Winter 2020	**Lab of Geometry at Michigan (LoGM) Project Mentor**. *Entropy degeneration of ideal projective pants*. Marianne DeBrito, Andrew Nguyen, Marisa O'Gara (undergraduates, University of Michigan).
Fall 2019	**Lab of Geometry at Michigan (LoGM) Project Mentor**. *Growth rates of tent maps*. Robert Buckley, Grace O'Brien, Zoe Zhou (undergraduates, University of Michigan).
Fall 2018	**Lab of Geometry at Michigan (LoGM) Project Mentor**. *3d printing nonstrictly convex projective structures*. Steven Schaefer, Rudra Ranganathan, Hanissa Shamsuddin (undergraduates, University of Michigan).
Summer 2017	**Michigan Summer REU Project Mentor**. *Random walks on the fundamental group of the once punctured torus*. Jennifer Jones-Baro (undergraduate, Centro de Investigacion en Matemáticas) and Adam Holeman (masters student, University of Montana).