

Margaret E. Johnson

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Education:

- 2009-Present: National Institutes of Health (NIH)
Postdoctoral Researcher, Laboratory of Chemical Physics.
Research Adviser: Dr. Gerhard Hummer
- 2004-2009: 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

Teaching Experience:

- 2007: Graduate Student Instructor, UC Berkeley, Computational Methods in Biophysics BE243/143
- 2005: Graduate Student Instructor, UC Berkeley, Freshman Physics 7A

Grant Support:

- 2011-2015: NIH K99/R00 Pathway to Independence Award:
Modeling the nucleation of clathrin coated vesicles at the membrane
Up to \$249,000/year for 3 years as an independent investigator.

Awards and Honors:

- 2011 Mini Statistical Mechanics Meeting, Berkeley, CA: Grand Prize Poster Award
- 2010 NIH Fellows Award for Research Excellence (FARE)
- 2006 American Chemical Society Conference San Francisco, CA: Physical

2004 Chemistry Outstanding Poster Award
Nominated by Columbia Dept. of Applied Math and Physics for George
Vincent Wendell Memorial Award

Leadership and Service:

2011 Judge for NIH-NIDDK Fellows retreat.
2009-Present Web designer and manager for Dr. Hummer's group webpage.

Invited Seminars:

July 2011 Gordon Research Conference on Cellular Systems Biology. Davidson,
NC
April 2011 NIDDK Fellows Retreat, NIH, Bethesda, MD.
March 2011 Biophysical Society Meeting platform presentation, Baltimore, MD.
2010 Laboratory of Chemical Physics, NIH, Bethesda, MD.
2008 Prof. Ken Dill Research Group, UCSF, San Francisco, CA.
2008 Prof. Jih-Wei Chu Research Group, UC Berkeley, Berkeley, CA.

Publications:

Johnson, M.E. & Hummer, G. Dynamic string method for simulation of reactive transitions in molecular systems. *J. Chem. Phys.* **In preparation** (2011).

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 (2011).

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).