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Curriculum Vitae

Jon M. Corson

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E d u c a t i o n

Ph.D., The University of Michigan, Ann Arbor, Michigan, 1990.

B.S., University of Wisconsin-Parkside, Kenosha, Wisconsin (Magna Cum Laude), 1984.

A c a d e m i c p o s i t i o n s

Professor, The University of Alabama, Department of Mathematics, 2008–present.

Associate Professor, The University of Alabama, Department of Mathematics, 1997–2008.

Assistant Professor, The University of Alabama, Department of Mathematics, 1990–1997.

Research Assistant, The University of Michigan, 1987–1990. Research supported variously by Rackham Graduate School, Department of Mathematics, and National Science Foundation.

P e r s o n a l i n f o r m a t i o n

Family life: Married with 2 children.

Church: Member of First Presbyterian Church for over 20 years.

Recreational interests: Racquet sports, cross country running, and yoga.

Recent tennis titles: 2007 Crimson Tide Summer Championships, Men's A Singles Champion. 2007 Hoover Classic, Men's Doubles Champions (with Steve Conklan). 2007 North River Yacht Club, Parent-Child Doubles Championships, Winners (with daughter, Lydia).

Publications

1. *Complexes of Groups*, Proceedings of the London Mathematical Society (3) **65** (1992), 199-224.
2. *Conformally non-spherical 2-complexes*, Mathematische Zeitschrift **214** (1993), 511-519.
3. *Limits of covering spaces and residual properties of groups*, Glasgow Mathematical Journal **36** (1994), 277-282.
4. *The pricing of index options when the underlying assets each follow a lognormal diffusion* (with R. Brooks and J. Wales), Advances in Futures and Options Research, Volume 7 (1994), 65-85.
5. *Howie diagrams and complexes of groups*, Communications in Algebra (14) **23** (1995), 5221-5242.
6. *Groups acting on complexes and complexes of groups*, Geometric group theory (eds. Charney, Davis, Shapiro), Walter de Gruyter & Co., Berlin-New York 1995.
7. *The geometry and algebra of nonspherical 2-complexes* (with B. Trace), Journal of the London Mathematical Society (2) **54** (1996), 180-198.
8. *Amalgamated sums of groups*, Proceedings of the Edinburgh Mathematical Society **39** (1996), 561-570.
9. *The qsf property and group actions via complexes of spaces* (with B. Spieler), Mathematische Zeitschrift **228** (1998), 589-603.
10. *The 6-property for simplicial complexes and a Cartan-Hadamard Theorem for manifolds* (with B. Trace), Proceedings of the American Mathematical Society **126** (1998), 917-924.
11. *Dehn functions and complexes of groups* (with S. Brick), Glasgow Mathematical Journal **40** (1998), 33-46.
12. *Annular Dehn functions of finitely presented groups* (with S. Brick), Bulletin of the Australian Mathematical Society **58** (1998), 453-464.
13. *On Dehn functions of amalgamations and strongly undistorted subgroups* (with S. Brick), International Journal of Algebra and Computation **10** (2000), 665-681.
14. *Diagrammatically reducible complexes and Haken manifolds* (with B. Trace), Journal of the Australian Mathematical Society (Series A) **69** (2000), 116-126.
15. *On finite groups acting on contractible complexes of dimension two*, Geometriae Dedicata **87** (2001), 161-166.
16. *On profinite groups whose power subgroups are closed* (with T. Ratkovich), Communications in Algebra **30** (2002), 4189-4196.
17. *Extended finite automata and word problems*, International Journal of Algebra and Computation **15** (2005), 455-466.

18. *A strong form of residual finiteness for groups* (with T. Ratkovich), *Journal of Group Theory* **9** (2006), 497-505.
19. *Direct products of L -delta groups* (with D. Ryang), *Journal of the Korea Society of Mathematical Education, Series B: Pure and Applied Mathematics* **13** (2006), 269-280.
20. *Isoperimetric functions of groups acting on L -delta spaces* (with D. Ryang), *Glasgow Mathematical Journal* **49** (2007), 23-28.
21. *A quasi-isometry invariant loop shortening property for groups* (with S. Brick and D. Ryang), *International Journal of Algebra and Computation* **18** (2008), 1-15.
22. *Road trips in geodesic metric spaces and groups with quadratic isoperimetric inequalities* (with R. Bishop-Ross), *International Journal of Algebra and Computation* **22** (2012) [20 pages].
23. *Quiver algebras of coverings and twisted tensor products* (with T. Ratkovich), *Communications in Algebra* **22** (2014), 4435–4450.
24. *Automata with counters that recognize word problems of free products* (with L. Ross), *International Journal of Foundations of Computer Science* **26**, No. 1 (2015), 79–98.
25. *Context-free languages and G -automata* (with R. Bishop-Ross and L. Ross), *International Journal of Algebra and Computation* **27** (2017), 237–249.
26. *Cofinite graphs and their profinite completions* (with A. Acharyya and B. Das), *Electronic Journal of Graph Theory and Applications* **5** (2) (2017), 347–373.
27. *Cofinite graphs and groupoids and their profinite completions* (with A. Acharyya and B. Das), *Kyungpook Mathematical Journal*, to appear.

Papers submitted or in preparation

1. *Profinite graphs and their coverings* (with A. Acharyya and B. Das), in preparation.
2. *Free inverse semigroupoids and their inverse subsemigroups* (with V. Liu), in preparation.
3. *On the theory of coverings of graphs of groups* (with M. Green), on hold.

Grants awarded

Visiting Scholar Award, NSF EPSCoR (Steve Gersten) \$900 (1998).

Scholarship in Mathematics, Faculty Mentor for Eric Howington, \$2500 (1998).

Topology of Manifolds and Applications, Research Advisory Committee, University of Alabama, \$2,000 (1997).

Visiting Scholar Award, NSF EPSCoR (James Weigold) \$2000 (1997).

Scholarship in Mathematics, Faculty Mentor for Kevin Busby, \$2500 (1996–1997).

Travel grant, NSF EPSCoR, \$930 (1996).

Combinatorial structures in topology and group theory, Research Grants Committee, University of Alabama, \$4,000 (1994).

Symmetry groups and generalized crystal structures, Research Grants Committee, University of Alabama, \$5,000 (1992).

Rackham research partnership, University of Michigan, \$17,185 (1988-1989).

Additional scholarly activities

Conference organizer (with P. Bowers, S. Brick, M. Bridson, I. Mineyev): Special session on *Geometric Group Theory*, Joint meeting of AMS/MAA, New Orleans, January 10-13, 2001.

Conference organizer (with P. Bowers, S. Brick, and I. Mineyev): Geometric Groups on the Gulf coast (an international conference on geometric group theory) Mobile, March 2000.

Conference co-organizer (with S. Brick and P. Bowers): Geometric Groups on the Gulf coast (an international conference on geometric group theory) Mobile, May 1999.

Conference co-organizer (with S. Brick): Geometric Groups on the Gulf coast (an international conference on geometric group theory) Mobile, March 26–28, 1998.

Conference co-organizer (with S. Brick and B. Spieler): Special session on *Geometric group theory* for the meeting of the American Mathematical Society hosted by Louisiana State University, Baton Rouge, April 19–21, 1996.

Initiated annual research meeting (with S. Brick): After organizing a special session of the AMS meeting in Baton Rouge in the spring of 1996, we have made it an annual event to hold a meeting on geometric group theory somewhere in the gulf coast area. This meeting is now known as “Geometric Groups on the Gulf coast” or G-cubed for short.

Book editor (with M.R. Dixon, M.J. Evans, F.D. Roehl): *Infinite groups and group rings*, Proceedings of the AMS Special Session, World Scientific, Singapore 1993.

Conference co-organizer (with M.R. Dixon, M.J. Evans, F.D. Roehl): Special session on *infinite groups and group rings* for the American Mathematical Society meeting, Tuscaloosa 1992.

Invited addresses

- *A strong form of residual finiteness*, University of South Alabama, Mobile, Alabama, October 6, 2006.
- *Formal languages and automata in group theory*, University of South Alabama, Mobile, Alabama, October 5, 2006.
- *A strong form of residual finiteness for groups*, 55th Annual AACTM Meeting, Dothan, Alabama, February 12, 2005.
- *Extended finite automata and word problems*, Week-end Algebra Conference, Hammond, Louisiana, November 6, 2004.
- *Dehn functions of amalgamations and strongly undistorted subgroups*, Mobile, May 28, 1999.
- *Annular Dehn functions*, San Antonio, Texas, January 14, 1999.
- *Dehn functions of amalgamations and subgroup distortion*, Nashville, May 31, 1998.
- *Some manifolds that are covered by Euclidean space*, University of South Alabama, May 23, 1996.
- *Aspherical manifolds that are covered by Euclidean space*, University of Wisconsin-Parkside, March 1, 1996.
- *Surface groups and related groups of cohomological dimension two* (On joint work with B. Trace), Week-end algebra conference, Hattiesburg, MS, April 1995.
- *Complexes of groups*, International conference on geometric group theory, Columbus, OH, June 1992 (Invited 60 minute talk).
- *Symmetry groups of generalized crystal structures*, University of Wisconsin-Parkside, April 3, 1992.
- *Conformally nonspherical 2-complexes*, Special quarter on geometric group theory, Ohio State Mathematical Research Institute, Supported by NSF and Ohio State University, April 1992.
- *Conformally nonspherical 2-complexes*, University of Texas, April 27, 1992.
- *Small cancellation theory and graphs of groups*, Week-end algebra conference, Hattiesburg, MS, April 1992.
- *Complexes of groups*, Kansas State University, April 1991.

Academic service

- Advisor of undergraduate math majors, Department of mathematics, 16-17

- Chair, A&S Textbook (ethics) committee, College of A&S, 16–17
- Honors calculus committee, Department of mathematics, 16–17
- Undergraduate Applied Math Options Committee, Department of mathematics, Spring 16 and fall 16
- Director of undergraduate programs in mathematics, 99–16
- Committee chair. Undergraduate mathematics programs, 2010–11
- University Days, mathematics representative, College of A&S.
- Topology qualifying exam committee, Department of Mathematics.
- High School Mathematics Tournament.
- Review and Retention Committee, Department of Mathematics.
- Faculty Advisor for Pi Mu Epsilon, national mathematics honorary.
- Calculus textbook committee, chair, 07.
- Committee on Undergraduate Learning, College of A&S, 03–05.
- Calculus Committee, chair, 02–03.
- Faculty Advisor for math club, 01–04.
- Undergraduate Curriculum Committee, 99-01.
- Mentor for Alabama NSF/EPSCoR scholarship student, Eric Howington, Spring and Fall 1998.
- University Day 1998, College of Arts and Science.
- Mathematics and Science Day committee, College of Arts and Science, Spring 1997.
- Mentor for Alabama NSF/EPSCoR Scholarship student, Kevin Busby, Department of Mathematics, Spring 1997.
- Faculty Advisor for Pi Mu Epsilon, 96–97.
- Mentor for Alabama NSF/EPSCoR Scholarship student, Kevin Busby, Department of Mathematics, Fall 1996.
- Faculty Advisory Committee, College of Arts and Science, 95–96.
- Committee on Admissions and Retention, University committee, 93–96.
- Library Representative, Department of Mathematics, 93–94.
- Video Tapes of MA 227 lectures, Center of Teaching and Learning, University of Alabama, 93–94.
- Judge, Gorgas Scholarship Foundation (Alabama Science Talent Search), 92–93.
- Undergraduate Curriculum Committee, Department of Mathematics, 92–93.