Curriculum Vitae

Rachel Levanger

E-Mail: rachel@math.rutgers.edu
Website: http://www.rachellevanger.com/

Education

(Ph.D.) **Rutgers State University of New Jersey**, Mathematics, *Ph.D. Candidate*

B.A. **University of North Florida**, Mathematics & Art History, May 2012

Teaching and Related Experience

- RYSP, Rutgers University, *Instructor for Graph Algorithms* — Summer 2015
- DIMACS REU, *Graduate Student Mentor* — Summer 2015
- Rutgers University, *TA for Calculus II for Math/Science Majors* — Fall 2014
- DIMACS REU, *Graduate Student Coordinator* — Summer 2014
- Fidelity National Financial, *Statistical Data Analyst Intern* — Summer 2012
- University of North Florida, *Grader for Calculus II and Probability* — Spring 2012
- University of North Florida, *Grader for Advanced Calculus* — Fall 2011
- Fidelity National Financial, *Business Systems Analyst* — 2005 - 2011
- Wells Fargo Services Company, *Business Systems Analyst* — 2001 - 2005

Publications

- M. Kramar, R. Levanger, J. Tithof, B. Suri, M. Xu, M. Paul, M.Schatz, K. Mischaikow, "*Analysis of Kolmogorov Flow and Rayleigh-Bénard Convection using Persistent Homology,*" submitted.
- R. Dumitru, R. Levanger, and B. Visinescu, "On singular value inequalities for matrix means," *Linear Algebra and its Applications*, 439(8), Oct 15, 2405-2410 (2013).

Awards & Fellowships

- Recipient of the Janice Pattwell Annual Mathematics Fellowship — 2013 - 2014
  Rutgers University, Department of Mathematics
- Outstanding Undergraduate Student in Mathematics — Apr 2012
  University of North Florida Mathematics & Statistics Department
- Student Speaker Award — Aug 2011
  Pi Mu Epsilon National Meeting at MathFest 2011, Lexington, KY.
- Undergraduate Scholarships for Analysis & Probability — May 2011
  University of North Florida Mathematics & Statistics Department
- UNF College of Arts & Sciences, Willard O. Ash Award — Nov 2010
  Award recognizing a senior who embodies Dean Ash's philosophy of a broad-based education in the liberal arts and sciences.

Invited Talks

- Using Persistent Homology to study dynamics in the space of persistence diagrams, Parts I & II. Aug. 17-28, 2015
  Algebraic Topology & High-Dimensional Data Analysis, University of Victoria, Victoria, BC

Other Talks

- Panelist for graduate student panel Apr. 5, 2013
  Simplicity: Ideals of Practice in Mathematics & the Arts, CUNY
- Computing Hausdorff Dimension via Persistent Homology Mar. 29, 2013
  Graduate Student Pizza Seminar, Rutgers University
- Feature Detection and Graph Simplification Apr. 13, 2012
  University of North Florida, Senior Capstone Paper & Presentation
- Bent out of Shape: Taking a look at Perturbed Eigenvalues Feb. 18, 2012
  Florida MAA Conference Student Speaker, University of North Florida
- On the Differentiability of Eigenvalue Maps of Polynomial Matrix Functions of a Real Variable Dec. 2, 2011
  University of North Florida, Presentation of Research Results
- Imagining the Banach-Tarski Paradox Aug. 4, 2011
  Student Speaker, Pi Mu Epsilon National Meeting at MathFest 2011

Service

- Pi Mu Epsilon Florida Eta Chapter, *President* 2011 - 2012
- Pi Mu Epsilon Florida Eta Chapter, *Vice President* 2011

Languages

- Reading, writing, and speaking German, *Intermediate*

Computer Experience

- Experience with MATLAB, Mathematica, Maple, Microsoft Office Suite (Excel, Word, Access, Visio), Microsoft SQL Server, Microsoft Visual Studio, Processing, and Eclipse IDE for Java Developers.
- Programming experience in Python, shell scripting, R, LaTeX, SQL, C#, C++, VB, and JAVA.
- Data modeling experience with relational databases, domain models, and XML.

Affiliations/Memberships

- Pi Mu Epsilon National Mathematics Honorary Society, *Member* — Inducted Apr 2010
- Duval Audubon Society, *Member, Volunteer, and Board of Director* — 2008 - 2012