

March 25, 2009

## CURRICULUM VITÆ GREGORY R. CONNER

Department of Mathematics  
Brigham Young University  
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### EDUCATION

University of Utah, Ph.D., 1989–1992,  
Dissertation Title: Metrics on Groups, Advisor: S.M. Gersten.  
University of Utah, M.S., 1987–1989  
Humboldt State University, B.A., 1983–1987

### RESEARCH INTERESTS

Geometric Topology, Algebraic Topology, Geometric Group Theory, Combinatorial Group Theory,  
Computational Group Theory, Algebra, Combinatorics, Tournament Ranking

2000 Mathematics Subject Classifications:  
57M05, 57M07, 57M60, 55Q05, 55Q07, 55Q52, 20F65, 20E05, 20E08, 20E18, 20F34, 05C25, 62F07, 65P15, 05C20, 97D60, 97C40

### PROFESSIONAL EXPERIENCE

Director of Graduate Studies, Brigham Young University Mathematics Department, 2006–  
Technology Coordinator, Brigham Young University Mathematics Department, 1998–  
Associate Professor with Continuing Status, Brigham Young University Mathematics Department, 2000–  
Assistant Professor, Brigham Young University Mathematics Department, 1992–2000  
Teaching Fellow, University of Utah Mathematics Department, 1989–1992  
Teaching Assistant, University of Utah Mathematics Department, 1987–1989

### RECENT AWARDS

1. (2007–2008) Fulbright Scholar to Slovenia, awarded by the US Department of State, Council for the International Exchange of Scholars and the Fulbright Foreign Scholarship Board.
2. (2007–2008) Awarded Ad Futura grant by the Ad Futura Foundation in Slovenia.

## PREPRINTS, PAPERS SUBMITTED, PAPERS TO APPEAR, AND REFEREED PUBLICATIONS

### Preprints

1. G. R. Conner and M. H. Meilstrup, Reduced forms for one-dimensional Peano continua, preprint.

### To appear/in press

2. G. R. Conner, C. P. Grant, B. Z. Webb, Resistance and Conductance in Structured Zermelo Tournaments, to appear *Advances in Applied Mathematics*.
3. G. R. Conner and C. P. Grant, Neighborhood monotonicity, the extended Zermelo model and symmetric knockout tournaments, to appear *Discrete Mathematics*.

### Published

4. G. Conner, M. Meilstrup, D. Repovš, A. Zastrow, M. Željko, On Small Homotopies of Loops, *Topology and its Applications* Volume 155, Issue 10 (2008) 1089—1097.
5. J. W. Cannon and G. R. Conner, The homotopy dimension of codiscrete subsets of the 2-sphere  $S^2$ , *Fundamenta Mathematicae*, 197 (2007), 35–66
6. V. A. Newby, G. R. Conner, C. P. Grant and C. V. Bunderson, The Rasch Model & Additive Conjoint Measurement, *Advances in Rasch Measurement*, Volume One, JAM Press (August 2006).
7. G. R. Conner, M. Mihalik, S. Tschantz, Homotopy of Ends and Boundaries of CAT(0) Groups, *Geometriae Dedicata*, Volume 120, Number 1, June 2006, 1–17.
8. J. W. Cannon and G. R. Conner, On the fundamental groups of one-dimensional spaces, *Topology and its Applications*, Volume 153, Issue 14, (2006), 2648–2672.
9. G. R. Conner, J. Lamoreaux, On the existence of universal covering spaces for metric spaces and subsets of the Euclidean plane, *Fundamenta Mathematicae*, 187 (2005), 95–110.
10. G. R. Conner and K. Eda, Fundamental groups having the whole information of spaces, *Topology and its Applications* 146/147 (2005), 317–328.
11. G. R. Conner and K. Taylor, Anomalous Behaviors of the Hawaiian Earring Group, *J. Group Theory* 8 (2005), no. 2, 223–227
12. L. F. Bakker and G. R. Conner, Group Invariants of Flows, *Communications on Pure and Applied Analysis*, June 2004, vol 3, no. 2, 183–195
13. G. R. Conner, Hanspeter Fischer, The fundamental group of a visual boundary versus the fundamental group at infinity, *Topology and its Applications* 129 (2003), no. 1, 73–78
14. G. R. Conner and K. Eda, Free subgroups of complete free products, *Journal of Algebra* 250 (2002), no. 2, 696–708.

15. J. W. Cannon, G. R. Conner and A. Zastrow, One-dimensional sets and planar sets are aspherical. In memory of T. Benny Rushing. *Topology and its Applications*, 120 (2002), no. 1-2, 23–45.
16. J. W. Cannon, G. R. Conner and A. Zastrow, One-dimensional sets and planar sets are aspherical. In memory of T. Benny Rushing. *Topology and its Applications*, 120 (2002), no. 1-2, 23–45.
17. Gregory Conner, Michael Lundquist, A Geometric Interpretation of Cramer’s Rule, pages 107–108 in *Linear Algebra Gems: Assets for Undergraduate Mathematics, Notes Series Vol. 59*, Eds: David C. Lay, Charles R. Johnson, A. Duane Porter by Mathematical Association of America (2002)
18. G. R. Conner and C. P. Grant, An extension of Zermelo’s model for ranking by paired comparisons, *European Journal of Applied Mathematics*, (2000) vol. 11, pp. 225-247.
19. G. R. Conner, Translation numbers of groups acting geometrically on quasiconvex spaces, *Computational and Geometric Aspects of Modern Algebra*, vol. 275 in the London Mathematical Society Lecture Notes Series, Cambridge University Press, 28-38,(2000).
20. J. W. Cannon and G. R. Conner, The big fundamental group, big Hawaiian earrings, and the big free groups, *Topology and its Applications*. 106 (2000) 273-291.
21. J. W. Cannon and G. R. Conner, The combinatorial structure of the Hawaiian earring group, *Topology and its Applications*. 106 (2000) 225-271.
22. G. R. Conner, Properties of translation numbers in solvable groups, *Journal of Group Theory* **3** (2000), 77-94.
23. G. R. Conner, Properties of translation numbers in nilpotent groups, *Communications in Algebra*, 26(4), 1069–1080 (1998).
24. G. R. Conner, A class of finitely generated groups with irrational translation numbers, *Arch. Math.* 69 (1997), 265-274.
25. G. R. Conner and C. P. Grant, Asymptotics of blowup for a convection-diffusion equation with conservation, *Differential and Integral Equations*, **9** (4) (1996), 719–728.
26. G. R. Conner, Central extensions of word hyperbolic groups satisfy a quadratic isoperimetric inequality, *Arch. Math.* **65** (1995), 465–470.
27. G. R. Conner, Isoperimetric functions for central extensions, *Geometric Group Theory*, Eds.: Charney/Davis/Shapiro by Walter de Gruyter & Co., 73–77, (1995).

## RECENT TALKS GIVEN

In addition to regularly giving talks in the BYU mathematics department topology seminar, I give several talks per year at outside venues.

1. Some recent work and open problems in wild low-dimensional topology, Mathematics colloquium, Brigham Young University, March 2009
2. Some recent work and open problems in wild low-dimensional topology, Topology seminar, Vanderbilt University Mathematics department, May 2008

3. Fundamental groups of locally complicated spaces – Part 2, Topology seminar, University of Tennessee, Knoxville, April 2008
4. A gentle introduction to fundamental groups of locally complicated spaces, Mathematics colloquium, University of Tennessee, Knoxville, April 2008
5. Some recent work and open problems in wild low-dimensional topology, Algebra Seminar, Technical University of Vienna, Austria, March 2008
6. Some recent work and open problems in wild low-dimensional topology, Topology Seminar, Universitat Autònoma de Barcelona, Spain, March 2008
7. A history of some unexpected examples in low dimensional topology, General public / College Colloquium (College of Mathematics, Physics and Computer Science), University of Ljubljana, February 2008
8. Shape theory and wild homotopy groups in low-dimensional topology, Zagreb Topology Seminar, University of Zagreb, February 2008
9. Applications of the notion of shape to fundamental groups, Geometric Topology Seminar, University of Ljubljana, January 2008
10. Constructions and open questions on wild fundamental groups of low-dimensional spaces, Semiannual Ljubljana-Zagreb Topology Seminar, University of Ljubljana, Ljubljana Slovenia, December 2007.
11. Some remarks on infinite braid groups, Dubrovnik VI Geometric Topology Conference, Dubrovnik Croatia, October 2007.
12. Fundamental groups of complicated low-dimensional spaces, Seminar, University of Siena, Siena Italy, October 2007.
13. Fundamental groups of complicated low-dimensional spaces, Topology Seminar, University of Toulouse, Toulouse France, October 2007.
14. Wild Braid Groups and Mapping Class Groups, Dubrovnik Satellite Conference, University of Ljubljana, Ljubljana Slovenia, September 2007.
15. Some results relating low-dimensional wild homology and homotopy groups, Geometric Topology Seminar, University of Ljubljana, Ljubljana Slovenia, March 2007.
16. Some recent work and open problems in wild low-dimensional topology, Oregon State University, Topology Seminar, June 6, 2006 .
17. Some Open problems in wild low-dimensional topology, Workshop in Geometric Topology, Oregon State University, June 4, 2006
18. Some recent work and open problems in wild low-dimensional topology, University of California at Santa Barbara Topology Seminar, April 21 2006
19. Some recent work and open problems in wild low-dimensional topology, University of California at Los Angeles Topology Seminar, April 19 2006
20. Homotopy invariants of low-dimensional spaces, University of Gdansk Mathematics Department Colloquium, July 11, 2005, Gdansk Poland.
21. Homotopy invariants in low-dimensional spaces, International Conference and Workshops on Geometric Topology– The Borsuk Centennial Conference, Plenary Talk, July

- 8, 2005, The Mathematical Research and Conference Center, Bedlewo, Poland.
22. Homotopy invariants of one-dimensional spaces, University of Ljubljana Mathematics Department Colloquium, June 23 2005, Ljubljana Slovenia.
  23. Homotopy invariants of low dimensional spaces, Spring Topology Conference, Berry College, March 18 2005, Mount Berry, Georgia, USA.

## CONFERENCES ORGANIZED

1. *2009 Moab Topology Conference*– In cooperation with the BYU Mathematics department 2009 Year in Topology Jim Cannon, Jessica Purcell and I have started a new conference series which we plan to run annually. The 2009 conference will take place May 13–15 in Moab Utah.
2. *1994-2008 Wasatch Topology Conference* – Over the last 12 years M. Bestvina, I and others (such as Misha Kapovich and recently Ken Bromberg and Kevin Wortman) have organized 25 meetings of the Wasatch Topology Conference.
3. Co-organized the geometric topology special session of the *2007 Spring Topology Conference*, University of Missouri, Rolla, Rolla Missouri, April 2007.
4. *March 1999, 1999 Spring Topology Conference – Salt Lake City*, with M. Bestvina, M. Kapovich, and B. Kleiner (University of Utah) coorganizers.

The Spring Topology Conference, one of the major topology conferences, is held each year at a different venue. We received a National Science Foundation grant to organize the 1999 meeting.

The Wasatch Topology Conference is held twice a year in Park City, Utah. The conference is funded by the National Science Foundation, the University of Utah and Brigham Young University. World-class topologists speak at each at meeting and researchers from all over the US and overseas attend.