Curriculum Vitae
JAMES S. WISEMAN

Department of Mathematics
Agnes Scott College
141 E. College Avenue
Decatur, GA 30030
(404) 471-6202

1025 East Lake Drive
Decatur, GA 30030
(404) 788-1517
jwiseman@agnesscott.edu
http://ecademy.agnesscott.edu/~jwiseman

Positions
- Professor of Mathematics, Agnes Scott College, July 2014 –
- Associate Professor of Mathematics, Agnes Scott College, July 2008 – June 2014
- 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
- Generalized recurrence and the nonwandering set for products, *Topology and its Applications* 219 (2017), 111–121.
- The generalized recurrent set and strong chain recurrence, *Ergodic Theory and Dynamical Systems*, to appear.
- (with Phil Everson (statistics), Rick Valelly (political science), and Arjun Vishwanath (Swarthmore College '16)), NOMINATE and American political history: a primer, *Studies in American Political Development*, 30 (October 2016), no. 2, 97–115.
- (with Fabio Drucker (Dickinson College '11) and David Richeson) Entropy for symbolic dynamics with overlapping alphabets, *Journal of Dynamics and Differential Equations*, 28 (2016), 301–315.
- (with Tarun Das, Keonhee Lee, and David Richeson) Spectral decomposition for topologically Anosov homeomorphisms on noncompact and non-metrizable spaces, *Topology and its Applications* 160 (2013), 149–158.

- (with David Richeson) Symbolic dynamics for nonhyperbolic systems, *Proceedings of the American Mathematical Society* 138 (2010), no. 12, 4373–4385.
- (with David Richeson and Paul Winkler (Dickinson College '07)) Itineraries of rigid rotations and diffeomorphisms of the circle, *Theoretical Computer Science* 411 (2010), no. 1, 259–265.
- (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.
- 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 College '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.

Other Publications

- (with Thomas Wiseman) Thinking backwards: strength through weakness, *Math Horizons*, April 2017.
- (with Thomas Wiseman) Electing to disagree, *Math Horizons*, September 2016.
- Review of *How Not to Be Wrong: The Power of Mathematical Thinking*, The Bookshelf, *Math Horizons*, February 2015.
- Review of *The Mathematical Experience*, The Bookshelf: Summer Reading List, *Math Horizons*, April 2014.
- Review of *The Simpsons and Their Mathematical Secrets*, The Bookshelf, *Math Horizons*, February 2014.
- Antiquated runoff system does not reflect voters' views, op-ed page, *Atlanta Journal-Constitution*, November 17, 2008.

Recent Talks

- "Generalized recurrence for products and powers," AMS Eastern Sectional Meeting, Special Session on Topological Dynamics, New York, NY, May 2017.
- "Recurrence for powers and products," Carolina Dynamics Symposium, Charlotte, NC, April 2017.

- "The wrong ballot for the wrong reasons," Agnes Scott College ACME series, November 2015.
- "Rigorous computation for chaotic systems," Brigham Young University, February 2015.
- "Ambiguous symbolic dynamics and the Conley index," Dynamical Systems Seminar, Brigham Young University, February 2015.
- "Computation and chaos," Dickinson College, February 2012.
- "Ambiguous shifts: symbolic dynamics from open covers," Joint Mathematics Meetings, Boston, January 2012.
- "Symbolic dynamics with overlapping alphabets," Carolina Dynamics Symposium, Furman University, March 2011.
- "Symbolic dynamics from overlapping covers," International Congress of Mathematicians Satellite Conference on Various Aspects of Dynamical Systems, The Maharaja Sayajirao University of Baroda, Gujarat, India, August 2010.
- "Counting votes: the mathematics of social choice," Mercer University, March 2010.
- "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.

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, abstract algebra, topology, complex variables, mathematics for economics
- Supervised masters student from Bryn Mawr College, 2004-2005

College Service

- Faculty Executive Committee, 2nd Vice President, 2017-2018
- Academic Assessment Committee, 2015-2017
- Mathematics Department Chair, 2012-2015
- Reappointment, Promotion, and Tenure Committee, 2010-2013, 2016; chair, 2012-2013
- Committee on Academic Standards and Admissions, 2008-2009, 2013-2015, Spring 2016; Chair, 2008-2009 and 2013-2014
- Judicial Review Committee, 2014
- Faculty Executive Committee, 2012-2014
- QEP Committee, 2012-present
- Public Health Advisory Committee, 2011-present
- Community Day Committee, 2010-2014, 2016
- Agnes Reads Committee, 2011-2014
- Agnes Scott Cares Campaign Committee, 2010-2013
- Dual-degree engineering program faculty advisor, 2006-2013
- ACME (Academic Colloquium Monthly Exchange) organizer, 2011-2012
- Vice President for Enrollment/Dean of Admissions search committee, 2010-2011
- Public Health Planning Committee, 2009
- Ad Hoc Committee on Faculty Governance and Committee Organization, 2008-2010
- Committee on Committees, 2008-2010

- Pre-health professions advisor, 2008-2009
- Vice President for Student Life/Dean of Students search committee, 2008
- Ad Hoc Committee on Course Evaluations, 2007-2009
- Library Advisory Group, 2006-2009
- 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

- *Math Horizons* editorial board, 2013-present
- Co-organizer, Special Session on Dynamical Systems, Joint Mathematics Meetings, Atlanta, GA, January 2017
- Mathematical Association of America Committee on Minicourses, 2011-2017
- Reviewer for *Mathematical Reviews*, 2005-present
- Referee for *Journal of Differential Equations*, *Geometry & Topology*, *Topology and its Applications*, *American Mathematical Monthly*, *Mathematics Magazine*, *Geometriae Dedicata*, *International Journal of Mathematics and Mathematical Sciences*, *Publications de l'Institut Mathématique*, *Annales Polonici Mathematici*, *Open Mathematics*, *SIAM Journal on Applied Dynamical Systems*, *Nonlinearity*, *Qualitative Theory of Dynamical Systems*, *Filomat*
- Honors Examiner, Swarthmore College, 2012, 2014, 2015, 2017
- Proposal reviewer for Narodowe Centrum Nauki (Polish National Centre for Science), 2013
- 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
- Organized the weekly Graduate Dynamical Systems Seminar at Northwestern University, 1998-2001

Fellowships and grants

- Simons Foundation Collaboration Grant for Mathematicians, 2013-2018
- Senior personnel, NSF Grant for Carolina Dynamics Symposium, 2016-2018
- Holder Fund for Faculty Innovation Award, Agnes Scott College, for "Rigorous Computation for Chaotic Dynamical Systems," 2012
- Professional Development Awards, Agnes Scott College, 2009, 2010, 2011, 2013
- 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