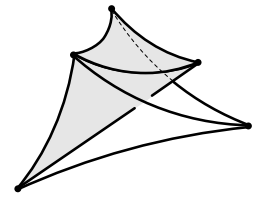


Nathan M. Dunfield

Dept. of Math., MC-382 · UIUC · Urbana, IL 61801
nathan@dunfield.info · <http://dunfield.info>
office: (217) 244-3892 · home: (217) 408-0015



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:

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

Simons Fellowship in Mathematics, Fall 2013.

Alfred P. Sloan Fellow, 2004–2008.

Sole PI on NSF grant DMS-1510204, \$387,000, 2015–2018.

Career grant total: \$1.4 million (\$1.25 million from NSF; \$175k 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 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 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. (to appear), 26 pages.

(with Marc Culler) Orderability and Dehn filling.

Geom. Topol. (to appear), 52 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 class with only 5 students, and won teaching awards at both Illinois and Caltech. I have graduated four PhD students; their first jobs include named postdocs at Harvard and Columbia. I have mentored numerous undergraduates in research projects and honors theses.