Curriculum Vitae
JAMES S. WISEMAN

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Personal information
- Born: July 5, 1974 in Austin, Texas

Current Position
- Visiting Assistant Professor, Swarthmore College, September 2001 - present

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 Phil Everson (statistics) and Rick Valelly (political science)) The Poole-Rosenthal scores: a primer for political scientists, in preparation (preliminary version presented by Valelly at American Political Science Association annual meeting, Chicago, September 2004).
- (with Danielle Silverman '04) Noting the difference: musical scales and permutations, *American Mathematical Monthly*, to appear.
- (with David Richeson) Topologically positively expansive dynamical systems, submitted.
- The square of a map, symbolic dynamics, and the Conley index, *Rocky Mountain Journal of Mathematics*, to appear.
- (with David Richeson) Positively expansive homeomorphisms of compact spaces, *International Journal of Mathematics and Mathematical Sciences*, to appear.
- (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.
- Symbolic dynamics from signed matrices, *Discrete and Continuous Dynamical Systems*, 11 (2004), nos. 2&3, 621-638.
- (with David Richeson) A fixed point theorem for bounded dynamical systems, *Illinois Journal of Mathematics* 46 (2002), no. 2, 491-495.
- Approval voting in subset elections, *Economic Theory* 15 (2000), no. 2, 477-483.

Talks and Presentations

- "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 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, Evans-ton, 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.
- "Elements of effective mathematics teaching," Northwestern University Searle Center for Teaching Excellence New TA Workshops, September 1999.
- "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

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

Teaching Honors

- Head freshman calculus teaching assistant ("the czar"), 2000
- Northwestern University Searle Center for Teaching Excellence Teaching Assistant Fellow, 1999-2000

Interdisciplinary Activities

- 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-present)
- Tri-College Working Group on Mathematical Modeling in the Natural Sciences (2003-present)

Service

- Department First Year Curriculum Revision Committee, 2004-2005
- Department Community Building Committee, 2004-2005
- Swarthmore Mathematics and Statistics Colloquium Chair, 2003-2004
- Supervised senior theses, 2003-2004
- Faculty sponsor, Swarthmore Putnam exam team, 2001 & 2002 (team finished eighth overall in 2001)
- Referee for *International Journal of Mathematics and Mathematical Sciences*, *Topology and its Applications*
- Freshman and sophomore advising, 2002-2004
- Departmental representative, Sigma Xi, 2002-2003
- Organized the weekly Graduate Dynamical Systems Seminar at Northwestern University, 1998-2001
- Organized the Northwestern mathematics department teaching assistant orientation, 1997-2000

Computer Service

- Teaching assistant for experimental mathematics class (modeling in C++), 1996-2000
- Helped administer the Northwestern mathematics department Undergraduate Computer Lab, 1996-2000

Fellowships

- Applied for NSF RUI grant, Fall 2004
- 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

References available by request

- John Franks, Northwestern University
- Joseph Auslander, University of Maryland
- Aimee Johnson, Swarthmore College
- Robert Welland (teaching letter), Northwestern University
- Charles Grinstead, Swarthmore College