

## **Sotiria Lampoudi, Ph.D.**

Email: slampoud@cs.ucsb.edu

Phone: ++ 1 805 259 8536

### **Education**

PhD	2008		Computer Science, University of California, Santa Barbara Topic: Space in Discrete Stochastic Simulation of Chemical Kinetics (Adviser: Linda R. Petzold)
MS	2004	(GPA 3.83)	Computer Science, University of California, Santa Barbara
BA	2002	(GPA 3.60)	Computer Science, University of Chicago

### **Honors and Awards**

2003-2008	NSF Integrative Graduate Education and Research Traineeship Associate
2003	Outstanding Teaching Assistant Award
2002	Best Student Paper, USENIX Conference, 2002, Monterey, CA
1998-2002	Dean's List, University of Chicago
2001-2002	Elaine M. and Samuel D. Kersten Jr Fellow in the Physical Sciences, University of Chicago

### **Professional and Research Experience**

2009-present	Postdoctoral Researcher, University of California Santa Barbara Conducting research on Low Density Parity Check codes and statistical modeling of resource availability in high performance supercomputers.
2008-2009	Postdoctoral Researcher, University of California San Diego Conducted research on single cell fluorescence microscopy and microfluidics.
2003-2008	Research Assistant, University of California Santa Barbara Conducted research in the fields of computational physical chemistry, systems biology and high performance scientific computing.
2000-2001	Research Aide, James Franck Institute, University of Chicago Designed and built Linux clusters and management software for Molecular Dynamics simulations.
1999-2000	Research Aide, Math and Computer Science Division, Argonne National Lab Participated in the design and deployment of Chiba City, one of the first large, scalable Linux clusters for scientific computing.

### **Teaching Experience**

2007	Associate Lecturer, Department of Computer Science, UCSB Discrete Math (Summer)
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2002-2003 Teaching Assistant, Department of Computer Science, UCSB  
Parallel Scientific Computing (Fall)  
Programming Languages (Winter)  
Computer Architecture (Spring)

### **Peer Reviewed Conference Papers**

**S. Lampoudi**, D.M. Beazley, SWILL: A Simple Embedded Web Server Library, *USENIX 2002*, Monterey, CA, June 2002. (Best Student paper award)

### **Peer Reviewed Workshop Papers**

**S. Lampoudi**, J. Brevik, M.E. O'Sullivan, Combinatorial Properties as Predictors for the Performance of the Sum-Product Algorithm, *Canadian Workshop on Information Theory*, May 17-20 2011, Kelowna, BC, Canada.

### **Peer Reviewed Journal Articles**

Karagiozoglou-Lampoudi T, Trachana M, Agakidis C, Pratsidou-Gertsi P, Taparkou A, **Lampoudi S**, Kanakoudi-Tsakalidou F. Ghrelin levels in patients with juvenile idiopathic arthritis: relation to anti-tumor necrosis factor treatment and disease activity, *Metabolism*, May 5, 2011.

E. S. Penev, **S. Lampoudi**, J.-E. Shea, TiRex: Replica Exchange Molecular Dynamics Using TINKER, *Computer Physics Communications*, 2009 Jun, 180:2013-2019.

**S. Lampoudi**, D.T. Gillespie, L.R. Petzold, The Multinomial Simulation Algorithm for discrete stochastic simulation of reaction-diffusion systems, *J Chem Phys*, 2009 Mar; 130:194104.

**S. Lampoudi**, D.T. Gillespie, L.R. Petzold, Effect of excluded volume on 2D discrete stochastic chemical kinetics, *J Comput Phys*. 2009;228(10):3656-3668.

D.T. Gillespie, **S. Lampoudi**, L.R. Petzold, Effect of reactant size on discrete stochastic chemical kinetics, *J Chem Phys*, 2007 Jan; 126(3):034302.

W. Guo W, **S. Lampoudi**, J.-E. Shea, Temperature dependence of the free energy landscape of the src-SH3 protein domain, *Proteins*, 2004 May; 55(2):395-406.

W. Guo, **S. Lampoudi**, J.-E. Shea, Posttransition state desolvation of the hydrophobic core of the src-SH3 protein domain, *Biophys J*, 2003 Jul; 85(1):61-9.

### **Invited Talks**

September 27, 2009 Banff International Research Station, Banff, AB, Canada

Workshop on Stochasticity in Biochemical Reaction Networks  
Title: Space in Stochastic Simulation of Intracellular Kinetics

- October 7, 2008 Center for Nonlinear Studies, Los Alamos National Lab, NM  
Q-Bio Seminar  
Title: Adapting Stochastic Simulation to Suit Biology and Biological Data to Suit Simulation
- September 29, 2008 University of Washington, Seattle, WA  
Dept. of Electrical Engineering  
Title: Spatial Considerations in Discrete Stochastic Simulation of Chemical Kinetics
- September 26, 2007 California State University, Channel Islands  
Mathematics and Computer Science Graduate Seminar  
Title: A Primer in Discrete Stochastic Modeling of Chemical Reactions
- March 6, 2007 Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC  
Biosystems Modeling Workshop  
Title: The Effect of Reactant Size on Discrete Stochastic Chemical Kinetics

### **Book Chapters**

G. Bellesia, **S. Lampoudi**, J.-E. Shea, Computational Methods in Nanostructure Design: Replica Exchange Simulations of Self-Assembling Peptides, in *Nanostructure Design*, Humana Press, 2008 (ISBN: 978-1-934115-35-0).

### **Non peer-reviewed Conference Proceedings**

**S. Lampoudi**, R.R. Hulbert, P.A. Cotter, L.R. Petzold, Modeling raises the possibility that BvgAS phosphorelay kinase activity may be constitutive, *2nd Q-Bio Conference on Cellular Information Processing*, Santa Fe, NM, Aug 6-9 2008.

**S. Lampoudi**, D.T. Gillespie, L.R. Petzold, How does reactant size affect the propensity functions of the SSA? *International Conference for Systems Biology*, Long Beach, CA, October 1-6 2007.

**S. Lampoudi**, R.R. Hulbert, P.A. Cotter, L.R. Petzold, Unraveling the BvgAS Phosphorelay, *25th Army Science Conference*, Orlando, FL, Nov 27-30 2006.

**S. Lampoudi**, R.R. Hulbert, C.L. Williams, P.A. Cotter, L.R. Petzold, The Development of a Model of a Bacterial Phosphorelay Signal Transduction System, *2nd ASM - IEEE EMBS Conference on Bio, Micro and Nanosystems*, San Francisco, CA, January 15-18

2006.

**S. Lampoudi**, R.R. Hulbert, C.L. Williams, P.A. Cotter, L.R. Petzold, The Development of a Model of a Bacterial Phosphorelay Sensory Transduction System, *International Conference for Systems Biology*, Boston, MA, October 19-24 2005.

R. Gunawan, Y. Cao, **S. Lampoudi**, L. Petzold, F.J. Doyle III, Stochastic sensitivity analysis of a circadian gene network, *International Conference for Systems Biology*, Heidelberg, Germany, October 9-13 2004.