

John J. Veysey II

veysey@gmail.com

Cell: 217-778-6327

Current Position	<p>AIP / AAAS Congressional Science Fellow 2007—2008</p> <p>I won an American Institute of Physics / American Association for the Advancement of Science Congressional Fellowship. I am working in the office of Senator Menendez (D-NJ) on a portfolio of energy and environmental issues.</p>
Education	<p>University of Illinois at Urbana-Champaign (UIUC) 1999—2006</p> <p>Ph. D. in Physics under the supervision of Prof. Nigel Goldenfeld Title: <i>Complex Fluid Dynamics: From Laminar to Geophysical Flows</i> Ph. D. in July 2006. M.S. in 2000. Cumulative GPA: 4.0/4.0</p> <p>Yale University, New Haven, CT 1993—1997</p> <p>B.S., Physics, May 1997. Cumulative GPA: 3.6/4.0</p> <p>North Middlesex Regional High School, Townsend, MA 1989—1993</p> <p>Diploma, 1993. Cumulative GPA: 4.0/4.0. Ranked 1 in a class of 256.</p>
Awards	<p>American Institute of Physics / American Academy for the Advancement of Science Congressional Science Fellowship 2007</p> <p>Bardeen Award 2006</p> <p>In recognition of outstanding graduate work in condensed matter physics at UIUC.</p> <p>Excellence in Teaching Award 2005,2006</p> <p>Appeared on the University of Illinois Incomplete List of Teachers Ranked as Excellent</p> <p>American Physical Society / American Academy for the Advancement of Science Mass Media Fellowship 2004</p> <p>G.A.A.N.N. (Graduate Assistance in Areas of National Need) Fellowship 1999</p> <p>Distinction in the Physics Major 1997</p> <p>Awarded at Yale University by departmental faculty vote</p> <p>National Merit Scholar semi-finalist 1993</p>
Research Experience	<p>University of Illinois at Urbana-Champaign 2007</p> <p><i>Postdoctoral fellow</i> in the Dept. of Microbiology under Prof. Rachel Whitaker. I applied novel bioinformatics techniques to biogeographically isolated strains of the extremophile <i>Sulfolobus Islandicus</i>, finding DNA evidence of geographical speciation within the core <i>Sulfolobus</i> genome.</p> <p>University of Illinois at Urbana-Champaign 1999—2006</p> <p><i>Research Assistant</i> in the Dept. of Physics under Prof. Nigel Goldenfeld. As part of a multidisciplinary team of geologists, microbial ecologists, and physicists, I solved the long-standing problem of CaCO₃ terraces, explaining why these patterns form at hot springs worldwide. I built computer models which successfully predicted dynamical and static statistical properties of carbonate landscapes. Working at Mammoth Hot Springs in Yellowstone National Park, I helped sample precipitation rates, spring water chemistry, and microbial diversity. I applied Renormalization Group techniques to singular perturbation problems, analytically calculating the drag on spheres and cylinders at low Reynolds number.</p> <p>M.I.T. / Lincoln Laboratories 1997—1999</p> <p><i>Assistant Staff</i> under Dr. Stephen Krich. I worked on a classified project focused on advanced signal processing and highly parallel computations. Implemented tracking algorithms and portions of S.T.A.P. (space-time adaptive processing), which uses adaptive statistics to extract signals from noisy environments. Took graduate classes in physics at MIT.</p> <p>Yale University 1997</p>

Senior thesis research under Prof. Cornelius Beausang. Assembled liquid scintillator detectors and electronics to perform both time of flight and pulse shape neutron discrimination at Yale's Van de Graff Accelerator. Analyzed experimental data which relied on neutron identification.

Metacom, Inc., New Haven, CT 1996
 Researched and designed algorithms for interpolating measurements made during the manufacture and characterization of silicon wafers.

University of Central Florida 1995
 Participated in the N.S.F.'s R.E.U. program, helping to assemble two broadband, tunable lasers. Assessed CrLiSAF crystal quality prior to use in lasers.

Teaching Experience **UIUC Physics 280 - Nuclear Weapons, Nuclear War, and Arms Control** Spring 2006
Teaching Assistant under Prof. Fred Lamb. Ran weekly writing labs for an advanced composition course; helped develop and grade examinations. Ranked in the top 10% of UIUC TAs.

UIUC Physics 563 - Phase Transitions Fall 2005
Grader for Prof. Nigel Goldenfeld. Graded homework assignments and held weekly office hours.

UIUC Physics 211 - University Physics (Mechanics) Spring 2005
Teaching Assistant under Prof. Jen-Chieh Peng. Taught four weekly discussion sections with about 25 students in each. Gave brief lectures, graded, held office hours, and proctored exams. Ranked in the top 10% of UIUC TAs.

UIUC Physics 111 - University Physics (Mechanics) Spring 2000
Teaching Assistant under Prof. Steve Errede.

Additional Experience **Milwaukee Journal Sentinel** Summer 2004
 I won an American Physical Society (APS) / American Academy for the Advancement of Science (AAAS) Mass Media Fellowship, and interned as a science writer at the Milwaukee Journal Sentinel. I researched, reported, and wrote ten stories on subjects ranging from geochemistry to ecology. Portfolio available upon request.

Greenman-Pedersen, Inc., Marlborough, MA 1993-1994
 Worked summers surveying land, researching deeds, and AutoCAD drafting.

Invited Talks **Understanding Complex Systems Symposium** 2006
Pattern Formation at Carbonate Hot Springs

Publications J. Veysey II, N. Goldenfeld, "Watching Rocks Grow", *Nature Physics*, doi:10.1038/nphys915, 16 Mar 2008.

J. Veysey II, B. Fouke, M. Kandianis, T. Schickel, R. Johnson, and N. Goldenfeld, "Reconstruction of Water Temperature, pH, and Flux of Ancient Hot Springs from Travertine Depositional Facies," *Journal of Sedimentary Research*, vol. 78, pp. 69-76, 2008.

M. Kandianis, B. Fouke, R. Johnson, J. Veysey II, W. Inskeep, "Microbial Biomass: A Catalyst of CaCO₃ Precipitation in Advectively Dominated Transport Regimes," *Geological Society of America Bulletin*, vol. 120, 3, pp. 442-450, March 2008.

J. Veysey II and N. Goldenfeld, "Simple Viscous Flows: From Boundary Layers to the Renormalization Group," *Reviews of Modern Physics*, vol. 79, 883-927, 13 July 2007.

N. Goldenfeld, P. Chan, and J. Veysey II, "Dynamics of precipitation pattern formation at geothermal hot springs," *Physical Review Letters*, vol. 96, 27 June 2006.

B. W. Fouke, G. T. Bonheyo, B. Sanzenbacher, J. Frias-Lopez, and J. Veysey, "Partitioning of bacterial communities between travertine depositional facies at Mammoth Hot Springs, Yellowstone National Park, USA," *Canadian Journal of Earth Science*, vol. 40, pp. 1531-1548, 2003.

G. T. Bonheyo, H. García Martín, J. Veysey II, J. Frias-Lopez, N. Goldenfeld, and B. W. Fouke, "Statistical Evaluation of Bacterial 16S rRNA Gene Sequences in Relation to Travertine Mineral Precipitation and

Water Chemistry at Mammoth Hot Springs, Yellowstone National Park, USA,” Preprint.

Professional Activities	American Physical Society member	2002—Present
	American Association for the Advancement of Science member	2007—Present
	National Association of Science Writers member	2004—2005
	UIUC Physics Dept. Student Liaison to the Graduate Studies Advisory Committee	2002—2003
	Attended Boulder Summer School for Condensed Matter and Material Physics	2002
References	References available upon request.	
Computer Skills	Expert knowledge of C, C++, Matlab, Excel, Mathematica, and \LaTeX . I am highly proficient with Windows, Linux and Solaris operating systems. I have administered both Linux and Solaris systems.	
Personal	I play Ultimate Frisbee and volleyball regularly. I also enjoy hiking, rock climbing, and cooking in my spare time. I am a dancer, and have given public demonstrations of both salsa and Argentine tango.	