

Sarah L. Keller, Ph.D.
Professor of Chemistry

University of Washington, Box 351700
Seattle, WA 98195-1700
email: slkeller@chem.washington.edu

EMPLOYMENT

| | |
|---|--|
| University of Washington Professor of Chemistry Associate Professor of Chemistry Adjunct Associate Professor of Physics Assistant Professor of Chemistry Adjunct Assistant Professor of Physics | Seattle, WA Sept 2009-present Sept 2005-Sept 2009 Sept 2005-present Mar 2000-Sept 2005 Feb 2002-Sept 2005 |
| Stanford University Post-doctoral researcher in lipid interactions. Mentor: Professor Harden M. McConnell | Stanford, CA Aug 1997-Mar 2000 |
| University of California Post-doctoral researcher in electron-microscopy of surfactants. Mentor: Professor Joseph A. Zasadzinski | Santa Barbara, CA 1995-Aug 1997 |
| Princeton University Research Asst. in biological physics; Teaching Asst. in physics Mentor: Professor Sol M. Gruner | Princeton, NJ 1991-1995 |
| Fermilab Nat'l Accelerator Lab/ Rice University Research Asst. in particle drift chamber construction. | Batavia, IL Jun 87-Aug 87 |

EDUCATION

| | |
|--|---------------|
| Princeton University Ph.D. in Physics, May 30 1995; M.A. in Physics, May 1991. Thesis Topic: Interaction between Ion-channels and Lipid Membranes | Princeton, NJ |
| Rice University B.A. in Physics, May 1989; Thesis advisor: Professor Randy G. Hulet | Houston, TX |

HONORS AND AWARDS

| | |
|---|-----------|
| Avanti Young Investigator in Lipid Research - ASBMB | 2010 |
| Proposal Review Panel: NSF Molecular Biophysics (BIO Directorate) | 2009 |
| Haines Annual Lecture in Biochemistry - Wabash College | 2008 |
| Distinguished Teaching Award - University of Washington | 2006 |
| Margaret Oakley Dayhoff Research Award - Biophysical Society | 2005 |
| Annual Five Colleges Lecturer "What's New in Physics" - Smith College | 2005 |
| Outstanding Teaching Award - UW Department of Chemistry | 2004 |
| Cottrell Scholar Award | 2003 |
| Proposal Review Panel: NSF Molecular Biophysics (BIO Directorate) | 2003 |
| NSF CAREER Award | 2002 |
| Research Innovation Award (Research Corporation) | 2001 |
| Proposal Review Panel: NASA Biophysics in Microgravity | 2000 |
| National Institutes of Health Postdoctoral Fellowship (NRSA) | 1998-2000 |
| University of California President's Postdoctoral Fellowship | 1995-1997 |
| National Institutes of Health Graduate Training Grant | 1993-1995 |
| Liposome Company Fellowship | 1992-1993 |
| President's Scholarship, Princeton University | 1989-1991 |
| Board of Governors Scholarship, Rice University | 1985 |

PUBLICATIONS IN PEER-REVIEWED JOURNALS

(•• signifies published since tenure package of June 2004)

(• signifies while at UW)

- **34.** A.R. Honerkamp-Smith, S.L. Veatch, and S.L. Keller, An Introduction to Critical Points for Biophysicists: Observations of Compositional Heterogeneity in Lipid Membranes, *Biochim. Biophys. Acta. (Invited)*, 1788, 53-63, 2009. (Cover article)
- **33.** A.R. Honerkamp-Smith, P. Cicuta, M.D. Collins, S.L. Veatch, M. den Nijs, M. Schick, and S.L. Keller, Line Tensions, Correlation Lengths, and Critical Exponents in Lipid Membranes near Critical Points, *Biophys. J.*, 95, 236-246, 2008.
- **32.** M.D. Collins and S.L. Keller, Tuning Lipid Mixtures to Induce Domains across Leaflets of Unsupported Asymmetric Bilayers, *PNAS*, 105, 124-128, 2008.
- **31.** M. Halter, Y. Liao, R.M. Plocinik, D.C. Coffey, S. Bhattacharjee, U. Mazur, G.J. Simpson, B.H. Robinson and S.L. Keller, Molecular Self-Assembly of Mixed High-beta Zwitterionic and Neutral Ground State NLO Chromophores, *Chemistry of Materials*, 20, 1778-1787, 2008.
- **30.** S.L. Veatch, O. Soubias, S.L. Keller, and K. Gawrisch, Critical Fluctuations in Domain-Forming Lipid Mixtures, *PNAS*, 104, 17650-17655, 2007.
- **29.** P. Cicuta, S.L. Keller, and S.L. Veatch, Diffusion of Liquid Domains in Lipid Bilayer Membranes, *J. Phys. Chem. B*, 111, 3328-3331, 2007.
- **28.** S.L. Veatch, K. Gawrisch, and S.L. Keller, Closed-loop Miscibility Gap and Quantitative Tie-Lines in Ternary Membranes Containing Diphytanoyl PC, *Biophys. J.*, 90, 4428-4436, 2006.
- **27.** B.L. Stottrup and S.L. Keller, Phase Behavior of Lipid Monolayers Containing DPPC and Cholesterol Analogs, *Biophys. J.*, 90, 3176-3183, 2006.
- **26.** S.L. Keller and A.L. Smith, Advice for New Faculty Teaching Undergraduate Science, *J. Chem. Educ.*, 83, 401-406, 2006.
- **25.** S.L. Veatch and S.L. Keller, Seeing Spots: Complex Phase Behavior in Simple Membranes, *Biochim. Biophys. Acta (Invited)*, 1746, 172-185, 2005. (Cover article)
- **24.** M.E. Beattie, S.L. Veatch, B.L. Stottrup, and S.L. Keller, Sterol Structure Determines Miscibility vs. Melting Transitions in Lipid Vesicles, *Biophys. J.*, 89, 1760-1768, 2005.
- **23.** S.L. Veatch and S.L. Keller, Miscibility Phase Diagrams of Giant Vesicles Containing Sphingomyelin, *Phys. Rev. Lett.*, 94, 148101, 2005.
- **22.** B.L. Stottrup, D.S. Stevens, and S.L. Keller, Miscibility of Ternary Mixtures of Phospholipids and Cholesterol in Monolayers, and Application to Bilayer Systems, *Biophys. J.*, 88, 269-276, 2005.
- **21.** S.L. Veatch, I.V. Polozov, K. Gawrisch, and S.L. Keller, Liquid Domains in Vesicles Investigated by NMR and Fluorescence Microscopy, *Biophys. J.*, 86, 2910-2922, 2004.
- **20.** B.L. Stottrup, S.L. Veatch, and S.L. Keller, Nonequilibrium Behavior in Supported Lipid Membranes Containing Cholesterol, *Biophys. J.*, 86, 2942-2950, 2004.
- **19.** S.L. Keller, Sequential Folding of a Rigid Wire into Three-Dimensional Structures, *Am. J. Phys.*, 72, 599-604, 2004.
- **18.** S.L. Veatch and S.L. Keller, Separation of Liquid Phases in Giant Vesicles of Ternary Mixtures of Phospholipids and Cholesterol, *Biophys. J.*, 85, 3074-3083, 2003.
- **17.** S.L. Veatch and S.L. Keller, A Closer Look at the Canonical Raft Mixture in Model Membrane Studies, *Biophysical J.* 84, 725-726, 2003.
- **16.** S.L. Keller, Miscibility Transitions and Lateral Compressibility in Liquid Phases of Lipid Monolayers, *Langmuir, (Invited)* 19, 1451-1456, 2003.
- **15.** S.L. Veatch and S.L. Keller, Organization in Lipid Membranes Containing Cholesterol, *Phys. Rev. Lett.* 89, 268101, 2002.
- **14.** S. Bezzine, J.G. Bollinger, S.L. Veatch, S.L. Keller, and M.H. Gelb, On the Binding Preference of Secreted Phospholipases A2 for Membranes with Anionic Phospholipids, *J. Biol. Chem.* 277, 48523-48534, 2002.

- **13.** S.L. Keller, Coexisting Liquid Phases in Lipid Monolayers and Bilayers, *J. Phys.: Condensed Matter (Special Issue Article - Invited)* 14, 4763-4766, 2002.
- 12.** W.H. Pitcher III, S.L. Keller, and W.H. Huestis, Interaction of Nominally Soluble Proteins with Phospholipid Monolayers at the Air-Water Interface. *Biochim. Biophys. Acta (Biomembranes)* 1564, 107-113, 2002.
- 11.** S.L. Keller, T.G. Anderson, and H.M. McConnell, Miscibility Critical Pressures in Monolayers of Ternary Lipid Mixtures, *Biophys. J.* 79, 2033-2042, 2000.
- 10.** S.L. Keller, A. Radhakrishnan, and H.M. McConnell, Saturated Phospholipids with High Melting Temperature Form Complexes with Cholesterol in Monolayers *J. Phys. Chem. B.* 104, 7522-27, 2000.
- 9.** S.L. Keller and H.M. McConnell, Stripe Phases in Lipid Monolayers near a Miscibility Critical Point, *Phys. Rev. Lett.* 82, 1602-1605, 1999.
- 8.** S.L. Keller, W.H. Pitcher III, W.H. Huestis and H.M. McConnell, Red Blood Cell Lipids Form Immiscible Liquids, *Phys. Rev. Lett.* 81, 5019-5022, 1998.
- 7.** S.L. Keller, P. Boltenhagen, D. Pine and J.A. Zasadzinski, Direct Observation of Shear-Induced Structures in Worm-Like Micellar Solutions by Freeze-Fracture Electron Microscopy, *Phys. Rev. Lett.*, 80, 2725-2728, 1998.
- 6.** H.E. Warriner, S.L. Keller, S.H.J. Idziak, N.L. Slack, P. Davidson, J.A. Zasadzinski, and C.R. Safinya, The Influence of Polymer Molecular Weight in Lamellar Gels Based on PEG-Lipids, *Biophys. J.*, 75, 272-293, 1998.
- 5.** M. Adams, Z. Dogic, S.L. Keller and S. Fraden, Entropically Driven Microphase Transitions in Mixtures of Colloidal Rods and Spheres, *Nature*, 393, 349-352, 1998.
- 4.** S.L. Keller, H.E. Warriner, C.R. Safinya and J.A. Zasadzinski, Direct Observation of a Defect-Mediated Viscoelastic Transition in a Hydrogel of Lipid Membranes and Polymer-Lipids, *Phys. Rev. Lett.*, 78, 4781-4784, 1997.
- 3.** S.L. Keller, S.M. Gruner and K. Gawrisch, Small Concentrations of Alamethicin Induce a Cubic Phase in Bulk Phosphatidylethanolamine Mixtures, *Biochim. Biophys. Acta*, 1278, 241-246, 1996.
- 2.** Y-S. Lee, J-Z. Yang, T.M. Sisson, D.A. Frankel, J.T. Gleeson, E. Aksay, S.L. Keller, S.M. Gruner and D.F. O'Brien, Polymerization of Nonlamellar Lipid Assemblies, *J. Am. Chem. Soc.*, 117, 5573-5578, 1995.
- 1.** S.L. Keller, S.M. Bezrukov, S.M. Gruner, M.W. Tate, I. Vodyanoy and V.A. Parsegian, Probability of Alamethicin Conductance States Varies with Nonlamellar Tendency of Bilayer Phospholipids, *Biophys. J.*, 65, 23-27, 1993.

NATIONAL / INTERNATIONAL PRESS COVERAGE (Since 2000 only)

- 2. Chemical and Engineering News, "Simulating Life's Envelopes", Feb. 9 2009, p31-33.
- 1. 2000 Yearbook of Science and the Future, Encyclopedia Britannica, "Order out of Disorder", p247.

INVITED UNIVERSITY / INSTITUTE PRESENTATIONS (Since 2000 only)

- 54. Biochemistry Seminar, University of Washington, accepted for Apr. 29 2010.
- 53. Physics Colloquium, Syracuse University, Nov. 13 2008.
- 52. Cornell University Medical School, Nov. 12 2008.
- 51. Condensed Matter Seminar, NYU, Nov. 11 2008.
- 50. Center for Self Assembly Seminar, University of Montreal, Apr. 23 2008.
- 49. Center for Self Assembly Seminar, McGill University, Apr. 22 2008.
- 48. Bill and Wilma Haines Annual Public Lecture in Biochemistry, Wabash College, Apr. 4 2008.
- 47. Bill and Wilma Haines Annual Research Lecture in Biochemistry, Wabash College, Apr. 3 2008.
- 46. Special Seminar, Deutsches Krebsforschungszentrum, Heidelberg, Nov 22 2007.

45. Bioquant Seminar, Deutsches Krebsforschungszentrum, Heidelberg, Nov 20 2007.
44. Physics Seminar, Hamilton College, Sept. 17 2007.
43. Physical Chemistry Seminar, University of Wisconsin, Sept. 11 2007.
42. Condensed Matter Seminar, University of California, Los Angeles, May 21 2007.
41. Chemistry Seminar, Imperial College (England), May 15 2007.
40. CIC BiomaGUNE, San Sebastian (Spain), May 10 2007.
39. Physiology and Biophysics Seminar, University of Washington, Apr. 18 2007.
38. Graduate Student Hosted Seminar, Stanford University, Chemistry Dept., Apr. 5 2007.
37. Condensed Matter Seminar, Max Born Institute (Berlin), June 29 2006.
36. Biophysics Seminar, Rice University, Physics Dept., Aug. 26 2005.
35. Seminar, Western Washington University, May 13 2005.
34. Annual "What's New In Physics?" - Five Colleges Lecture, Smith College, Phys. Dept., Apr. 1 2005.
33. Condensed Matter Seminar, Univ. of Massachusetts Amherst, Physics Dept., Mar. 31 2005.
32. Condensed Matter Seminar, Harvard University, DEAS, Mar. 29 2005.
31. Seminar, Claremont Colleges, Nov 9 2004.
30. Condensed Matter Seminar, Univ. of Washington, Physics Dept., Nov. 2 2004.
29. Colloquium, Univ. of Memphis, Physics Dept., Sept. 15 2004.
28. Physical/Biological Chem. Seminar, Univ. of Utah, Chem. Dept., Sept. 13 2004.
27. Seminar, MPI für Polymerforschung, Mainz (Germany), Jul. 19 2004.
26. Physical Chemistry Seminar, Penn State University, Chemistry Dept., Apr. 23 2004.
25. Physical Chemistry Seminar, Purdue University, Chemistry Dept., Apr. 21 2004.
24. Department Colloquium, University of Virginia, Chemistry Dept., Apr. 2 2004.
23. Joint CBIMMS and CBTE Seminar, Duke University, Apr. 1 2004.
22. Biophysics Seminar, Cornell University, Mar. 17 2004.
21. Condensed Matter Seminar, Northwestern University, Physics Dept., Mar. 11 2004.
20. Seminar, University of Chicago, Institute of Biological Dynamics, Mar. 9 2004.
19. Condensed Matter Seminar, University of Michigan, Physics Dept., Feb. 2 2004.
18. Special Seminar, Nagoya University (Japan), Dept. of Biological Science, Dec. 11 2003.
17. Department Colloquium, IUPUI, Physics Department, Nov. 6 2003.
16. Liquid Crystal Institute Seminar, Kent State University, Nov. 5 2003.
15. Physical Chemistry Seminar, UC Santa Cruz, Chemistry Dept., Apr. 2 2003.
14. Physical Chemistry Seminar, UC Berkeley, Chemistry Dept., Apr. 1 2003.
13. Polymer Science and Engineering Seminar, UMass Amherst, Mar. 21 2003.
12. Biophysics Seminar, Boston University, Mar. 20 2003.
11. Biophysics and Condensed Matter Seminar, UC Davis, Feb. 20 2003.
10. Advances in Soft Matter Seminar, UCLA, Chemistry Dept., May 31 2002.
9. Materials Research Seminar, UC Santa Barbara, Chemistry Dept., May 29 2002.
8. Department Colloquium, Pacific Lutheran University, Chemistry Dept., May 6 2002.
7. Department Colloquium, University of Washington, Chemical Engineering Dept., Nov. 19 2000.
6. Department Colloquium, Kent State University, Physics Dept., Nov. 16 2000.
5. Seminar, Case Western Reserve University, Chemical Engineering Dept., Nov. 16 2000.
4. Special Seminar, Fred Hutchinson Cancer Research Center, Seattle, Nov. 8 2000.
3. Department Colloquium, University of Washington, Physics Dept., Oct. 2 2000.
2. Special Seminar, Max-Planck-Institute for Colloids and Interfaces, Golm (Germany), Sept.15 2000.
1. Special Seminar, Simon Frasier University, Physics Dept., May 16 2000.

INVITED CONFERENCE PRESENTATIONS (Since 2000 only)

40. Experimental Biology 2010, ASBMB Avanti Award, accepted for Apr 24-28, 2010.
39. ISWOLD Workshop on Lipid Domains (Rehovot, Israel), accepted for Mar 8-12, 2010.
38. Biophysical Society Meeting, Membrane Zoology Workshop, accepted for Feb 20-24, 2010.
37. University of Oregon NSF-IGERT Material Science Institute Retreat, Accepted for Dec 15-17 2009.
36. Gordon Research Conference on Soft Condensed Matter Physics, Aug 9-13 2009.
35. Gordon Research Conference on Molecular Membrane Biology, Jul 5-9 2009.
34. Biophysical Society Meeting, Membrane Structure and Assembly Subgroup, Feb 28 2009.
33. Royal Society of Chemistry / Institute of Physics, Meeting on Phase Separation and Mixing, Plenary Lecture (Trinity College, Cambridge), Sept. 3-5 2008.
32. FASEB Summer Conference, Molecular Biophysics of Cell Membranes, Jul 19-24 2008.
31. ACS Meeting, Symposium on Structure, Property and Function of Membranes, Apr 6-10 2008.
30. Nonequilibrium Soft Matter Physics Symposium, (Tokyo, Japan), Mar 17-19 2008.
29. Keystone Symposium, Molecular Basis for Biological Membrane Organization, Jan 13-16 2008.
28. Annual Berkeley Statistical Mechanics Meeting, Jan 11-13 2008.
27. Sci Foo Camp (Googleplex, CA), Aug 3-4 2007.
26. American Physical Society Meeting, Mar 9 2007.
25. Biophysical Society Meeting, Symposium, Mar 6 2007.
24. ACS Meeting, Physical Chemistry Symposium, Sept 2006.
23. Bio-Systems Conference, MPI Colloids and Interfaces (Germany), June 27 2006.
22. EMBO Workshop, (Bilbao, Spain), June 2006 (declined due to maternity).
21. Keystone Symposium on Lipid Rafts and Cell Function, March 2006 (declined due to maternity).
20. Annual Australian Society for Biophysics Meeting, (Canberra, Aus), Sept. 29 2005.
19. Gordon Research Conference on Liquid Crystals, June 19 2005.
18. Gordon Research Conference on Chemistry of Supramolecules and Assemblies, June 15 2005.
17. Lecture Series, Expts in Physical Biology, Inst. for Mathematics and its Applications, UMinn, May 18 2005.
16. Biophysical Society Awards Symposium, Feb. 2005.
15. Physics of Soft Matter Complexes (Tokyo, Japan), Nov 30 2004.
14. 2004 Asilomar Biophysical Discussions, Oct. 2004.
13. FASEB Summer Research Conference, Jul. 2004.
12. ACS German-American Frontiers of Chemistry Symposium (Kloster Seeon, Germany), Jul. 2004.
11. Cottrell Scholar Conference, Jul. 2004.
10. Newton Institute Programme: Statistical Mechanics of Molecular and Cellular Biological Systems (Cambridge University, UK), May 2004.
9. New England Complex Fluids Workshop, Mar. 2004.
8. The Pittsburg Conference, Mar. 2004.
7. National Academy of Sciences: Japanese-American Frontiers of Science Symposium, (Kanagawa, Japan), Dec. 2003.
6. ACS Meeting, Physical Chemistry of Complex Fluids Symposium, Sept. 2003.
5. ACS Meeting Colloid and Surface Science Symposium, Jun. 2003.
4. Biophysical Society, Mar. 2003.
3. National Academy of Sciences: Japanese-American Frontiers of Science Symposium, Dec. 2002.
2. Statphys 21 Satellite: Current Problems in Complex Fluids (Oaxaca, Mexico), Jul. 2001.
1. European Biophysics Congress (Munich, Germany), Sept. 2000.

CONTRIBUTED PRESENTATIONS (Representative subset since 2000; non-invited)

29. Biophysical Society (A.R. Honerkamp-Smith and S.L. Keller), scheduled Feb. 2010.
28. Biophysical Society (M. Blosser, J. Ashcraft, and S.L. Keller), scheduled Feb. 2010.
27. Biophysical Society (C. Stanich, A.R. Honerkamp-Smith, and S.L. Keller), scheduled Feb. 2010.
26. Biophysical Society (A.R. Honerkamp-Smith and S.L. Keller), Mar. 2009.
25. Biophysical Society (M.M. Stevens, A.R. Honerkamp-Smith, and S.L. Keller), Mar. 2009.
24. Biophysical Society (J.R. Ashcraft and S.L. Keller), Mar. 2009.
23. Biophysical Society (A.R. Honerkamp-Smith, P. Cicuta, M.D. Collins, S.L. Veatch, M. den Nijs, M. Schick, and S.L. Keller), Feb. 2008.
22. Biophysical Society (M.D. Collins and S.L. Keller), Feb. 2008.
21. Gordon Conference on Mechanisms of Cell Signaling, Magdalen College, Oxford (A.R. Honerkamp-Smith, P. Cicuta, S.L. Veatch, M.D. Collins, M. Schick, M. den Nijs, and S.L. Keller), Sept. 2007.
20. Biophysical Society (A.R. Honerkamp-Smith, P. Cicuta, and S.L. Keller), Mar. 2007.
19. Biophysical Society (M.D. Collins and S.L. Keller), Mar. 2007.
18. Biophysical Society (S.L. Veatch, K. Gawrisch, and S.L. Keller), Feb. 2006.
17. Biophysical Society (B.L. Stottrup and S.L. Keller), Feb. 2006.
16. Biophysical Society (S.L. Veatch, R.A. Johnson, and S.L. Keller), Feb. 2005.
15. Biophysical Society (B.L. Stottrup and S.L. Keller), Feb. 2005.
14. American Society for Cell Biology (S.L. Veatch and S.L. Keller), Dec. 2004.
13. American Society for Cell Biology (B.L. Stottrup and S.L. Keller), Dec. 2004.
12. Biophysical Society: Asilomar Biophysical Discussions (S.L. Veatch and S.L. Keller), Oct. 2004.
11. Biophysical Society (M.E. Beattie and S.L. Keller), Feb. 2004.
10. Biophysical Society (B.L. Stottrup and S.L. Keller), Feb. 2004.
9. Biophysical Society (S.L. Veatch, I.V. Polozov, K. Gawrisch, and S.L. Keller), Feb. 2004.
8. American Society for Cell Biology (S.L. Veatch and S.L. Keller), Dec. 2003.
7. American Society for Cell Biology (B.L. Stottrup and S.L. Keller), Dec. 2003.
6. American Physical Society (S.L. Veatch, K. Gawrisch, and S.L. Keller), Mar. 2003.
5. American Physical Society (S.L. Keller, S.L. Veatch, and B.L. Stottrup), Mar. 2003.
4. Biophysical Society (S.L. Veatch and S.L. Keller), Mar. 2003.
3. American Society for Cell Biology (S.L. Veatch and S.L. Keller), Dec. 2002.
2. Biophysical Society (S.L. Veatch and S.L. Keller), Feb. 2002.
1. Biophysical Society (S.L. Keller, H.M. McConnell), Feb. 2000.

SUPPORT

CURRENT

| | | |
|---|-----------|-----------|
| National Science Foundation MCB-0744852 | 2008-2013 | \$820,000 |
| Epley Foundation | 2009-2010 | \$19,000 |

PAST

| | | |
|--|-----------|-----------|
| Cottrell Teacher Scholar Award | 2003-2008 | \$75,000 |
| National Science Foundation CAREER Award MCB-0133484 | 2002-2007 | \$645,000 |
| Research Innovation Award, Research Corporation | 2002-2006 | \$35,000 |
| Petroleum Research Fund Type G Grant | 2001-2004 | \$25,000 |
| Royalty Research Fund Grant, Univ. of Washington | 2001-2003 | \$24,000 |

SERVICE ACTIVITIES (National / International)

A. JOURNAL REVIEWS

Proc. Natl. Acad. Sci. / Phys. Rev. Lett. / Phys. Rev. E / Biophys. J.
J. Phys. Chem. / J. Memb. Biol. / Biochim. Biophys. Acta / Langmuir

- B. PROPOSAL REVIEW PANELS**
National Science Foundation, Molecular Biophysics (BIO Directorate), 2003 & 2009
NASA Biophysics in Microgravity, 2000
- C. AD HOC PROPOSAL REVIEWS**
National Science Foundation / NASA / Research Corporation / Isaac Newton Trust (UK)
American Chemical Society - Petroleum Research Foundation
- D. SERVICE / MEMBERSHIP WITHIN PROFESSIONAL SOCIETIES**
Biophysical Society, Member
American Physical Society, Member
American Physical Society, Nominating Committee, 2000-2001
American Chemical Society, Member
American Chemical Society, Symposium Organizer for Northwest Meeting, 2001
National Academy of Science, Frontiers of Science Symposium Organizer, Japan 2003
- E. MENTORING**
Founding Member "Membrane Chix" Informal Mentoring Group, 2005-present
NSF ADVANCE Workshop to advise future faculty (Rice Univ.), Oct. 6, 2008

SERVICE ACTIVITIES (Within UW)

- A. DEPARTMENTAL COMMITTEES**
Physical Chemistry Second-Year Graduate Exam Committee, 2003, 2007, 2010 (Chair)
Physical Chemistry Faculty Search Committee Chair, 2005-2006
Physical Chemistry Faculty Search Committee, 2004-present
Physical Chemistry First-Year Graduate Advisor, 2007-2008
Physical Chemistry Seminar Organizer, Spring 2000, Fall 2003, Fall 2004, Fall 2005
Physical Chemistry P.C. Cross Lecture Organizer, Spring 2004
Physical Chemistry Subcommittee to Assess Undergraduate Mathematics Preparation, Fall 2003

Chemistry Dept. Development Committee, 2009-2010
Chemistry Dept. Organizer of Graduate Student Colloquium, 2000-2004, 2006
Chemistry Dept. Graduate Student Recruiting Committee, 2000-2005
Chemistry Dept. Undergraduate Curriculum Committee, 2007-2008
Chemistry Dept. Graduation Ceremony - Awarding Diplomas, 2003-2005

UW Undergraduate Chemistry Society - Research Presentation to Alpha Chi Sigma, 2003
UW Undergraduate Research Society - Research Presentation, 2002
UW Nanotech Student Association - Research and Mentoring Presentation, 2002
UW Organizer "Women in Chemistry" Discussion for Graduate Students, 2001
- B. GRADUATE Ph.D. ADVISORY COMMITTEES (EXCLUDING OWN STUDENTS)**
- | Active | Graduated | | |
|--|--------------------------|------------------------|---------------------|
| Mike Bardaro | Daniel Arndt | Michael Halter (read) | Zahra Shajani |
| Jim Bollinger | Arunima Bandyopadhyay | Joo Ha Hwang | Jennifer |
| Paul Miller | Greg Brewood | David Michels | Shumaker-Parry |
| Greg Putzel | Dorothy Caplow | Mirna Mujacic | Bethany Staggemeier |
| | Michael Eggertson (read) | Jennifer Popham (read) | Bing Yun Sun |
| | Richard Elliott (read) | David Rangel (read) | Paul Wallace |
| (NB: "read" denotes reading committee) | Shohini Ghosh | Dana Schwartz | |
- C. UNIVERSITY-WIDE AND COMMUNITY SERVICE**
UW College of Arts and Sciences Curriculum Committee, 2009-present
UW Panel to advise Academy of Young Scholars, Sept. 28, 2009
UW Collegium on Large Classroom Instruction, Sept. 23, 2009
UW ADVANCE Workshop to advise junior faculty, May 29, 2008
UW Honors Program Panel on balancing family and career, Feb. 28, 2008

UW Networking Panel to advise new UW faculty, Feb. 20, 2008
 UW "Leadership Lunch" Speaker, advising science/engineering students and postdocs, Nov. 2, 2007
 UW Graduate School Panel to advise postdocs on careers and family, May 30, 2007
 Committee to Evaluate UW Dean of Arts and Sciences, David Hodge, 2005
 UW Faculty Connections Advising of Freshmen, Aut 2004, and Transfer Students, Spr 2005
 Proposal review for UW Royalty Research Fund, 2004 - present
 Participated in Community Mentoring Study of Women in Physics, 2003

UNDERGRADUATE, GRADUATE, AND POSTDOCTORAL ADVISING

A. POSTDOCTORAL FELLOWS

Marcus Collins 2006 - 2008 (Current Postdoctoral Fellow at University of Washington)
 Michael Halter 2004 - 2005 (Current NIST Research Scientist)

Awards to Postdoctoral Fellows: NIH Kirschstein Postdoctoral Fellowship

B. Ph.D. STUDENTS

Matthew Blosser 2009 - present
 Cynthia Stanich 2008 - present
 Jake Ashcraft 2008 - present
 Aurelia Honerkamp-Smith 2005 - present
 Margaret Lo 2004 - present
 Adrienne Battle 2004 - 2007 (Current Asst. Prof. of Physics Seminole Commun. College)
 Ben Stottrup 2002 - 2005 (Current Asst. Prof. of Physics at Augsburg College)
 Sarah Veatch 2000 - 2004 (Current Miller Postdoctoral Fellow at Cornell)

Awards to Ph.D Students: Biophysical Society Student Research Achievement Award, Biophysical Society Travel Award (x3), American Society for Cell Biology Travel Award, UW Henderson Prize, UW Karrer Prize best PhD thesis, UW Nanotechnology Fellowship (x3), UW Molecular Biophysics Fellowship (x2), UW Physics Travel Awards (x2), UW Chemistry Travel Awards (x2), UW Rabinovitch Graduate Student Fellowship, UW Natt-Lingafelter Award (x2), Fellowship to Boulder Summer School for Complex Fluids and Biological Materials, Travel Award to 2009 Gordon Conference on Soft Condensed Matter Meets Biology, Poster Competition and Travel Award to the NATO Biophysics Summer School in Edinburgh, Poster Competition and Travel Award to Geilo (Norway) Advanced Study Winter School.

C. MASTERS STUDENTS

Heena Lakhani 2004 - 2007; graduated (Current research assistant at Harvard)
 Ryan Rule 2004 - 2005, graduated (Current engineer at Boeing)
 Mebbie Beattie 2003 - 2005, graduated (Current chemistry teacher)
 Marci DeLeon 2001 - 2002, graduated (Current USDA analytical chemist)

D. UNDERGRADUATE STUDENTS

Cameron Turtle 2009
 Jordan Starr 2009
 Marissa Hackett 2008 - 2009
 Mark M. Stevens 2004 - 2009, graduated; Became staff scientist at UW
 Daniel Stevens 2003 - 2004, graduated; Became a staff scientist at PATH
 Matthew Loo 2003 - 2004, graduated; Became a construction engineer
 Rayna Matsuno 2001 - 2002, graduated; Became a MPH student in public health at GWU
 Nathan Pennock 2001 - 2002, graduated; Became a laboratory manager
 Kathy Toreson 2001, graduated; Became a PhD student in neuroscience at Albany
 LaNiesha Cobb 2001, graduated; Became managing director at Teach for America
 Kim Klonoff 2000, graduated

Awards to Undergraduate Researchers: UW Mary Gates Research Fellowship (2), UW Arts and Sciences Undergraduate Research Fellowship, Merck Index Award.

TEACHING

A. UW AWARDS

University of Washington Department of Chemistry Outstanding Teaching Award in 2005.
University of Washington Distinguished Teaching Award in 2006.

B. SCHEDULE OF COURSES

(Not including research advising courses: Chem 399, Chem 499, Chem/Phys 600, Chem/Phys 800)

| | <u>AUTUMN QTR.</u> | <u>WINTER QTR.</u> | <u>SPRING QTR.</u> |
|-----------|---|--|--|
| 2000-2001 | <i>Chem 590</i> | Chem 452 (enrollment of 74) <i>Chem 590</i> | Chem 461 <i>Chem 590</i> |
| 2001-2002 | Chem 452 (enrollment of 75) Chem 461 (enrollment of 32) <i>Chem 590</i> | Chem 452 (enrollment of 81) <i>Chem 590</i> | <i>Chem 590</i> <i>Bioe 559L</i> |
| 2002-2003 | Chem 452 (enrollment of 73) <i>Chem 590</i> | Chem 452 (enrollment of 65) <i>Chem 590</i> | <i>Chem 585</i> <i>Chem 590</i> <i>Bioe 559L</i> |
| 2003-2004 | Chem 452 (enrollment of 78) <i>Chem 590</i> | Chem 452 (enrollment of 66) <i>Chem 590</i> | <i>Chem 590</i> <i>Bioe 559L</i> |
| 2004-2005 | Chem 452 (enrollment of 82) <i>Chem 595; Chem 590</i> | Chem 155 (enrollment of 48) <i>Chem 590</i> | <i>Chem 590</i> |
| 2005-2006 | Chem 452 (enrollment of 82) <i>Chem 595</i> | Chem 155 (enrollment of 53) | ----- |
| 2006-2007 | Chem 452 (enrollment of 119) | Chem 452 (enrollment of 84) <i>Chem 585</i> | <i>Chem 585</i> |
| 2007-2008 | Chem 162 (enrollment of 237) | Chem 452 (enrollment of 113) | ----- |
| 2009-2010 | Chem 144 (enrollment of 264) | Chem 452 (enrollment of 120) <i>Chem 585, Chair.</i> | ----- |

C. DESCRIPTION OF COURSES

| | | |
|----------------------|--|---------------------------|
| Chem 155 | (Honors Freshman Chemistry) | 3 lectures/week, 10 weeks |
| Chem 144, 162 | (Freshman Chemistry) | 3 lectures/week, 10 weeks |
| Chem 452 | (Physical Chemistry for Biochemistry Majors) | 3 lectures/week, 10 weeks |
| Chem 461 | (Physical Chemistry Laboratory) | 10 weeks |
| Chem 585 | (Graduate Physical Chemistry 2nd Year Exam) | |
| Chem 590 | (Graduate Colloquium) | |
| Chem 595 | (Physical Chemistry Seminar) | |
| Bioe 559L | (Graduate Nanotechnology Lectures – one lecture and homework only) | |

D. STUDENT COURSE EVALUATIONS - CHEM 155 / 162 (FRESHMAN CHEMISTRY)

| | Median Raw Scores | | | Adjusted Evaluations | | |
|-----------------------------|-------------------|------------|------------|----------------------|------------|------------|
| | Chem 155 | | Chem 162 | Chem 155 | | Chem 162 |
| | Win '05 | Win '06 | Aut '07 | Win '05 | Win '06 | Aut '07 |
| 1. Course as a whole | 4.4 | 4.3 | 4.2 | 4.7 | 4.7 | 4.6 |
| 2. Course content | 4.1 | 4.1 | 4.0 | 4.3 | 4.4 | 4.4 |
| 3. Instructor contribution | 4.8 | 4.6 | 4.7 | 5.1 | 5.0 | 5.1 |
| 4. Instructor effectiveness | 4.6 | 4.3 | 4.7 | 4.9 | 4.6 | 5.1 |
| Combined items 1-4 | 4.5 | 4.3 | 4.5 | 4.8 | 4.7 | 4.8 |

5 = excellent; 4 = very good; 3 = good; 2 = fair; 1 = poor

E. STUDENT COURSE EVALUATIONS - CHEM 452 (THERMODYNAMICS FOR BIOCHEMISTS)

Student Evaluations - (Median Raw Scores)

| | Win '01 | Aut '01 | Win '02 | Aut '02 | Win '03 | Aut '03 | Win '04 | Aut '04 | Aut '05 | Aut '06 | Win '07 | Win '08 |
|-----------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 1. Course as a whole | 4.0 | 4.1 | 4.1 | 4.2 | 4.1 | 4.1 | 4.5 | 4.2 | 4.5 | 3.9 | 4.5 | 4.7 |
| 2. Course content | 3.9 | 4.1 | 3.9 | 4.1 | 4.0 | 4.1 | 4.1 | 4.1 | 4.4 | 3.9 | 4.3 | 4.6 |
| 3. Instructor contribution | 4.7 | 4.8 | 4.6 | 5.0 | 4.8 | 4.8 | 4.9 | 4.9 | 4.9 | 4.8 | 4.8 | 4.9 |
| 4. Instructor effectiveness | 4.5 | 4.8 | 4.4 | 4.9 | 4.8 | 4.7 | 4.8 | 4.8 | 4.9 | 4.7 | 4.8 | 4.9 |
| Combined items 1-4 | 4.3 | 4.5 | 4.2 | 4.7 | 4.5 | 4.5 | 4.7 | 4.6 | 4.8 | 4.3 | 4.7 | 4.8 |

Adjusted Evaluations (corrected for grade given, etc.)

| | Win '01 | Aut '01 | Win '02 | Aut '02 | Win '03 | Aut '03 | Win '04 | Aut '04 | Aut '05 | Aut '06 | Win '07 | Win '08 |
|--|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | 4.3 | 4.4 | 4.3 | 4.6 | 4.4 | 4.5 | 4.7 | 4.5 | 4.9 | 4.4 | 4.7 | 4.9 |
| | 4.2 | 4.3 | 4.1 | 4.4 | 4.3 | 4.4 | 4.3 | 4.3 | 4.7 | 4.2 | 4.4 | 4.7 |
| | 5.1 | 5.1 | 4.9 | 5.3 | 5.1 | 5.1 | 5.1 | 5.2 | 5.3 | 5.2 | 5.0 | 5.1 |
| | 4.9 | 5.1 | 4.7 | 5.3 | 5.1 | 5.0 | 5.1 | 5.1 | 5.3 | 5.2 | 5.1 | 5.1 |
| | 4.6 | 4.8 | 4.5 | 5.0 | 4.8 | 4.8 | 4.0 | 4.9 | 5.1 | 4.8 | 4.9 | 5.0 |

5 = excellent; 4 = very good; 3 = good; 2 = fair; 1 = poor