Harrison Bray

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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*.

Selected Publications

2022   H Bray, R Canary, L-Y Kao, and G Martone. *Counting, equidistribution and entropy gaps at infinity with applications to cusped Hitchin representations*. (2022). **J. Reine Angew. Math. (Crelle's Journal)**. Vol 791: Jan-51.

2021   H Bray and D Constantine. *Entropy rigidity for finite volume strictly convex projective manifolds*. (2021). **Geometrie Dedicata**. Vol 214: 543-557.

2021   H Bray, D Davis, K Lindsey, and C Wu. *The Shape of Thurston's Master Teapot*. (2021). **Advances in Mathematics**. Vol 377: 107481.

2020   H Bray. *Ergodicity of Bowen-Margulis measure for the Benoist 3-manifolds*. (2020). **Journal of Modern Dynamics**. Vol 16: (0) 305-329.

2019   I Adeboye, H Bray, and D Constantine. *Entropy rigidity and Hilbert volume*. (2019). **Discrete Contin. Dyn. Syst. Ser. A**. Vol 39: (4) 1731-1744.