

TODD FISHER

Professional Address:

Department of Mathematics
Brigham Young University
290 TMCB
Provo, UT 84602
Phone: (801)422-6153
Web page: www.math.byu.edu/~tfisher/

Personal Address:

Phone:
Fax: (801)422-6153
SSN:
Email:

WORK EXPERIENCE

Assistant Professor, Brigham Young University, June 2007-present.

Research Associate, University of Maryland, September 2004-June 2007.

ACADEMIC PREPARATION

Ph.D. Mathematics Northwestern University, June 2004. Thesis: *On the Structure of Hyperbolic Sets*, Advisor: Amie Wilkinson.

M.S. Mathematics, Brigham Young University, August 1999. Thesis: *Qualitative Behavior for a Nonlinear Convection-Diffusion Equation with Conservation*, Advisor: Christopher Grant.

B.S. Mathematics, Minor Physics, Brigham Young University, April 1998.

RESEARCH

- *Trivial centralizers for codimension-one attractors*, Bull. Lond. Math. Soc., to appear.
- *Quasi-Anosov diffeomorphisms of 3-manifolds*, joint work with Jana Rodriguez-Hertz, Trans. Amer. Math. Soc., to appear.
- *Trivial centralizers for Axiom A diffeomorphisms*, Nonlinearity, **21**(11), 2505-2517, 2008.
- *Supergrowth of the number of periodic orbits for non-hyperbolic homoclinic classes*, joint work with Lorenzo Diaz and Christian Bonatti, Discrete Contin. Dyn. Syst., **20**(3):589-604, 2008.
- *The Topology of Hyperbolic Attractors on Compact Surfaces*, Ergodic Theory and Dynamical Systems, **26**(05), 2006, pp 1511-1520.
- *Hyperbolic Sets that are Not Locally Maximal*, Ergodic Theory and Dynamical Systems, **26**(05), 2006, pp 1491-1509.
- *Hyperbolic Sets with Nonempty Interior*, Discrete Contin. Dyn. Syst. **15**(2), 2006, 433-446.

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- *Blowup in a Mass-Conserving Convection-Diffusion Equation with Superquadratic Nonlinearity*, with Christopher P. Grant, Proceedings of the American Mathematical Society, 129 (2001), 3353–3362.

OTHER PUBLICATIONS

- *Problems in dynamical systems*, in Recent Progress in Dynamics MSRI Publications Volume 54, 2007. (Contributor)
- *Uniformly hyperbolic attractors*, www.scholarpedia.org/article/Uniformly_hyperbolic_attractors
- *On the Structure of Hyperbolic Sets*, Ph. D. dissertation.
- *Qualitative Behavior for a Nonlinear Convection-Diffusion Equation with Conservation*, Masters Thesis, Brigham Young University, 1999.

COLLOQUIUM AND CONFERENCE PRESENTATIONS

- Steven F. Austin State University, Departmental Colloquium, Texas, November 2008.
- Joint Meetings, Special session on hyperbolic dynamics, San Diego, California, Jan 2008.
- AMS Central Sectional Meeting, Chicago, Illinois, Oct 2007.
- AMS Southeastern Sectional Meeting, Davidson, North Carolina, March 2007.
- Semi-annual Workshop in Dynamical Systems and Related Topics, State College, Nov 2006.
- Brigham Young University, Departmental Colloquium, Sept 2006.
- AMS Western Sectional Meeting at San Francisco, April 2006.
- Montclair State University, Departmental Seminar, April 2006.
- Midwest Dynamical Systems Conference, Ann Arbor, April 2004.
- AMS Midwest Regional Meeting, Athens Ohio, March 2004.
- Semi-annual Workshop in Dynamical Systems at Maryland, March 2004.
- International Workshop on Robustness and Partial Hyperbolicity, Buzios, Brazil, November 2003.
- Elmhurst College, Illinois, October 2003.
- Semi-annual Workshop in Dynamical Systems at Maryland, March 2003.

SEMINAR PRESENTATIONS

- University of California, Irvine, Dynamics Seminar, May 2008.
- University of Maryland, Dynamics Seminar, Sept 2006.
- University of Maryland, Dynamics Seminar, May 2006.
- Invited Speaker, Univ of Maryland Baltimore Campus, Diff Eq Seminar, March 2006.
- Invited Speaker, George Washington University, Dynamics Seminar, October 2005.
- University of Maryland, Dynamics Seminar, April 2005.
- Panel member, University of Maryland, November 2004.
- University of Maryland Dynamics Seminar, October 2004.

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- Northwestern University Searle Center for Teaching Excellence New TA Workshop, September 2001.

MATHEMATICAL INTERESTS

Dynamical systems, hyperbolic dynamics, topological dynamics, expansive dynamics

HONORS AND CITIZENSHIP

- PI for NSF conference grant.
- Organizer for the Rocky Mountain Conference on Dynamical Systems, May 2008.
- Organizer for special session on research, Regional MAA conference, March 2008.
- Judge for the poster session at the Joint Mathematics Meeting, January 2008.
- Organizer for special session at the Joint Mathematics Meeting, January 2008.
- Project Next Fellow, 2007-2008.
- Reviewer for Mathematical reviews, 2007-present.
- Referee for *Moscow Mathematical Journal*.
- Referee for *Dynamical Systems and International Journal*.
- Referee for *Ergodic Theory and Dynamical Systems*.
- Organizer for dynamics seminar at Maryland, Sept 2006-2007.
- Organizer for special session at the Joint Mathematics Meeting, January 2006.
- Organized and ran a teaching workshop for incoming graduate students, 2001.
- *Vigre Post Doc*, University of Maryland, 2004-06.
- *Northwestern University Searle Center for Teaching Excellence Teaching Assistant Fellow*, Northwestern University, 2001.
- *Northwestern University Fellow*, 1999-2000.
- *Magna Cum Laude Graduate*, Brigham Young University, 1998.
- *Excellence in Teaching*, Brigham Young University, 1999.

COURSES TAUGHT

- Theory of ordinary differential equations
- Fundamentals of mathematics
- Differential forms and their applications
- Qualitative theory of ordinary differential equations
- College algebra
- Trigonometry
- Elementary calculus
- Calculus
- Multi-variable calculus
- Ordinary differential equations
- Real analysis

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CONFERENCES ATTENDED

- *Rocky Mountain Conference on Dynamical Systems*, Park City, Utah, May 2008.
- *Semi-Annual Workshop in Dynamical Systems*, University of Maryland, March 2008.
- *Regional MAA Meeting*, Provo, Utah, March 2008.
- *Joint Mathematics Meeting*, San Diego, California, January 2008.
- *Midwest Dynamical Systems* Ann Arbor, MI, Oct 2007.
- *AMS Central Sectional Meeting*, Chicago, Illinois, Oct 2007.
- *Mathfest*, San Jose, California, Aug 2007.
- *AMS Southeastern Sectional Meeting*, Davidson, North Carolina, March 2007.
- *Semi-annual Workshop in Dynamical Systems and Related Topics*, State College PA, Nov 2006.
- *International Workshop on Global Dynamics Beyond Uniform Hyperbolicity*, Chicago, May 2006.
- *AMS Western Sectional Meeting*, San Francisco, April 2006.
- *Semi-Annual Workshop in Dynamical Systems*, University of Maryland, March 2006.
- *Joint Mathematics Meeting*, San Antonio Texas, January 2006.
- *Partially Hyperbolic Dynamics, Laminations, and Teichmuller Flow Workshop*, Fields Institute, Toronto, Canada, January 2006.
- *Midwest Dynamical Systems*, Evanston Illinois, October 2005.
- *Semi-Annual Workshop in Dynamical Systems*, Penn State, October 2005.
- *Northwest Dynamics Symposium*, Victoria, Canada, August 2005.
- *International Congress on Dynamical Systems*, Angra dos Reis, Brazil, August 2005.
- *Midwest Dynamical Systems*, Minneapolis Minnesota, April 2005.
- *Semi-Annual Workshop in Dynamical Systems*, University of Maryland, March 2005.
- *Midwest Dynamical Systems*, Ann Arbor Michigan, April 2004.
- *AMS Midwest Regional Meeting*, Athens Ohio, March 2004.
- *Semi-Annual Workshop in Dynamical Systems*, University of Maryland, March 2004.
- *International Workshop on Robustness and Partial Hyperbolicity*, Buzios Brazil, November 2003.
- *Semi-Annual Workshop in Dynamical Systems*, Penn State, October 2003.
- *Midwest Dynamical Systems*, Indiana University - Purdue University Indianapolis, October 2003.
- *Midwest Dynamical Systems*, Northwestern University, April 2003.
- *Semi-Annual Workshop in Dynamical Systems*, University of Maryland, March 2003.
- *Midwest Dynamical Systems*, University of North Carolina Asheville, April 2002.
- *Midwest Dynamical Systems*, University of Colorado, October 2001.
- *Conference on Partial Hyperbolicity*, Northwestern University, June 2001.

COMPUTER SKILLS

Maple, HTML, LaTeX, Matlab

TODD FISHER

FACTS ABOUT ME

I am an Eagle Scout. I speak dutch fluently. As a teenager I participated in Pedal Across Lower Michigan a bicycle tour across Michigan, and was honorable mention All-State in Water Polo.

CITIZENSHIP

United States of America

REFERENCES

Amie Wilkinson

Department of Mathematics
Northwestern University
(847)491-5486
wilkinso@math.northwestern.edu
Research Letter

Mike Boyle

Department of Mathematics
University of Maryland
(301)405-5135
mmb@math.umd.edu
Research Letter

Anatole Katok

Department of Mathematics
Penn State University
(814) 865-2266
katok_a@Math.psu.edu
Research Letter

Michael Brin

Department of Mathematics
University of Maryland
(301) 405-5107
mib@math.umd.edu
Teaching Letter