Jessica M.J. Swanson

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EDUCATION

1995-2000	**University of California at Davis** B.S. Biochemistry GPA 3.78	Davis, CA
2001-present	**University of California at San Diego** Ph.D. Chemistry/Biochemistry GPA 3.88, 180 credit hrs	San Diego, CA

AWARDS

1995	**Dean's List**	UNM
1996	**Riebsomer Award for Excellence in Chemistry**	UNM
1996-2000	**Dean's List**	UC Davis
1998-1999	**Student's First Achievement Scholarship**	UC Davis
2000	**Election to Phi Beta Kappa**	UC Davis
2000	**Nomination for Undergraduate Student of the Year**	UC Davis - Bio. Sci.
2000	**Citation for Outstanding Academic and Research Achievements**	Dept. of Biochemistry UC Davis
2002	**Exemplary Teaching Assistant Award**	UC San Diego
2002	**Gordon-Kenan Chemical Physics Summer School Fellowship**	NSF
2002	**Molecular Biophysics Training Grant (MBTG) Funded Trainee**	UC San Diego
2003-2005	**Center for Theoretical Biological Physics Fellow**	UC San Diego
2003 -2005	**MBTG Student Steering Committee Member**	UC San Diego
Fall 2003	**Biochemistry Seminar Series Speaker Host**	UC San Diego
2004	**ACS/CCG Excellence Award**	227th ACS National Meeting Division of Computers in Chemistry

TEACHING EXPERIENCE

1997	**General Chemistry Tutor**	UC Davis Tutoring Center
2002	**Teaching Assistant** ➢ Winter – Physical Chemistry (CHEM127) ➢ Spring – Molecular Modeling (CHEM 115/215) ➢ Fall – General Chemistry (CHEM 6A)	UC San Diego Dr. K. Lindenberg Dr. L. Ten Eyck Dr. M. Sailor
2004	**Section Leader -** Continuum Solvation CTBP Theory and Computation in Molecular Biophysics Summer School	UC San Diego
2005	**Co-Lecturer -** Chem215 Molecular Modeling	UC San Diego

PUBLICATIONS AND PAPERS

Computer Simulation of Water in Cytochrome C Oxidase, Zheng X., Medvedev D., Swanson J., Stuchebrukhov A., Biochim. Biophys. Acta 1557: 99-107 (2003).

Revisiting Free Energy Calculations: A Theoretical Connection to MM/PBSA and Direct Calculation of the Association Free Energy, Swanson, J.M.J., R.H. Henchman, and J.A. McCammon, Biophys. J. 86, 67-74 (2004).

Optimized radii for Poisson-Boltzmann calculations with the AMBER force field, Swanson, J.M.J., S.A. Adcock, and J.A. McCammon, J. Chem. Theory Comput. (3); 484-493 (2005).

Limitations of Atom-Centered Dielectric Functions in Implicit Solvent Models, Swanson, J.M.J., J. Mongan, and J.A. McCammon, J. Phys. Chem. B 109, 31, 14769-14772 (2005).

The Entropic Cost of Protein-Protein Association: A Case Study on Acetylcholinesterase Binding to Fasciculin-2, Minh, D.D.L., J.M. Bui, C.E. Chang, T. Jain, J.M.J. Swanson, J.A. McCammon, Biophys. J. 89, L25-L27 (2005).

Coupling hydrophobicity, dispersion, and electrostatics in continuum solvent models, Dzubiella J., J.M.J. Swanson, J.A. McCammon, Phys. Rev. Lett.96, 087802 (2006).

Coupling nonpolar and polar solvation free energies in implicit solvent models, Dzubiella J., J.M.J. Swanson, J.A. McCammon, J. Chem. Phys. 124 084905 (2006).

Optimizing the Poisson-Boltzmann dielectric boundary: Lessons learned with atom-centered dielectric functions, Swanson J.M.J., J.A. McCammon, (in preparation).

Testing the limits of end-point free energy calculations with FKBP12. Swanson J.M.J., J.A. McCammon, (in preparation).

TALKS

227TH ACS NATIONAL MEETING, COMP DIVISION Anaheim, CA. March 25 - April 1 2004
Revisiting free energy calculations: One step closer to rigorous scoring functions and one step beyond MM/PBSA

49TH BIOPHYSICAL SOCIETY MEETING Long Beach, CA, February 12-16, 2005
End-point free energy calculations of FK506BP: Piecing together an energetic puzzle

229TH ACS NATIONAL MEETING, COMP DIVISION San Diego, CA, March 13-17, 2005
End-point free energy calculations: What it takes for success with FK506 Binding Protein

INVITED TALKS

LA JOLLA COMPUTATIONAL THEORY SYMPOSIUM, San Diego, CA. July 31, 2004
Synergy between implicit and explicit solvent models: Optimized radii for Poisson Boltzmann calculations

228TH ACS NATIONAL MEETING, COMP DIVISION Philadelphia, PA, August 22-26, 2004
End-point free energy calculations: Synergy from continuum solvent and molecular dynamics methods

TELLURIDE SCIENCE RESEARCH CENTER, PROTEIN DYNAMICS Telluride, CO August 1-5, 2005
Insights into protein-protein and protein-ligand association from end-point free energy calculations

UC DAVIS, DEPARTMENT OF CHEMISTRY SEMINAR Davis, CA October 25, 2005
Protein-ligand interactions: Insights from computer simulations

CONFERENCE POSTERS

47TH ANNUAL BIOPHYSICAL SOCIETY MEETING San Antonio, TX March 1-5, 2003

MULTISCALE COMPUTATIONAL MODELING San Diego, CA March 25-27, 2004

227TH ACS NATIONAL MEETING Anaheim, CA. March 25 - April 1 2004
Chemical Computing Group Excellence Award

COMP CHEM GORDON RESEARCH CONFERENCE Plymouth, NH July 4 - 9 2004

49TH BIOPHYSICAL SOCIETY MEETING Long Beach, CA, February 12-16, 2005

PROFESSIONAL INVOLVEMENT

MEMBER: (2003 – present)	American Chemical Society.
MEMBER: (2001 – present)	Biophysical Society.
JOURNAL REVIEW:	Biophysical Journal

	Journal of Physical Chemistry
	Journal of Computer-Aided Molecular Design
POLICY/COMMUNITY INVOLVEMENT	Graduate Student Association Representative *(2003-2005)*
	Chair of the Sustainable Development Committee *(2004)*
	UCSD rep. at ASBMB Student Hill Day in DC *(Oct. 2004)*