

Margaret E. Johnson

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Education:

- 2004-Feb. 2009: University of California, Berkeley
Ph.D in Bioengineering, Thesis Adviser: Teresa Head-Gordon
Thesis title: *Understanding the interplay of structure and dynamics in liquids using coarse-grained models and experiment*
- 2000-2004: Columbia University
B.S. in Applied Math Magna Cum Laude
Minor in Bioengineering

Research and Teaching Positions:

- April 2009-Present Postdoctoral Researcher, NIH, NIDDK Laboratory of Chemical Physics. Research Adviser: Dr. Gerhard Hummer
- Fall 2004-Dec 2008: Graduate Research Assistant, UC Berkeley/UCSF Joint Graduate Group in Bioengineering, Research Adviser: Prof. Teresa Head-Gordon
- Spring 2007: Graduate Student Instructor, UC Berkeley, Computational Methods in Biophysics BE243/143
- Fall 2005: Graduate Student Instructor, UC Berkeley, Freshman Physics 7A
- Jan 2004-Aug 2004: Undergraduate Researcher, Columbia University, Dept of Applied Math. Research Adviser: Prof. Chris Wiggins. *Worked on information theory based algorithms for clustering data.*
- Summer 2003: Research Intern, Bioengineering Summer Internship Program, (BESIP) NIH Division of Chemical Physics. Adviser: Dr. Phil Anfinrud. *Used absorption spectroscopy to characterize bound ligand content in myoglobin crystals.*
- June 2002-May 2004: Undergraduate Researcher, Columbia University, Dept of Bioengineering. Research Adviser: Prof. Kevin D. Costa *Studied effects of boundary conditions on fibroblast alignment in collagen gels.*

Awards and Honors:

- Jan 2011 Mini Statistical Mechanics Meeting, Berkeley, CA: Grand Prize Poster Award
- June 2010 NIH FARE Award for Research Excellence
- Sept 2006 ACS Conference San Francisco, CA: Physical Chemistry Outstanding Poster Award
- May 2004 Nominated by Columbia Dept. of Applied Math and Physics for George Vincent Wendell Memorial Award

Publications:

Johnson, M.E. & Hummer, G. Nonspecific binding limits the number of proteins in a cell and shapes their interaction networks. *PNAS USA*. **108**, 603-608 (2010).

Ponder, J.W., Wu, C.J., Ren, P.Y., Pande, V.S., Chodera, J.D., Schnieders, M.J., Haque, I., Mobley, D.L., Lambrecht, D.S., DiStasio, R.A., Head-Gordon, M., Clark, G.N.I., Johnson, M.E., Head-Gordon, T. Current status of the AMOEBA polarizable force field. *J. Phys. Chem. B*. **114**, 2549-2564 (2010).

Johnson, M.E., Malardier-Jugroot, C. & Head-Gordon, T. Effects of co-solvents on peptide hydration water structure and dynamics. *Phys. Chem. Chem. Phys.* **12**, 393-405 (2010).

Malardier-Jugroot, C., Bowron, D.T., Soper, A.K., Johnson, M.E., & Head-Gordon, T. Structure and water dynamics of aqueous peptide solutions in the presence of co-solvents. *Phys. Chem. Chem. Phys.* **12**, 382-392 (2010).

Johnson, M.E. & Head-Gordon, T. Assessing thermodynamic-dynamic relationships for waterlike liquids. *J. Chem. Phys.* **130**, 214510 (2009).

Johnson, M.E., Malardier-Jugroot, C., Murarka, R.K. & Head-Gordon, T. Hydration water dynamics near biological interfaces. *J. Phys. Chem. B*. **113**, 4080-4092 (2009).

Malardier-Jugroot, C., Johnson, M.E., Murarka, R.K. & Head-Gordon, T. Aqueous peptides as experimental models for hydration water dynamics near protein surfaces. *Phys. Chem. Chem. Phys.* **10**, 4903-4908 (2008).

Johnson, M.E., Head-Gordon, T. & Louis, A.A. Representability problems for coarse-grained water potentials. *J. Chem. Phys.* **126**, 144509 (2007).

Head-Gordon, T. & Johnson, M.E. Tetrahedral Structure or chains for liquid water. *PNAS* **103**, 7973-7977 (2006).