

John Eargle

Phone: (217) 333-8710
Fax: (217) 244-3186

Email: eargle@illinois.edu
Homepage: <http://vidar.scs.uiuc.edu/~jeargle>

Education

Ph.D. Biophysics and Computational Biology
University of Illinois at Urbana-Champaign, 2010
Dissertation: *Simulation and Visualization of Dynamics in RNA-Protein Complexes in Translation*
Advisor: Zaida Luthey-Schulten

B.A. Computer Science / Plan II
University of Texas at Austin, 2001

Honors and Awards

NSF Postdoctoral Fellowship, Center for the Physics of Living Cells, 2010–present
NIH Molecular Biophysics Training Grant, 2003–2007
Ullyott Fellowship, 2003
National Merit Scholarship, 1996–2000

Research Experience

Postdoctoral Research Associate, Zaida Luthey-Schulten laboratory, 2010–present
Graduate Research Assistant, Zaida Luthey-Schulten laboratory, 2004–2010
Volunteer Scientific Programmer, Robin Gutell laboratory, 2001–2003

Teaching Experience

Teaching Assistant, NIH Computational Biophysics Workshop, CMU, Pittsburgh, May 2011
Teaching Assistant, NIH Computational Biophysics Workshop, UIUC, Nov. 2010
Teaching Assistant, NSF Center for the Physics of Living Cells Summer School, UIUC, July 2010
Teaching Assistant, NIH Computational Biophysics Workshop, SCRIPPS, San Diego, July 2010
Teaching Assistant, NIH Computational Biophysics Workshop, UIUC, Aug. 2009
Teaching Assistant, CHEM 470 Computational Chemical Biology, UIUC, Spring 2008
Teaching Assistant, NSF GK-12 Miniworkshop, UIUC, Mar. 2007
Teaching Assistant, NIH Computational Biophysics Workshop, University of Pittsburgh, Nov. 2006

Publications

Journal Articles

Chen K., **Eargle J.**, Sarkar K., Gruebele M., and Luthey-Schulten Z., "The functional role of ribosomal signatures," *Biophysical Journal*, **99**, 3930–3940, 2010

Trabuco L., Schreiner E., **Eargle J.**, Cornish P., Ha T., Luthey-Schulten Z., and Schulten K., "The role of L1 stalk:tRNA interaction in the ribosome elongation cycle," *Journal of Molecular Biology*, **402**, 741–760, 2010

Black A., **Eargle J.**, Sethi A., and Luthey-Schulten Z., "Exit strategies for charged tRNA from GluRS," *Journal of Molecular Biology*, **397**, 1350–1371, 2010

Alexander R.W., **Eargle J.**, and Luthey-Schulten Z., "Experimental and computational determination of tRNA dynamics," *FEBS Letters*, **584**, 376–386, 2010

Sethi A.*, **Eargle J.***, Black A., and Luthey-Schulten Z., "Dynamical networks in tRNA:protein complexes," *Proceedings of the National Academy of Sciences*, **106**, 6620–6625, 2009

Eargle J., Black A., Sethi A., Trabuco L., and Luthey-Schulten Z., "Dynamics of recognition between tRNA and elongation factor Tu," *Journal of Molecular Biology*, **377**, 1382–1405, 2008

Roberts E., **Eargle J.**, Wright D., and Luthey-Schulten Z., "MultiSeq: unifying sequence and structure data for evolutionary analysis," *BMC Bioinformatics*, **7**, 382, 2006

Eargle J. and Luthey-Schulten Z., "Visualizing the dual space of biological molecules," *Computational Biology and Chemistry*, **30**, 219–226, 2006

Eargle J., Wright D., and Luthey-Schulten Z., "Multiple Alignment of protein structures and sequences for VMD," *Bioinformatics*, **22**, 504–506, 2006

* equal contribution

Book Chapters

Eargle J. and Luthey-Schulten Z., "Simulating dynamics in RNA-protein complexes," in *RNA 3D Structure Analysis and Prediction*, eds Leontis, N. and Westhof, E., in press

Web Publications

Magis A., Chen K., **Eargle J.**, Roberts E., and Luthey-Schulten Z., "Evolution of Translation: EF-Tu:tRNA," Theoretical and Computational Biophysics Group, Beckman Institute for Advanced Science and Technology, UIUC, 2009, <http://www.scs.illinois.edu/schulten/tutorials/ef-tu>

Magis A., Chen K., Mathew D., **Eargle J.**, and Luthey-Schulten Z., "Evolution of Translation: The Ribosome," Theoretical and Computational Biophysics Group, Beckman Institute for Advanced Science and Technology, UIUC, 2009, <http://www.scs.illinois.edu/schulten/tutorials/ribosome>

Roberts E., **Eargle J.**, Wright D., Dhaliwal B., Sethi A., O'Donoghue P., and Luthey-Schulten Z., "Evolution of Biomolecular Structure," Theoretical and Computational Biophysics Group, Beckman Institute for Advanced Science and Technology, UIUC, 2006, http://www.scs.illinois.edu/schulten/tutorials/evolution_classII

Presentations

"Dynamic Interaction Networks in aaRS:tRNA," 2011 International Symposium on Aminoacyl-tRNA Synthetases, Salt Lake City, UT, Sep. 2011

"Simulation and Visualization of Dynamics in RNA:Protein Complexes in Translation," Santa Fe Institute Origins of Life Workshop, Fairfax, VA, June 2011

"Dynamic Signaling Networks of tRNA:Protein Complexes in Translation," Illinois Biophysical Society Symposium, Champaign, IL, May 2009

"Role of Signatures in Ribosomal Assembly," Center for the Physics of Living Cells Symposium, Urbana, IL, Feb. 2009

"Dynamics of Recognition between tRNA and Elongation Factor Tu," 22nd tRNA Workshop, Uppsala, Sweden, Nov. 2007

Press Coverage

"Researchers study signaling networks that set up genetic code," PhysOrg (Apr 2009), <http://www.physorg.com/news158936293.html>

"Signaling networks that set up genetic code," ScienceDaily (Apr 2009), <http://www.sciencedaily.com/releases/2009/04/090414141251.htm>

James E. Kloeppel, "Evolutionary software to be released free of charge," UIUC News Bureau (Sep 2006), <http://news.illinois.edu/news/06/0918software.html>