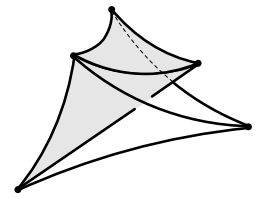


Nathan M. Dunfield

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Professional History:

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

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:

Simons Fellowship in Mathematics, Fall 2013.

Alfred P. Sloan Fellow, 2004–2008.

NSF grants #DMS-0707136 and #DMS-1105476, total of \$465,000, 2007–2014.

Invited address at the AMS Sectional meeting in Raleigh, NC, 2009.

Distinguished Teaching Award, Dept. of Mathematics, 2012.

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 of 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 Dinakar Ramakrishnan) Increasing the number of fibered faces of arithmetic hyperbolic 3-manifolds. *Amer. J. Math.* **132** (2010) 53–97.

(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 Stavros Garoufalidis) Incompressibility criteria for spun-normal surfaces.

Trans. Amer. Math. Soc. (To appear) 28 pages.

Teaching and Mentoring:

I have taught more than 20 distinct courses ranging from a vector calculus class with 270 students to an advanced graduate topics class with only 5 students. My courses have been consistently well-received; for instance, I received teaching awards at both Caltech and Illinois. I am currently the PhD advisor for three graduate students, and my first two PhD students graduated in 2010 and 2011; one is now a BP at Harvard and the other is teaching at an elite magnet high school. I have mentored numerous undergraduates in summer research projects and honors theses.