Steven J. Koch

Contact Information

Assistant Professor, Physics & Astronomy
University of New Mexico
Albuquerque, NM

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Objective

To join a team where I can leverage my talents in coding, data acquisition, automation, algorithm development, data analysis, and visualization.

Coding

LabVIEW / NI-DAQmx (extensive experience), Python / PyLab / scikit-learn / Django / web.py, R, C, Java, LaTex, git / github
stackoverflow reputation 132

Other skills

Image processing / tracking, hardware automation, molecular biology, microscopy, arduino, metal machining, Monte Carlo and markov chain analysis, teaching and mentoring

Education

Cornell University, Ithaca, NY

Ph.D., Physics (Biophysics minor) **May 2003**

- Dissertation: Probing protein-DNA interactions by unzipping single DNA molecules with a laser trapping microscope
- Advisor: Professor Michelle D. Wang

M.S., Physics **2000**

University of Michigan, Ann Arbor, MI

B.S., Honors Physics **1996**

Recent Experience

University of New Mexico, Albuquerque, NM

Assistant Professor **August 2006 – May 2013**

One large grant (DTRA, $1.5M, co-PI with Atlas), state of the art optical tweezers and automated kinesin gliding motility assays. Two Ph.D. students graduated, two more expected in 2013. Mentored 8 undergraduate researchers. Taught more than 700 students, mostly undergraduate courses, with excellent reviews. Open-science advocate.

Sandia National Labs, Albuquerque, NM

CINT Distinguished Postdoctral Fellow, Appointee **2003-2006**

Implemented wide array of collaborative biophysics projects across Sandia and LANL / CINT. Major publications in MEMS (Applied Physics Letters) and Kinesin (Fungal Genetics and Biology)

Cornell University, Ithaca, NY

TA / RA **19962003**

Designed and built state of the art optical tweezers. Invented single-molecule technique for probing protein-DNA interactions (2002 Biophysical Journal, 90 citations)

Scientific Publications

Available on my Google Scholar page (Steven J. Koch http://goo.gl/kszZ3). Highly-cited publications in Biophysical Journal (2002, 90 citations), Physical Review Letters (2003, 47), Advanced Materials (2008, 26), Nano Letters (2008, 18), Applied Physics Letters (2006, 17), Fungal Genetics and Biology (2007, 7).

Honours and Awards

Addgene Resource Sharing Award, CINT postdoctoral fellowship, US Dept. Ed. GAANN TA/RA fellow, Honorable Mention NSF graduate research fellowship, U. Michigan Sigma Pi Sigma, Phi Beta Kappa, James B. Angell Scholar, and Sharon Naughton-Briggs Memorial Scholarship.