Sean D. Lawley - 2013-14 version - posted as example for current students

Contact Information

Mathematics Department
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Research Interests

Probability and Stochastic Processes, Dynamical Systems, Mathematical Biology, Analysis, Biochemistry

Education

Duke University

Ph.D., Mathematics with Certificate in College Teaching, May 2014

Stochastic Switching in Evolution Equations
Advisors: Michael C. Reed and Jonathan C. Mattingly

M.A., Mathematics, 2011

Carnegie Mellon University

B.S., Computational Finance, 2009

Publications and preprints

SD Lawley, JC Mattingly, MC Reed. Stochastic switching in infinite dimensions with applications to random parabolic PDEs, submitted, (arXiv:1407.2264).

SD Lawley, JC Mattingly, MC Reed. Sensitivity to switching rates in stochastically switched ODEs. *Commun. Math. Sci.*, 12(7), 2014.

SD Lawley, J Yun, M Gamble, M Hall, MC Reed, HF Nijhout. Mathematical modeling of the effects of glutathione on arsenic methylation. *Theoretical Biology and Medical Modelling*, May 2014.

SD Lawley, M Cinderella, M Hall, M Gamble, HF Nijhout, MC Reed. Mathematical model insights into arsenic methylation. *Theoretical Biology and Medical Modelling*, August 2011.

Presentations

Invited talk at SIAM Conference on the Life Sciences — August 2014
Charlotte, North Carolina

Invited talk at Duke Probability Seminar — December 2013
Mathematics Department, Duke University

Invited talk at Utah Mathematical Biology Seminar — October 2013
Mathematics Department, University of Utah

Contributed poster at Superfund Research Program Annual Meeting — October 2013
Louisiana State University

Contributed talk at 33rd SEAR-Conference on Differential Equations — September 2013
Mathematics Department, University of Tennessee

Invited talk at SIAM Conference on Applications of Dynamical Systems — May 2013
Snowbird, Utah

Invited talk at Duke University Mathematical Biology REU — May 2013
Mathematics Department, Duke University

Honors and Support

L.P. and Barbara Smith Award for Teaching Excellence	2013
NSF Research Training Grant DMS-0943760	2010-2014
Howard Hughes VIP Program (summer stipend)	2010 and 2013
Phi Beta Kappa Honor Society	2009
Phi Kappa Phi Honor Society	2009
Undergraduate University Honors	2009

Teaching Experience

Courses taught as full instructor

Math in Genetics and Genomics, Duke University — Spring 2014 and Spring 2013
Redesigned the course: created new syllabus, chose new textbook, added research projects and student presentations.

Laboratory Calculus I, Duke University — Fall 2011

Undergraduate research mentored

Jina Yun (Duke University, class of 2015). — Summer 2013
Co-mentored with two Duke University professors. Our work modeling arsenic detoxification is being prepared for publication.

Andrew Gao (Duke University, class of 2016). — Summer 2013
Co-mentored during a mathematical biology REU on a cancer modeling project.
Project title: *Modeling the inhibition of angiogenesis.*

Charnelle Bland (Emory University, class of 2014) — Summer 2012
and Kirsten Bell (Wheaton College, class of 2015).
Mentored both students during a mathematical biology workshop held at Duke University.
Project title: *Arsenic poisoning in Bangladesh and mathematical experimentation.*

Priyanka Nadar (Mary Baldwin College, class of 2012). — Summer 2011
Co-mentored during a mathematical biology workshop held at Duke University.
Project title: *Mathematical insights into arsenic poisoning in Bangladesh.*

Molly Cinderella (Duke University, class of 2012). — Summer 2010
Co-mentored with two Duke University professors. Our work modeling arsenic poisoning in Bangladesh was published in *Theoretical Biology and Medical Modelling.*

Other teaching experience

Instructor for qualifying exam review, Duke University, August 2012 and 2011. Chosen by faculty to teach weeklong intensive reviews of real analysis for incoming math PhD students.

Tutor in math help room, Duke University, Fall 2011 and Fall 2009. Tutored two hours a week.

TA for *Laboratory Calculus and Functions I*, Duke University, Fall 2009. Led weekly math laboratory sessions and graded homework.

TA for *Integration, Differential Equations and Approximation*, Carnegie Mellon University, Spring 2009. Led twice-weekly recitation classes and graded homework and exams.

TA for *Differential and Integral Calculus*, Carnegie Mellon University, Fall 2008. Led twice-weekly recitation classes and graded homework and exams.

Service

Journal Reviewer for Discrete and Continuous Dynamical Systems - Series B.
Lectures to high school math students, Riverside High School, Durham, NC, May 2013 and 2014.
Lectures to middle school math students, Central Middle School, Melbourne, FL, November 2010.

Professional Memberships

Society for Industrial and Applied Mathematics
Society for Mathematical Biology