Contact Information

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Education

Carnegie Mellon University

Ph.D Candidate in Mathematical Sciences, expected May 2015
M.S. in Mathematics, May 2013
Thesis Advisor: Irene Fonseca
NSF RTG Graduate Traineeship, August 2010 - May 2012

University of California, Los Angeles

B.S. in Mathematics, summa cum laude, June 2010
with a Specialization in Computing

Research Interests

Calculus of Variations and its applications to homogenization and dimension reduction in thin elastic structures, and to imaging.

Papers

- L. Bufford and I. Fonseca, *A note on two scale compactness for $p = 1$*. To appear in Portugaliae Mathematica in 2015.

- L. Bufford, E. Davoli, and I. Fonseca, *Multiscale homogenization in Kirchhoff's nonlinear plate theory*. To be submitted shortly.

Talks

- Title: *Periodic unfolding and two-scale convergence*. Presented at CNA Working Group on Homogenization, February 4, 2014.

Teaching Experience

- Instructor for Calculus II (Integration, Diff. Equations, and Approx.), Summer 2013

- Teaching Assistant for Calculus II (Integration, Diff. Equations, and Approx.), Fall 2012

- Teaching Assistant for Multidimensional Calculus, Spring 2013 and Spring 2014

Graduate Coursework

- General Topology

- Measure Theory and Integration

- Sobolev Spaces

- Ordinary Differential Equations

- Partial Differential Equations I & II

- Functional Analysis

- Probability
- Methods of Optimization
- Finite Element Method

- Perspectives in Microstructure

- Calculus of Variations

Programs

Research in Industrial Projects for Students (RIPS), REU ponsored by IPAM,
Los Angeles, CA, Summer 2009
> Research in inverse problem for fitting material parameters to a target animation for Disney and Pixar Animation Studios.

Other Experience

- SIAM student chapter co-president for the 2013-2014 academic year and founding member.

- Experience programming in C++, Java, Matlab, and HTML.

Conferences and Schools Attended

- IMA PIRE summer school: New frontiers in multiscale analysis and computing for materials, IMA, Minneapolis, MN, June 2012

- 5th Symposium on Analysis and PDEs, Purdue University, IN, May 2012

- CNA Summer School on Topics in Nonlinear PDEs and Calculus of Variations, and Applications in Materials Science, Carnegie Mellon, PA, June 2013

- INGenIOuS Workshop on Strategies for advancing the mathematics and statistics workforce, American Statistical Association, Alexandria VA, July 2013

- SIAM Annual Meeting, Chicago Il, July 2014