

RYAN PATRICK DUNNING

Graduate Student ▪ Citizenship: U.S.

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EDUCATION

Ph.D. in Mathematics, Rice University, May 2009.

Advisor: Robert Hardt.

Thesis Title: *Asymptotics under Self-Intersection for Minimizers of Self-Avoiding Energies.*

M.A. in Mathematics, Rice University, May 2007.

B.S. in Mathematics, Texas Christian University, May 2004.

RESEARCH INTERESTS

Knot Energy, Mechanics of Fish-Like Swimming, Geometric Measure Theory, Metric Space Analysis.

HONORS AND AWARDS

- NSF VIGRE Fellowship, Rice University, 2006-2008.
- Graduate Fellowship, Rice University, 2004-2006, 2008-2009.
- Sigma Xi Research Award, Texas Christian University, 2004.
- Phi Beta Kappa, Texas Christian University, 2004.
- Barry M. Goldwater Scholarship, 2002-2004.
- Lockheed Martin Management Club Scholarship, 2001-2002.
- National Merit Corporate Scholarship, 2000-2004.
- Chancellor's Scholarship, Texas Christian University, 2000-2004.

TEACHING EXPERIENCE

Instructor

Single Variable Calculus II, Sole Instructor, Rice University, Fall 2007.

Multivariable Calculus, Sole Instructor, Rice University, Summer 2007.

Single Variable Calculus II, Sole Instructor, Rice University, Summer 2006.

Teaching Assistant

Calculus of Variations, Rice University, Spring 2009.

Integration Theory, Rice University, Fall 2008.

Harmonic Analysis, Rice University, Spring 2007.

Undergraduate VIGRE Research Seminar, Rice University, Summer 2006-Spring 2008.

General Topology, Rice University, Spring 2006.

Multivariable Calculus, Rice University, Fall 2005.

Calculus II, Rice University, Spring 2005.

Ordinary Differential Equations, Rice University, Fall 2004.

Training

Graduate Teaching Seminar, Rice University, 2004-2007.

SELECTED TALKS

- *The Energy of a Knot: Möbius Quits the Band*. Colloquium, Gettysburg College, April 2, 2009.
- *Asymptotics under Self-Intersection for Minimizers of Self-Avoiding Energies*. Colloquium, Texas Christian University, March 31, 2009.
- *The Energy of a Knot: Möbius Quits the Band*. Undergraduate Seminar, Texas Christian University, March 30, 2009.
- *Bases and Approximation Properties*. Current Mathematics Seminar, Rice University, Fall 2008.
- *Existence and Regularity for a Constrained Möbius Energy Problem*. Real Analysis Exchange Summer Symposium, Chicago State University, June 2008.
- *Continuous-time Processes and Brownian Motion*. Current Mathematics Seminar, Rice University, Fall 2007.
- *Orbifolds and Weighted Projective Space*. Current Mathematics Seminar, Rice University, Spring 2007.
- *Locally Compact Groups in Ergodic Theory*. Current Mathematics Seminar, Rice University, Spring 2006.
- *Combinatorial Models of Curvature*. Current Mathematics Seminar, Rice University, Spring 2005.
- *Walking Through Fields of Magic Squares*. Undergraduate Seminar, Texas Christian University, April 2004. (et al.)
- *Got a Complex? Let Bygones be B-gons: Combinatorial Models of Curvature*. Undergraduate Seminar, Texas Christian University, April 2004.

CONFERENCES ATTENDED

- Joint Mathematics Meetings, Washington, DC, January 5-8, 2009.
- Applications of Geometry to Topology and Physics, Rutgers University-Newark, November 7-9, 2008.
- Real Analysis Exchange Summer Symposium, Chicago State University, June 10-14, 2008.
- Quasiconformal Mappings and Analysis on Metric Spaces, University of Michigan, May 12-16, 2008.
- PIMS Differential Geometry and Analysis Summer School, University of Washington, August 13-16, 2007.
- The Tenth Rivière-Fabes Symposium on Analysis and PDE, University of Minnesota, April 20-22, 2007.
- 30th Annual Texas Partial Differential Equations Conference, University of Texas at San Antonio-Downtown, March 24-25, 2007.

CONFERENCE PROCEEDINGS

Existence of Möbius Energy Minimizers in Constrained Settings. Real Analysis Exchange, "Proc. Summer Symp. Real Anal. 32" [<http://msupress.msu.edu/journals/raex/symposium2008/aa-report-Chicago.html>].

SERVICE

Organizer and Regular Lecturer

Measure Theory Seminar, Rice University, Spring-Fall 2006.
Functional Analysis Seminar, Rice University, Summer 2006.

Regular Lecturer

Graduate Research Seminar, Rice University, Fall 2008.
VIGRE Graduate Research Seminars, Rice University, Summer 2006-Spring 2009.
Forms and Currents Seminar, Rice University, Fall 2006-Spring 2007.
Differential Topology Student-Led Course, Rice University, Spring 2006.
Computational Algebraic Geometry Seminar, Rice University, Spring 2005.

Undergraduate Representative

College of Science and Engineering Student Research Symposium Committee, Texas Christian University, Spring 2004.

REFERENCES

Robert Hardt, W.L. Moody Professor of Mathematics, Rice University
Michael Wolf, Professor and Chair of Mathematics, Rice University
David Damanik, Associate Professor of Mathematics, Rice University

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