Daniel Hariprasad

Program in Applied Mathematics
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Education

University of Arizona, 2009 - present

Ph.D. Candidate in Applied Mathematics

Advisor: Timothy Secomb

Ph.D. expected May 2014

Masters of Science received December 2011

College of William and Mary, 2006 - 2009

B.S. in Applied Mathematics received May 2009

Advisor: Junping Shi

Research

September 2010 - Present Red Blood Cell Mechanics

University of Arizona

Advisor: Timothy Secomb

Modelling and computation of red blood cells in the microcirculation

September 2008 - May 2009 Intracellular Calcium Concentrations

College of William and Mary

Advisor: Junping Shi

Modelled and explored dynamics of calcium concentrations in a generic cell

Papers

Hariprasad, D. S., & Secomb, T. W. (2013). Two-dimensional red blood cell motion near a wall under a lateral force. In Prep.

Hariprasad, D. S., & Secomb, T. W. (2013). Organization of two-dimensional red blood cells. In Prep.

Hariprasad, D. S., & Secomb, T. W. (2012). Motion of red blood cells near microvessel walls: effects of a porous wall layer. Journal of fluid mechanics, 705, 195-212.

Undergraduate honors thesis, "Three Pool Model of Calcium Signalling"

Presentations

"Lateral migration of two-dimensional red blood cells in microvessels", Modeling Blood Cell Interactions, NimBios, University of Tennessee, June 6, 2013

"Segregation in Blood Flow", Brown Bag Student Seminar, University of Arizona, October 12, 2012

"Lateral Migration of Red Blood Cells", Brown Bag Student Seminar, University of Arizona, March 9, 2012

"Microcirculation and the Endothelial Surface Layer", Brown Bag Student Seminar, February 18, University of Arizona, 2011

"Microcirculation and the Endothelial Surface Layer", Research Tutorial Group Mini-Conference, University of Arizona, December 17, 2010

"Geometric Optics and Thom's Theorem", Research Tutorial Group Mini-Conference, University of Arizona, May 14, 2010

"Three Pool Model of Calcium Signalling" , GMU-WM Spring workshop, College of William and Mary March 21, 2009

Teaching Experience

University of Arizona, Department of Mathematics

Graduate Teaching Assistant, Fall 2010 and Spring 2011

Primary instructor for Plane Trigonometry

Graduate Teaching Assistant, Spring 2010

Primary instructor for College Algebra

College of William and Mary, Department of Mathematics

Undergraduate Teaching Assistant, Fall 2008

Assisted in instruction for Multivariable Calculus

Undergraduate Teaching Assistant, Spring 2008.

Assisted in instruction for Oridnary Differential Equations

Conferences

Modeling Blood Cell Interactions, NimBios, University of Tennessee, June 5-7, 2013

Biological Complex Fluids, Institut d'Etudes Scientifiques de Cargese, June 25 - July 7, 2012

GMU-WM Spring workshop, College of William and Mary, March 20-22, 2009

Honors, Awards, & Fellowships

Arizona Research Labs Research Assistantship 2011-2012, 2013-2014

NIH training grant award 2012-2013

NSF Scholarships in Science, Technology, Engineering, and Mathematics, 2009-2011

Honors Thesis awarded Highest Honors, 2009

NSF Computational Science training for Undergraduates in the Mathematical Sciences research fellowship, 2009

NSF Undergraduates in Biology and Mathematics research fellowship, 2007-2008

Pi Mu Epsilon, National Mathematics Honors Society, 2008

Miscellaneous

Experience in programming using C++, Python, and Matlab

Proficient in Latex

Last updated: October 21, 2013