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Objective: Seeking a career solving complex problems using modeling and scientific computing.

Education

Cincinnati, OH University of Cincinnati September 2010 - Present

- M.S. in Mathematics (significant progress towards Ph.D.). Graduation date: May, 2015.
- Research Project: Phase Response Analysis of Circadian Oscillators. Optimized phase response curves against experimental data for 6 circadian rhythm ODE models using Simulated Annealing and visual methods. A unique model has been developed using chemical kinetics and bifurcation analysis. Computations executed in MATLAB, Python, and XPPAUT. Physical experiments developing PRCs currently in progress.
- Coursework: Scientific Computation, Math Modeling, Partial and Ordinary Differential Equations, Probability, Numerical Analysis, Systems Biology, Fourier Analysis, Bioinformatics.

Oxford, OH Miami University August 2006 - 2010

- B.S. in Mathematics and Statistics, Cum Laude. Graduation date: May, 2010.
- Coursework: Analysis, Differential Equations, Optimization, Hyperbolic Geometry.
- Thematic Sequence: Economics.
- Summer Research (2008): Investigating Hopf Bifurcations in the Mechanical Clock. Developed an ODE model of a clock system and simulated parametric alteration with MATLAB.

Employment

Research Assistant Dr. Chris Hong's Lab August 2013-Present

- Measured *Neurospora crassa* fungus growth in response to light and inducible transcription.
- Became skilled at experimental design/procedure and lab facilitation.
- Funding: NIH (August 2014-Present), DARPA (August 2013 - August 2014).

Mathematics Instructor University of Cincinnati Summers 2011-2012

- Taught Linear Algebra (Summer 2012).
- Taught Calculus I (Summer 2011).

Graduate Assistant University of Cincinnati September 2010-May 2013

- Instructed and graded for Differential Equations and Calculus 0-III.
- Addressed IT responsibilities and course organization for Calculus I/II WebAssign.
- Tutored for the SRS Tutoring Program and the Math Learning Center.

Textbook Editor Target Test Prep March 2012-April 2013

- Edited probability and geometry chapters for a GMAT prep book.

Tutor

Miami University

August 2007-August 2010

- Promoted to Head Tutor 2009; managed/instructed tutors.
- Tutored Calculus I-IV students.

Programming

- Proficient in MATLAB, Python, L^AT_EX, XPPAUT.
- Novice in COMSOL Multiphysics, C++, HTML.

Skills & Abilities

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|-------------------------|-------------------|---------------------------|
| • Dynamical Systems | • Systems Biology | • Modeling and Simulation |
| • Algorithm Development | • Optimization | • Scientific Writing |
| • Teaching | • Public Speaking | • Leadership |

References available upon request.