

Curriculum Vitae

JAMES S. WISEMAN

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Personal information

- Born: July 5, 1974 in Austin, Texas

Positions

- Associate Professor of Mathematics, Agnes Scott College, July 2008 - present
- Assistant Professor of Mathematics, Agnes Scott College, August 2005 - June 2008
- Visiting Assistant Professor of Mathematics, Swarthmore College, September 2001 - August 2005

Education

- Northwestern University, Evanston, Illinois
Ph.D., Mathematics, June 2001
M.S., Mathematics, December 1997
Thesis advisor: John Franks
Thesis title: "Sofic shifts and the Conley index"
- Massachusetts Institute of Technology, Cambridge, Massachusetts
S.B., Mathematics, June 1996
Minor: History

Research Interests

- Dynamical systems, dynamics from the topological viewpoint, Conley index, dynamics on noncompact spaces, rigorous computation, fixed point theory, set-valued maps, voting theory, social choice

Publications

- (with David Richeson and Paul Winkler, Dickinson College '07) Itineraries of rigid rotations and diffeomorphisms of the circle, submitted.
- (with David Richeson) Chain recurrence rates and topological entropy, *Topology and its Applications*, 156 (2008), no. 2, 251-261.
- (with Amber Garcia (psychology), Meara Habashi (psychology), and Sarah Winget (chemistry)) Women in Math and Science: Examining Psychological Barriers to Learning, poster, 7th Biennial Society for the Psychological Study of Social Issues Conference, Chicago, IL, June 2008.
- (with Phil Everson (statistics) and Rick Valelly (political science)) NOMINATE and American political history: a primer, *Voteview* website, voteview.com.
- The square of a map, symbolic dynamics, and the Conley index, *Rocky Mountain Journal of Mathematics* 37 (2007), no. 1, 327-342.

- (with David Richeson) Positively expansive dynamical systems, *Topology and its Applications* 154 (2007), no. 3, 604-613.
- (with Danielle Silverman, Swarthmore '04) Noting the difference: musical scales and permutations, *American Mathematical Monthly* 113 (2006), no. 7, 648-651.
- (with David Richeson) Positively expansive homeomorphisms of compact spaces, *International Journal of Mathematics and Mathematical Sciences* 54 (2004), 2907-2910.
- Symbolic dynamics from signed matrices, *Discrete and Continuous Dynamical Systems*, 11 (2004), nos. 2&3, 621-638.
- (with David Richeson) Bounded homeomorphisms of the open annulus, *New York Journal of Mathematics* 9 (2003), 55-68
- Detection of renewal system factors via the Conley index, *Transactions of the American Mathematical Society* 354 (2002), no. 12, 4953-4968.
- (with David Richeson) A fixed point theorem for bounded dynamical systems, *Illinois Journal of Mathematics* 46 (2002), no. 2, 491-495, and addendum, 48 (2004), no. 3, 1079-1080.
- Approval voting in subset elections, *Economic Theory* 15 (2000), no. 2, 477-483.

Research Talks and Presentations

- “Symbolic dynamics for topologically hyperbolic maps,” Joint Mathematics Meetings, Washington, DC, January 2009.
- “Sensitive dependence,” Agnes Scott College Dean’s Colloquium, October 2008.
- “Chain recurrence rates,” Society of Industrial and Applied Mathematics Annual Meeting, Minisymposium on Applied Dynamical Systems, San Diego, CA, July 2008.
- “Chain recurrence rates and topological entropy,” Joint Mathematics Meetings, San Diego, CA, January 2008.
- “Positively expansive dynamical systems,” Joint Mathematics Meetings, Special Session on Hyperbolic Dynamics, San Diego, CA, January 2008.
- “Recurrence and chain recurrence dimension,” Joint Mathematics Meetings, New Orleans, LA, January 2007.
- “What was it you wanted? The art of counting ballots,” Agnes Scott College ACME series, November 2006.
- “Chain transitivity and mixing,” Summer Conference on Topology and its Applications, Statesboro, GA, July 2006.
- “Positive expansiveness,” Carolinas Dynamics Symposium, Davidson, NC, April 2006.
- “Growth rates for chain-transitive maps,” Summer Conference on Topology and its Applications, Granville, OH, July 2005.
- “Computation in dynamics,” Montclair State University, April 2005.
- “Topology and rigorous computation in dynamics,” Bucknell University, February 2005.
- “Topologically positively expansive homeomorphisms,” Spring Topology and Dynamics Conference, Birmingham, Ala., March 2004.
- “Symbolic dynamics from arbitrary matrices,” First Joint International Meeting between the AMS and the Real Sociedad Matematica Española, Special Session on Dynamical Systems, Seville, June 2003.
- “Sofic shifts from signed matrices,” University of Maryland Dynamical Systems Seminar, March 2003.

- “Detecting chaos: rigorous results via computer approximation,” Depaul University, February 2003.
- “Dynamics of multivalued functions,” Swarthmore College Mathematics Colloquium, February 2003.
- “The square of a map, symbolic dynamics, and the Conley index,” AMS Eastern Section Meeting, Special Session on Ergodic Theory and Dynamical Systems, Boston, Mass., October 2002.
- “Sofic shifts and the Conley index,” Midwest Dynamical Systems Seminar, Evanston, Ill., March 2001.
- “ ‘God help the state of Maine when mathematics reach for her’: integer allocation and the Alabama paradox,” Dickinson College Math/CS Chat, October 2000.
- “Symbolic dynamics and the Conley index,” Northwestern University Dynamical Systems Seminar, September 2000.
- “Concepts of continuity for set-valued maps,” Northwestern University Seminar on Voting and Social Choice, April 1999.
- “Approval voting in subset elections,” Northwestern University Seminar on Voting and Social Choice, April 1998.

Teaching Talks and Presentations

- “Women in math and science: examining psychological barriers to learning,” Agnes Scott College Center for Teaching and Learning, April 2007.
- “Teaching students to write and present mathematics,” Tri-College Math/Science Teaching Symposium, Bryn Mawr, Penn., May 2004.
- “Elements of effective mathematics teaching,” Northwestern University Searle Center for Teaching Excellence New TA Workshops, September 1999.

Teaching

- Courses taught: precalculus, finite mathematics, statistics, single- and multivariable calculus, sequences and series, linear algebra (honors and regular), ordinary differential equations, partial differential equations, mathematical modeling, chaotic dynamics, probability seminar, abstract algebra, topology, complex variables
- Supervised masters student from Bryn Mawr College, 2004-2005

Interdisciplinary Activities

- (with Alan Koch) Statistical analysis of genetic data for Doug Fantz, chemistry (Summer 2006)
- Swarthmore Cognitive Science Program Review Committee (2004-2005)
- Work with political scientists and statistician to understand statistical models of spatial voting in Congress, for use in the classroom and in political development research (2002-present)
- Swarthmore Joint Biology/Mathematics Curriculum Working Group (2004-2005)
- Tri-College Working Group on Mathematical Modeling in the Natural Sciences (2003-2005)

College Service

- Chair, Committee on Academic Standards and Admissions, 2008-2009
- Pre-health professions advisor, 2008-2009
- Public Health Planning Committee, 2009-present

- Ad Hoc Committee on Faculty Governance and Committee Organization, 2008-present
- Committee on Committees, 2008-present
- Promise Scholars Program Committee, 2008-present
- Dual-degree engineering program faculty advisor, 2006-present
- Infinity Club faculty advisor, 2006-present
- Advising, 2005-present
- Library Advisory Group, 2006-2009
- Ad Hoc Committee on Course Evaluations, 2007-2009
- Vice President for Student Life/Dean of Students search committee, 2008
- Professional Development Committee, 2006-2008
- SpARC Committee, publicity committee 2006-2007, co-chair 2007-2008
- Natural and Mathematical Sciences Conference co-convener, 2006-2008
- Swarthmore Mathematics First Year Curriculum Revision Committee, 2004-2005
- Swarthmore Mathematics Department Community Building Committee, 2004-2005
- Swarthmore Mathematics and Statistics Colloquium Chair, 2003-2004
- Faculty sponsor, Swarthmore Putnam exam team, 2001 & 2002 (team finished eighth overall in 2001)
- Departmental representative, Sigma Xi, 2002-2003
- Organized Northwestern mathematics teaching assistant orientation, 1997-2000

Professional Service

- Co-organizer, Special Session on Dynamical Systems, AMS Spring Southeastern Section Meeting, Davidson, NC, March 2007
- Co-organizer, AMS-SIAM Special Session on Contemporary Dynamical Systems, Joint Mathematics Meetings, San Antonio, TX, January 2006
- Reviewer for *Mathematical Reviews*, 2005-present
- Referee for *International Journal of Mathematics and Mathematical Sciences*, *Topology and its Applications*, *Mathematics Magazine*
- Organized the weekly Graduate Dynamical Systems Seminar at Northwestern University, 1998-2001

Fellowships and grants

- Bevier Public Health Initiative course development stipend for “Mathematical Modeling of the Spread of Disease,” 2007-2008
- (with Amber Garcia, psychology) Agnes Scott College Center for Teaching and Learning summer stipend for “Women in Math and Science: Examining Psychological Barriers to Learning,” 2006
- U.S. Department of Education GAANN Fellowship, 1997-2000
- Northwestern University Fellowship, 1996-1997

Facts about me

- Have an identical twin who’s an assistant professor of economics at the University of Texas, another brother who won the 2000 Trollope Prize for best undergraduate essay in English on the works of Anthony Trollope, and a third brother who once won an onion-eating contest in Hawaii