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**Jacob Bellman**

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

## Education

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**Cincinnati, OH                      University of Cincinnati                      September 2010 - Present**

- Ph.D. in Mathematics. Expected graduation date: December, 2015.
- Dissertation Research Project: Phase Response Analysis of Circadian Oscillators. Produced phase response curves for 6 circadian rhythm ODE models including a unique model which has undergone parameter selection via 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.

**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

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**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 chemical preparation and utensil sterilization.
- 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**

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- Proficient in MATLAB, Python, L<sup>A</sup>T<sub>E</sub>X, XPPAUT.
- Novice in C++, HTML.

**Skills & Abilities**

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

*References available upon request.*