

Erik Palmer

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 LeConte College
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Education

Ph.D. Applied and Computational Mathematics - Expected May 2018

Supervised by Dr. Paula Vasquez
Advanced to Candidacy - October 2015
University of South Carolina, Columbia

M.S. Applied Mathematics June 2013

California State University, East Bay

B.A. Mathematics, B.A. Chinese June 2007

University of California, Davis

Honors and Awards

SPARC Graduate Research Grant 2017

Project: Mathematical Modeling of Multi-Responsive Polymer Gels

Graduate School Travel Grant Award 2017

Landahl Travel Award 2015

Woldzimierz and Anna Wrona Scholar in Mathematics 2011-2012

Finalist: HOM SIGMAA Student Paper Contest 2007

Languages

Mandarin Chinese - Intermediate Spoken Fluency

Technological Skills

Programming: C, CUDA, Python, BASH scripting, HTML, CSS

Development Tools: SSH, Sun Grid Engine, Jupyter, Git, Vim

Computational Software: MATLAB, R, SageMath, Mathematica, Maple

Graphic Design: Gimp

Research Cyberinfrastructure Group - Attended Workshops:

- Git Version Control - January 2017
- R Basics - September 2016
- MATLAB Workshop: Tackling Big Data with MATLAB - April 2016

Peer-Reviewed Publications

Vasquez, P.A., Jin Y., *Palmer, E.*, Hill, D., & Forest, M. G., “Modeling and Simulation of Mucus Flow in Human Bronchial Epithelial Cell Cultures - PART I: Idealized Axisymmetric Swirling Flow”, *PLOS Computational Biology*, 12.8 (2016): e1004872

Other Publications

Edwards, D.A., Chugunova, M., Emerick, B., Goldwyn, E., Narayanan, P., *Palmer, E.*, Sirlanci, M., de Teresa, I., Vasquez, M., Montes de Oca, M., “Hybrid Programmatic TV Markets”, *Proceedings of the Thirty-Second Workshop on Mathematical Problems in Industry*, (2016)

Presentations

An Approach Towards Modelling the Mixture of Stimuli-Responsive Hydrogels

- 12th Annual, University of North Carolina Greensboro Regional Mathematics and Statistics Conference, November 2016, Greensboro, NC

A Stochastic Model for Lung Mucus Gel Networks

- SIAM Materials Science Conference, May 2016, Philadelphia, PA

A Stochastic Model for Lung Mucus Gel Networks (Introduction)

- The Graduate Colloquium, October 2015, Columbia, SC

Posters

A Stochastic Model of Lung Mucus Gel Networks (Preliminary Results)

with Greg Forest, David Hill and Paula Vasquez.

- SC EPSCoR/IDeA State Conference, January 2016, Columbia, SC
- Annual Meeting of the Society Mathematical Biology, June 2015, Atlanta, GA
- Graduate Student Day - Poster Presentation Competition, April 2016, Columbia, SC

Measuring Rhythm: Which Ruler to Use?

with Andria Barraza and Shirley Yap.

- California State Univ., East Bay, Student Research Symposium April 2013, Hayward, CA

Workshops

The 32nd Annual Mathematical Problems in Industry Workshop

Duke University Mathematics Department, June 13-17, 2016

The Thirteenth Annual Graduate Student Modeling Camp

Rensselaer Polytechnic Institute, June 7-10, 2016

Panels

Introductory Discussion for New Graduate Students

- The Graduate Colloquium , August 18th, Columbia, SC

Qualifying Exam Preparation - Student Panel

- The Graduate Colloquium , April 2016, Columbia, SC

Research

Research Assistant

Supported by NSF Grant# DMS-1410047, University of South Carolina

Jan 2015 - Aug 2015, Jan 2016 - Aug 2016, Jan 2017 - present.

Research areas include:

- Mathematical Biology
- Complex Fluids and Rheology
- Stochastic Differential Equations
- Parallel Computation

Research Mentorship

South Carolina Alliance for Minority Participation

- Supervised Undergraduate Student Data Analysis with R, June-July 2016

SC Governor's School for Science & Mathematics:

Summer Program for Research Interns

- Supervised High School Student Programming and Data Analysis with MATLAB, June-July 2016

Teaching

University of South Carolina

- Elementary Differential Equations, Instructor:
 - Fall 2016
- Precalculus Mathematics, Instructor:
 - Fall 2015
- Calculus 2, Teaching Assistant:
 - Spring 2014, Fall 2014
- Intensive Basic College Mathematics, Instructor:
 - Fall 2013

California State University, East Bay

- Intermediate Algebra, Instructor:
 - Fall 2012, Winter 2012, Winter 2013, Spring 2013
- Elementary Algebra, Instructor:
 - Fall 2011, Winter 2013
- Introduction to Algebra, Instructor:
 - Winter 2011, Fall 2012

Extracurricular and Volunteer Experience

Graduate Council, Student Representative

Department of Mathematics, October 2016 - present

SIAM Student Chapter President

University of South Carolina, Columbia, May 2016 - present

Exam Proctor

AP Practice Exam, April 2016

30th Annual USC High School Math Contest, January 2016

Community Engagement & Service

USC Pen Pal Party for Elementary School Students, April 2016

Founding Member

Peer Excellence Award Committee, Spring 2015 - present

Professional Associations

Society for Industrial and Applied Mathematics

Society for Mathematical Biology