Kevin Wortman

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POSITIONS

· Associate Professor, University of Utah, 2012- .

· Assistant Professor, University of Utah, 2007- 2012.

· Gibbs Assistant Professor, Yale University, 2005-2007.

· H.C. Wang Assistant Professor, Cornell University, 2003-2005.

EDUCATION

· Ph.D. in Mathematics, University of Chicago, June 2003.
Thesis Advisor: Benson Farb.

· B.A. in Economics (with distinction), Sonoma State University, May 1998. Summa cum laude.

RESEARCH INTERESTS

· Arithmetic groups

· Geometric group theory

· Geometry of Euclidean buildings and symmetric spaces

AWARDS AND FELLOWSHIPS

· NSF grant DMS 1509182 (Topology, 2015-2018), $180,000.

· NSF grant DMS 1445705 (Topology, 2015), $34,000.

· NSF grant DMS 1405686 (PI with M. Bestvina, K. Bromberg, and J. Chaika) (Topology, 2014-2017), $36,765.

· NSF grant DMS 1206946 (Topology, 2012-2015), $185,000.

· NSF grant DMS 1104805 (Co-PI with M. Bestvina and K. Bromberg) (Topology, 2011-2014), $36,000.00.

· NSF grant DMS 0905891 (Topology, 2009-2012), $140,000.

· NSF grant DMS 0604885 (Topology, 2006-2009), $108,680.

· NSF Postdoctoral Fellowship, 2003 $108,000.

PH.D. THESES SUPERVISED

· Sarah Cobb, Ph.D. 2014. Univ. of Utah.

· Brendan Kelly, Ph.D. 2014. Univ. of Utah.

· Morgan Cesa, Ph.D. 2016. Univ. of Utah.

MASTERS THESES SUPERVISED

· Keith Anders, Masters 2010. Univ. of Utah.

UNDERGRADUATE THESES SUPERVISED

- Kyle Larson. Supervised REU and Senior Honors Thesis: A proof of the Birman exact sequence. Univ. of Utah. 2008-2009 academic year.

PROFESSIONAL ACTIVITIES

- Member of scientific committee for "Young Geometric Group Theory Meeting IV", Spa, Belgium, January 2015.
- Co-organizer of MSRI Summer Graduate School in Geometric Group Theory, June 2015.
- Co-organizer of MRC program on Geometric Group Theory, Snowbird, June 2013.
- REFUGEE instructor at Univ. of Utah, 2013-2015.
- NSF panelist.
- Course leader for PCMI Undergraduate Summer School Program "Introduction to arithmetic groups", July 2012.
- Member of scientific committee for "Young Geometric Group Theory Meeting", Bedlewo, Poland, January 2012.
- Organizer and lecturer of VIGRE-REU "Geometry through Lie Groups" at Univ. Utah, June-July 2011.
- Course coordinator for Math 1050, 2011-2016.
- Member of advisory board for AMS Mathematics Research Communities (MRC), 2010-2013.
- ACCESS instructor at Univ. of Utah, 2010-2015.
- Member of Univ. of Utah Teaching Committee, Fall 2008-Fall 2011.
- Faculty organizer of Univ. of Utah Teachers Math Circle, 2008-2010.

CONFERENCES CO-ORGANIZED

- Wasatch Topology Conference (semi-anual).
- AMS Special Session Coxeter groups, buildings, and lattices, Boca Raton, October 2009.
- AIM conference The Isoperimetric inequality of SL(n, Z), Palo Alto, September 2008.
- VIGRE Mini-Course on Coarse differentiation, Univ. of Utah, August 2008.
- Cornell Topology Festival, May 2004.

PAPERS

Published

1. An infinitely generated virtual cohomology group for noncocompact arithmetic groups over function fields. Groups Geom. Dyn. 10 (2016), 91-115.

2. Horospherical limit points of S-arithmetic groups (with D. Morris). New York J. Math. 20 (2014), 367-376.

3. Filling boundaries of coarse manifolds in semisimple and solvable arithmetic groups (with M. Bestvina and A. Eskin). J. Eur. Math. Soc. 15 (2013) 2165-2195.

4. Quasi-isometries of irreducible positive-rank arithmetic groups over function fields, 6 pages. (In appendix to "A Joining classification and a special case of Raghunathan's conjecture in positive characteristic." by M. Einsiedler & A. Mohammadi. J. D'Analyse Math. 116 (2012), 299-334.)

5. On presentations of integer polynomial points of simple groups over number fields (with A. Mohammadi). Geom. Dedicata. 164 (2011), 131-137.

6. Connectivity properties of horospheres in Euclidean buildings and applications to finiteness properties of discrete groups (with K.-U. Bux). Invent. Math. 185 (2011), 395-419.

7. Infinite generation of non-cocompact lattices on right-angled buildings (with A. Thomas). Algebr. Geom. Topol. 11 (2011), 929-938.

8. Exponential higher dimensional isoperimetric inequalities for some arithmetic groups. Geom. Dedicata. 151 (2011), 141-153.

9. Quasi-isometries of rank one S-arithmetic lattices. Groups Geom. Dyn. 5 (2011), 787-803.

10. $SL_n(Z[t])$ is not $FP_{(n-1)}$ (with K.-U. Bux & A. Mohammadi). Com- ment. Math. Helv. 85 (2010), 151-164.

11. On unipotent flows in H(1, 1) (with K. Calta). Ergodic Theory Dynam. Systems 30 (2010), 121-140.

12. A Finitely-presented solvable group with a small quasi-isometry group. Michigan Math. J. 55 (2007), 3-24.

13. Finiteness properties of arithmetic groups over function fields (with K.-U. Bux). Invent. Math. 167 (2007), 355-378.

14. Quasi-isometric rigidity of higher rank S-arithmetic lattices. Geom. Topol. 11 (2007), 995-1048.

15. A Geometric proof that $SL_2(Z[t, 1/t])$ is not finitely presented (with K.-U. Bux). Algebr. Geom. Topol. 6 (2006), 839-852.

16. Quasiflats with holes in reductive groups. Algebr. Geom. Topol. 6 (2006), 91-117.

Submitted for Publication

1. Semidualities from products of trees (with D. Studenmund).

TEXTS

- · A Streamlined course on the fundamentals of precalculus, 297 pages.
- · Advanced precalculus: trigonometry, conics, and the complex numbers, 397 pages.

COLLOQUIUM TALKS

- · University of Alabama, Birmingham, March 2013.
- · Bowdoin College, May 2011.
- · Tufts University, October 2009.
- · The Ohio State University, March, 2009.
- · University of Virginia, May 2008.

CONFERENCE TALKS

- · Introductory Workshop: Geometric Group Theory, MSRI, August 2016.
- · Geometric Group Theory and Topology, AMS Meeting, Univ. of Alabama in Huntsville, March 2015.
- · Arithmetic groups, Banff, Canada, April. 2013.
- · Cohomological methods in geometric group theory, Banff, Canada, Nov. 2012.
- · Geometric Group Theory, PCMI, July 2012.
- · Coarse Geometry of Infinite Groups, Univ. de Lille, France, June 2012.
- · Topology Students Workshop, Georgia Tech, June 2012.
- · Recent Progress in Geometric Group Theory, AMS Meeting, Cornell Univ., September 2011.
- · Workshop on Geometric Presentations of Finite and Infinite Groups, Univ. of Birmingham, England, July 2011.
- · Transformation Groups and Associated Geometric Structures, Univ. Bielefeld, Germany, June 2011.
- · Examples of Geometries, OSU, May 2011.
- · Special Session on Arithmetic, Groups and Geometry, AMS Meeting, Notre Dame Univ., November 2011.
- · Workshop on Geometric Group Theory, Goa, India, August 2010.
- · Non-positive Curvature and Geometric Structures in Group Theory, Oberwolfach, Germany April 2010.
- · Topics in Geometric Group Theory, AMS Meeting, UNM, April 2010.
- · Quasi-isometric Rigidity in Low-Dimensional Topology, Banff, Canada, March 2010
- · Geometric Group Theory, Bedlewo, Poland, June 2009.
- · International Conference on Geom. and Comb. Methods in Group Theory and Semigroup Theory, Lincoln, May 2009.

- Recent Progress in Geometric Group Theory, AMS Meeting, SFSU, April 2009.
- Geometric Group Theory, AMS Meeting, UIUC, March 2009.
- Spring Topology and Dynamics, Gainesville, March 2009.
- Geometric Group Theory, AMS Meeting, LSU, March 2008.
- Buildings: Interactions with Algebra and Geometry, Oberwolfach, January 2008.
- Introduction to Geometric Group Theory, MSRI, August 2007.
- Totally Disconnected Groups, Graphs, and Geometry, Blaubeuren, Germany, May 2007.
- Geometry, Topology, and their Interactions, Morelia, Mexico, January 2007.
- Geometric Group Theory, AMS Meeting, New Orleans, January 2007.
- Wasatch Topology Conference, Park City, Utah, August 2006.
- Geometric Group Theory and Topology, AMS Meeting, Durham, New Hampshire, April 2006.
- Geometric Group Theory, AMS Meeting, Annandale-on-Hudson, New York, October 2005.
- Asymptotic and Probabilistic Methods in Geometric Group Theory, Geneva, Switzerland, June 2005.
- Arithmetic Groups and Related Topics, AMS Meeting, Newark, Delaware, April 2005.
- Symposium on Combinatorial and Geometric Group Theory, CMS Meeting, Montreal, December 2004.
- Wasatch Topology Conference, Salt Lake City, Utah, December 2004.
- Albany Group Theory Conference, October 2004.
- Geometric Group Theory, Bedlewo, Poland, April 2004.
- Albany Group Theory Conference, October 2003.
- Rigidity in Geometry and Dynamics, AMS Meeting, New York University, April 2003.

SEMINAR TALKS

- Glasgow, April 2014. Rice Univ., Nov. 2010. Univ. of Chicago, Apr. 2010. Princeton Univ., Mar. 2010. Univ. of Utah, Feb. 2007. Univ. of Chicago, Dec. 2005. Tufts Univ., Dec. 2005. Brandeis Univ., Dec. 2005. Ohio State Univ., Nov. 2005. Yale Univ., Oct. 2004. Univ. of Chicago, Apr. 2004. Univ. of Utah, Jan. 2004. Binghamton Univ., Nov. 2003. Cornell Univ., Mar. 2003. Univ. at Albany, Oct. 2001.