

Matthew Kahle

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Stanford, CA 94304 USA *Web:* www.math.stanford.edu/~mkahle
- RESEARCH INTERESTS I am broadly interested in interactions of probability and statistical physics with algebraic topology, geometry, and combinatorics.
- PROFESSIONAL EXPERIENCE Samelson postdoctoral fellow, Stanford University, 2007-2010
- EDUCATION University of Washington, Seattle, Washington USA
Ph.D., Mathematics, June 2007
- Dissertation: *Random simplicial complexes and phase transitions for homology*
 - Advisors: Eric Babson and Christopher Hoffman
- Colorado State University, Fort Collins, Colorado USA
M.S., Mathematics, May 2001
B.S. Mathematics, May 1999
- FELLOWSHIPS AND GRANTS NSA Young Investigator's Grant in probability, 2009–2011
Samelson Postdoctoral Fellowship, Stanford, 2007–2010
NSF Mathematical Sciences Postdoctoral Research Fellowship, 2007 (awarded)
NSF Vertical Integration of Research and Education Fellowship, 2001–2004, 2005–2006
ARCS Fellowship, 2001–2004
- PUBLICATIONS AND PREPRINTS
- Random geometric complexes (submitted, arXiv:0910.1649)
 - An application of disc packing to statistical mechanics (submitted, arXiv:0908.1830)
 - Points in a triangle forcing small triangles (*Geombinatorics* 18 (2009), no. 3, 114–128.)
 - The fundamental group of random 2-complexes (with Eric Babson and Chris Hoffman, submitted to *J. Amer. Math. Soc.*, 2008, arXiv:0711.2704)
 - Topology of random clique complexes (*Discrete Math.* 309 (2009), no. 6, 1658–1671.)
 - The neighborhood complex of a random graph (*J. Combin. Theory Ser. A* 114 (2007), no. 2, 380–387.)
 - Scatters, unavoidable shapes, and crystallization. (*Geombinatorics* 15 (2006), no. 3, 138–149.)
 - A generalization of the chromatic number of the plane. (*Geombinatorics* 10 (2000), no. 2, 69–74.)
- PAPERS IN PREPARATION
- The chromatic number of random graphs on spheres
 - Warmth and mobility of random graphs (with Sukhada Fadnavis)
 - Non-monotone hierarchical clustering via Morse Theory (with Gunnar Carlsson and Jackson Gorham)

