

Bryan C. Daniels

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Education

- **Cornell University** August 2005 – present
Department of Physics Ph.D. Program Ithaca, New York
- **Ohio Wesleyan University** August 2001 – May 2005
B.A., Physics, *Summa cum laude* Delaware, Ohio
 - Senior research project: *Synchronization of Globally Coupled Nonlinear Oscillators: the Rich Behavior of the Kuramoto Model.*

Research Experience

- **PhD Research** May 2007 – present
Cornell University Ithaca, New York
 - Currently working with Jim Sethna on topics including simulation of supercoiled DNA and statistical analysis of biological models.
- **IGERT Research Project** August 2006 – June 2007
Cornell University Ithaca, New York
 - Worked with a small interdisciplinary group of IGERT students to simulate the behavior of neurons that control swimming in zebrafish. Presented the work at the 2007 IGERT Symposium in Pittsburgh.
- **IGERT Summer Internship** May 2006 – August 2006
Indiana University Bloomington, Indiana
 - Worked with Randy Beer on estimating volumes of distinct regions in the parameter space of continuous-time recurrent neural networks.
- **Research Experiences for Undergraduates Program** May 2004 – July 2004
University of Florida Gainesville, Florida
 - Studied heavy-fermion systems using numerical renormalization group methods.
- **Summer Research Program** May 2002 – July 2002
Ohio Wesleyan University Delaware, Ohio
 - Simulated synchronization in ladder arrays of Josephson junctions.

Teaching Experience

- **Teaching Assistant** Fall 2007, Fall 2008, Spring 2009
Cornell University Ithaca, New York
 - Physics 218: Waves and Thermodynamics
 - Physics 317: Applications of Quantum Mechanics
 - Physics 2206: Weapons of Mass Destruction
- **Physics Laboratory Assistant and Tutor** Fall 2004 – Spring 2005
Ohio Wesleyan University Delaware, Ohio

Honors and Awards

- IGERT Fellowship in Nonlinear Systems, 2005-2007
- Phi Beta Kappa, 2005
- Rusk Prize in Physics, 2005
- Sigma Xi Research Award, 2005

Computing Experience

Programming Languages: Python, C⁺⁺, Mathematica, Fortran, others

Publications

- *Statistical properties of multistep enzyme-mediated reactions.* Wiet H. de Ronde, Bryan C. Daniels, Andrew Mugler, Nikolai A. Sinitsyn, and Ilya Nemenman. In press, IET Systems Biology (2009).
- *Sloppiness, robustness, and evolvability in systems biology.* Bryan C. Daniels, Yan-Jiun Chen, James P. Sethna, Ryan N. Gutenkunst, and Christopher R. Myers. *Current Opinion in Biotechnology* **19**, 389 (2008).
- *Abrupt Buckling Transition Observed during the Plectoneme Formation of Individual DNA Molecules.* Scott Forth, Christopher Deufel, Maxim Y. Sheinin, Bryan Daniels, James P. Sethna, and Michelle D. Wang. *Phys. Rev. Lett.* **100**, 148301 (2008).
- *Absence of Kondo lattice coherence effects in $Ce_{0.6}La_{0.4}Pb_3$: A magnetic-field study.* Richard Pietri, Costel R. Rotundu, Bohdan Andracka, Bryan C. Daniels, and Kevin Ingersent. *J. Appl. Phys.* **97**, 10A510 (2005).
- *Synchronization of Coupled Rotators: Josephson Junction Ladders and the Locally-Coupled Kuramoto Model.* B. C. Daniels, S. T. M. Dissanayake, and B. R. Trees. *Phys. Rev. E* **67**, 026216 (2003).