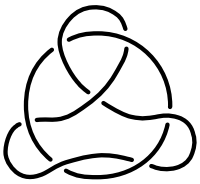

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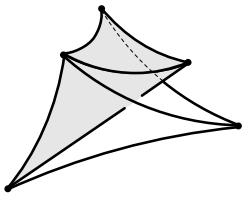

Professional History:

University of Illinois at Urbana-Champaign: Professor of Mathematics, 2018–present.

University of Illinois at Urbana-Champaign: Associate Professor of Mathematics, 2007–2018.

Caltech: Associate Professor of Mathematics, 2003–2007.

Harvard: Benjamin Peirce Assistant Professor of Mathematics, 1999–2003.

University of Chicago: Ph.D. in Mathematics, 1999.

Selected Grants, Awards, and Honors:

Fellow of the American Mathematical Society (inducted in 2013).

Simons Fellowship in Mathematics, Fall 2013 and Spring 2021.

Alfred P. Sloan Fellow, 2004–2008.

Currently sole PI on NSF grant DMS-2303572, $400,000, 2023–2026.

Career grant total: $2.2 million ($1.9 million from NSF; $300k from foundations).

LAS Dean's Award for Excellence in Undergraduate Teaching, University of Illinois, 2014.

Faculty Teaching Award from the Associated Students of Caltech, 2006.

Selected Publications:

Available on web page listed above, and at arXiv.org.

Cyclic surgery, degrees of maps of character curves, and volume rigidity for hyperbolic manifolds.
Invent. Math. **136** (1999), 623–657.

(with Danny Calegari) Laminations and groups of homeomorphisms of the circle.
Invent. Math. **152** (2003) 149–207.

(with Frank Calegari) Automorphic forms and rational homology 3-spheres.
Geom. Topol. **10** (2006) 295–329.

(with William Thurston) Finite covers of random 3-manifolds.
Invent. Math. **166** (2006) 457–521.

(with Dylan Thurston) A random tunnel number one 3-manifold does not fiber over the circle.
Geom. Topol. **10** (2006) 2431–2499.

(with Anil Hirani) The Least Spanning Area of a Knot and the Optimal Bounding Chain Problem.
Proceedings of the 27th ACM Symposium on Computational Geometry, SoCG 2011, 135–144.

(with Jeffrey Brock) Injectivity radii of hyperbolic integer homology 3-spheres.
Geom. Topol. **19** (2015), 497–523.

(with Jeffrey Brock) Norms on the cohomology of hyperbolic 3-manifolds.
Invent. Math. **210** (2017), 531–558.

(with Marc Culler) Orderability and Dehn filling.
Geom. Topol. **22** (2018), 1405–1457.

Floer homology, group orderability, and taut foliations of hyperbolic 3-manifolds.
Geom. Topol. **24** (2020), 2075–2125.

(with Stavros Garoufalidis and J. Hyam Rubinstein) Counting essential surfaces in 3-manifolds.
Invent. Math. **228** (2022), 717–775.

Teaching and Mentoring: I have taught more than 20 distinct courses ranging from a vector calculus class with 270 students to an advanced graduate class with only 5 students, and won teaching awards at both Illinois and Caltech. I have graduated nine PhD students; their first jobs include named postdocs at Harvard and Columbia. I have mentored numerous undergraduates in research projects and honors theses.