Erik Palmer

Curriculum Vitae

October 13th, 2017

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| **Institutional Address**  University of South Carolina  Department of Mathematics  LeConte College  1523 Green Street  Columbia, SC 29208-4014  803-777-3783  etpalmer@math.sc.edu  http://math.sc.edu/people/etpalmer |  |

**EDUCATION**

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| --- | --- |
| May 2018 (Expected) | PhD Applied and Computational Mathematics  Supervised by Dr. Paula Vasquez  University of South Carolina, Columbia, SC |
| 2013 | MS Applied Mathematics  California State University, East Bay, Hayward, CA |
| 2007 | BA Mathematics, BA Chinese  University of California, Davis, Davis, CA |

**PUBLICATIONS**

**Peer-Reviewed**

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| --- | --- |
| 2016 | 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**

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| --- | --- |
| 2016 | 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) |

**Manuscripts in Preparation**

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| --- | --- |
| *In Progress* | *Palmer, E.*, Vasquez, P.A., “Mathematical Modeling of Multi-Responsive Polymer Gels” |

**AWARDS AND HONORS**

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| --- | --- |
| 2017 | NSF-Mathematical Sciences Graduate Internship  Lawrence Berkeley National Laboratory |
| 2017 | Outstanding Graduate Student – Honorable Mention  Department of Mathematics, University of South Carolina |
| 2017 | SPARC Graduate Research Grant, University of South Carolina |
| 2017 | Graduate School Travel Grant Award, University of South Carolina |
| 2015 | Landahl Travel Award, Society for Mathematical Biology |
| 2011-2012 | Woldzimierz and Anna Wrona Scholar in Mathematics  Department of Mathematics, California State University East Bay |
| 2010 | 2009 Best Teacher Award: ABC Foreign Language Training School |
| 2007 | Finalist: History of Mathematics – SIGMAA Student Paper Contest |

**INVITED TALKS**

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| --- | --- |
| 2017 | A Parallel Approach to Modelling Polymer Gel Dynamics  Carolina Math Seminar, Lander University, Greenwood, SC, March 24 |

**CONFERENCE ACTIVITY/PARTICIPATION**

**Organized Minisymposia**

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| --- | --- |
| 2016 | Materials Science Applications to Cellular and Molecular Structures  SIAM Materials Science Conference, Philadelphia, PA, May 8-12 |

**Contributed Talks**

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| 2017 | A Parallel Approach to Modeling Polymer Gel Dynamics  SIAM Computational Sciences and Engineering, Atlanta, GA, March 3 |
| 2016 | A Stochastic Model for Lung Mucus Gel Networks  SIAM Materials Science Conference, Philadelphia, PA, May 8 |

**Poster Presentations**

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| 2017 | Exascale Computing of Multiphase Flow  with M. Russo, A. Myers, A. Nonaka, J. Musser and A. S. Almgren  Computing Sciences Summer Student Poster Sessions  Berkeley, CA, August 3 |
| 2015 | A Stochastic Model for Lung Mucus Gel Networks (Preliminary Results)  with G. Forest, D. Hill and P.A. Vasquez  Annual Meeting of the Society of Mathematical Biology, Atlanta, GA, July 1 |
| 2013 | Measuring Rhythm: Which Ruler to Use?  with A. Barraza, and S. Yap  CSU East Bay, Student Research Symposium, Hayward, CA, April 23 |

**WORKSHOPS**

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| --- | --- |
| 2016 | The 32nd Annual Mathematical Problems in Industry Workshop  Duke University Mathematics Department, Durham, NC, June 13-17  Presented Project Update: Hybrid Programmatic TV Markets, June 15 |
| 2016 | The Thirteenth Annual Graduate Student Modeling Camp  Rensselaer Polytechnic Institute, Troy, NY, June 7-10 |

**DEPARTMENT TALKS**

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| --- | --- |
| 2017 | Mathematical Modelling of Multi-Responsive Hydrogels, December 5 |
| 2017 | Internship Panel: SIAM Student Chapter, TBA |
| 2016 | Introductory Discussion for New Graduate Students, August 17 |
| 2016 | Qualifying Exam Preparation – Student Panel, April 20 |
| 2015 | A Stochastic Model for Lung Mucus Gel Networks (Introduction),  October 15 |

**TEACHING EXPERIENCE**

**University of South Carolina**

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| --- | --- |
| Basic College Mathematics, Instructor | (Fall 2017, Fall 2013 – Intensive) |
| Elementary Differential Equations, Instructor | (Fall 2016) |
| Pre-Calculus, Instructor | (Fall 2015) |
| Calculus 2: Teaching Assistant, Lab Instructor | (Spring 2014, Fall 2014) |
| Honors Calculus 2: Maple Lab Instructor | (Fall 2014) |
| Tutor: All Undergraduate Levels | (Fall 2017, Fall 2016) |

**California State University East Bay**

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| Introduction to Algebra, Instructor | (Winter 2011 – 801, Fall 2012) |
| Elementary Algebra, Instructor | (Fall 2011, Winter 2013) |
| Intermediate Algebra, Instructor | (Fall 2012, Winter 2012, Winter 2013,  Spring 2013 (2)) |

**RESEARCH EXPERIENCE**

**Mathematical Sciences Graduate Internship**

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| --- | --- |
| May 2017 – August 2017 | Center for Computational Science and Engineering, Lawrence Berkeley National Laboratory  Supported by NSF and administered by the Oak Ridge Institute for Science and Education  Research Areas Include: High Performance Computing, Multiphase Flow, Particle Collision Tracking and Modeling, Adaptive Mesh Refinement |

**Research Assistantship**

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| --- | --- |
| January 2017 –  May 2017,  January 2016 –  August 2016,  January 2015 –  August 2015 | University of South Carolina  Supported by NSF Grant# DMS-1410047  Research Areas Include: Mathematical Biology, Complex Fluids and Rheology, Stochastic Differential Equations, Parallel Computation |

**RESEARCH MENTORSHIP**

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| 2016 | South Carolina Alliance for Minority Participation  Supervised Undergraduate Student Data Analysis, June 19 – July 20 |
| 2016 | SC Governor’s School for Science and Mathematics: Summer Program for Research Interns  Supervised High School Student Programming and Data Analysis,  June 19 – July 15 |

**PROFESSIONAL SERVICE**

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| May 2017 – Present | SIAM Student Chapter Executive Council |
| October 2016 – October 2017 | Graduate Council, Student Representative |
| May 2016 – May 2017 | SIAM Student Chapter President |
| Spring 2015 – Present | Peer Excellence Award Committee, Founding Member |

**COMMUNITY INVOLVEMENT**

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| --- | --- |
| 2017 | AP Calculus Practice Exam Proctor, April 25 |
| 2017 | 31st Annual High School Math Contest, February 4 |
| 2016 | AP Calculus Practice Exam Proctor, April 26 |
| 2016 | 31st Annual High School Math Contest, January 30 |
| 2016 | USC Pen Pal Party for Elementary School Students, April 22 |

**MEDIA COVERAGE**

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| --- | --- |
| *In Progress* | “Participant Story.” ORISE: Success Stories & Participant Profiles, Annette Hilton |
| 2016 | “Taking Math Beyond the Blackboard.” Duke Research Blog, Robin Smith, July 6 |

**PROFESSIONAL SKILLS**

**Technology**

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| --- | --- |
| Programming | C, C++, Fortran, CUDA, Python, BASH, HTML, CSS, OpenMP |
| Software | MATLAB, R, SageMath, Mathematica, Maple |

**Research Cyberinfrastructure Group – Training Seminars**

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| --- | --- |
| 2017 | Data Analysis and Visualization with MATLAB, Machine Learning with MATLAB, October 25 |
| 2017 | Git Version Control, January 20 |
| 2016 | Intro to Python for High Performance Computing, November 11 |
| 2016 | R Basics, September 27 |
| 2016 | MATLAB Workshop: Tackling Big Data with MATLAB, April 20 |

**Certifications**

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| --- | --- |
| 2002 | Completion of English Tutor Training, Diablo Valley College, May 14 |

**NONACADEMIC WORK**

|  |  |
| --- | --- |
| March 2010 – June 2010 | Math Program Teacher  Davis Learning Center, Davis, CA |
| January 2009 – January 2010 | Foreign Teacher: English  ABC Foreign Language Training School, Beijing, China |
| January 2002 – May 2002 | English Tutor  Diablo Valley College, Pleasant Hill, CA |

**LANGUAGES**

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| Mandarin Chinese | Intermediate Spoken Fluency |

**PROFESSIONAL MEMBERSHIPS**

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| Society for Industrial and Applied Mathematics | 2015 – Present |
| Society for Mathematical Biology | 2015 – Present |
| American Mathematical Society | 2014 – Present |

**REFERENCES**

**Dr. Paula Vasquez**

Assistant Professor

Department of Mathematics

University of South Carolina

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**Dr. Hong Wang**

Professor

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**Dr. Ann S. Almgren**

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**Dr. Sean Yee** (Teaching)

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