

Curriculum Vitae

Dr. Sarah L. Veatch

Postdoctoral Fellow
Department of Chemistry and Chemical Biology
Cornell University
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EMPLOYMENT

Cornell University Postdoctoral Researcher in Chemistry and Chemical Biology Supervisor: Prof. Barbara Baird	Ithaca, NY 2006-present
University of British Columbia Postdoctoral Researcher in Microbiology and Immunology Supervisor: Prof. R. E. W. Hancock	Vancouver, BC 2005-2006
University of Washington Research Associate in Biological Physics Research Assistant in Biological Physics Supervisor: Dr. Sarah Keller Research assistant in neutrino physics Supervisor: Dr. Steven Elliott	Seattle, WA 2004-2005 2000-2004 1999-2000
Electronics Diversified Assistant Electrical Engineer Supervisor: Scott Rempel	Hillsboro, OR 1998-1999
Massachusetts Institute of Technology Research assistant in astrophysics; teaching assistant in physics Supervisor: Professor Rainer Weiss	Cambridge, MA 1996-1998

EDUCATION

University of Washington PhD in Physics, Summer 2004; MS in Physics, Spring 2001; GPA: 3.75/4 Thesis Advisor: Professor Sarah Keller Thesis Topic: Immiscibility in model lipid membranes.	Seattle, WA 1999-2004
Massachusetts Institute of Technology Bachelor of Science in Physics, June 1998; GPA: 4.4/5 Thesis Advisor: Professor Rainer Weiss Thesis Topic: Environmental noise correlation between LIGO sites.	Cambridge, MA 1994-1998

HONORS AND AWARDS

NIH Ruth Kirschstein NRSA postdoctoral Fellowship (Declined)	2006
Cancer Research Institute Postdoctoral Fellowship in Cancer Immunology	2005-present
University of Washington Henderson Prize in Physics	2005
NATO Condensed Matter Conference Poster Award	2004
NATO Condensed Matter Conference Travel Grant	2004
Biophysical Society Travel Award	2004
American Society for Cell Biology Travel Award	2003
Biophysical Society Student Research Achievement Award (SRAA)	2003
University of Washington Karrer Prize in Physics	2002
Molecular Biophysics Fellow	2002-2004
Nanotechnology Fellow	2000-2002

PEER REVIEWED PUBLICATIONS (14 TOTAL)

1. Bezzine, S., Bollinger, J.G., Singer, A.G., Veatch, S.L., Keller, S.L., Gelb M.H., *On the binding preference of human groups IIA and X phospholipases A2 for membranes with anionic phospholipids*. J. Biol. Chem. (2002) **277**(50) 48523-34.
2. S. L. Veatch and S.L. Keller, *Lateral Organization in Lipid Membranes Containing Cholesterol* Phys. Rev. Lett. (2002) **89**(26), 268101.
3. S. L. Veatch and S.L. Keller, *A closer look at the canonical 'raft mixture' in model membrane studies*. Biophys. J. (2003) **84**(1) 725-6.
4. S. L. Veatch and S.L. Keller, *Separation of Liquid Phases in Giant Vesicles of Ternary Mixtures of Phospholipids and Cholesterol* Biophys. J. (2003) **85**(5) 3074-83.
5. S. L. Veatch, I. V. Polozov, K. Gawrisch, and S. L. Keller, *Liquid domains in vesicles investigated by NMR and fluorescence microscopy*. Biophys. J. (2004) **86**(5) 2910-22.
6. B. L. Stottrup, S. L. Veatch, and S. L. Keller, *Nonequilibrium Behavior in Supported Lipid Membranes Containing Cholesterol*. Biophys. J. (2004) **86**(5) 2942-50.
7. S. L. Veatch and S. L. Keller, *Miscibility Phase Diagrams of Giant Vesicles Containing Sphingomyelin*. Phys. Rev. Lett. (2005) **94**(14), 148101.
8. M. E. Beattie, S. L. Veatch, B. S. Stottrup, and S. L. Keller, *Sterol Structure Determines Miscibility vs. Melting Transitions in Lipid Vesicles*, Biophys. J. **89**(3) 1760-8 (2005)
9. S. L. Veatch and S. L. Keller, *Seeing Spots: Complex Phase Behavior in Simple Membranes* Biochim Biophys Acta. **1746**(3) 172-85. (2005) Review.
10. 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**(12) 4428-36 (2006)
11. P. Cicuta, S. L. Keller, and S. L. Veatch, *Diffusion of liquid domains in lipid bilayer membranes*. Submitted.
12. S. L. Veatch and R. E. W. Hancock, *Heat Capacity Measurements at the Miscibility Transition in Membranes of DOPC, DPPC and Cholesterol*. Submitted.
13. S. L. Veatch, S. Leung, and J. Thewalt, *Fluorescent probes alter miscibility phase boundaries in ternary vesicles*. Submitted
14. S. L. Veatch, O. Soubias O, S. L. Keller, and K. Gawrisch, *Phase diagrams and critical phenomena in three component lipid membranes*. In preparation.

BOOK CHAPTERS

1. S. L. Veatch, *Electroformation and Fluorescence Microscopy of Giant Vesicles with coexisting liquid phases*. in Lipid Rafts for the series Methods in Molecular Biology. Submitted.

SEMINAR PRESENTATIONS (24 TOTAL)

1. Special Seminar, National Institute of Health. Sept. 11, 2002.
2. Molecular Biophysics Student Seminar, Univ. Washington. Oct. 2, 2002.
3. Presentation. Nanoscale Science and Technology Workshop, Univ. Washington. Sept. 23, 2003.
4. Molecular Biophysics Student Seminar, Univ. Washington. Nov. 5, 2003.
5. Biophysics Seminar, Simon Fraser University Physics Department. Dec. 9, 2003.
6. Special Seminar, UC San Francisco Immunology Department. Dec. 12, 2003.
7. Special Seminar, UC Berkeley Chemistry Department. Dec. 15, 2003.
8. Special Seminar, Harvard Medical School, Pharmacology Department. Feb. 19, 2004.
9. Special Seminar, University of London, Department of Crystallography. March 24, 2004.
10. Biophysics Seminar, University of Southern Denmark, Membrane Biophysics Lab, March 26, 2004.
11. Special Seminar, University of British Columbia, Terry Fox Laboratory, August 23, 2004.
12. Special Seminar, National Institute of Standards and Technology (NIST), December 16, 2004.
13. Special Seminar, National Institute of Health, December 17, 2004.
14. Special Seminar, National Institute of Health, June 14, 2005.
15. Cell Biology Seminar, University of British Columbia, June 22, 2005.
16. Soft Matter Seminar, Cambridge University Physics Department, September 4, 2005
17. Special Seminar, Cambridge University Laboratory of Molecular Biology, September 6, 2005
18. Biophysics Seminar, Leeds University, September 7, 2005.
19. Biophysics Seminar, University of British Columbia, January 20, 2006.
20. Biophysics Seminar, Simon Fraser University, February 27, 2006.

21. Special Seminar, National Institute of Health, March 14, 2006.
22. Condensed Matter Seminar, University of Washington, June 13, 2006.
23. Special Seminar, Johns Hopkins University, July 11, 2006.
24. Special Seminar, Cornell University, July 14, 2006.

CONFERENCE PRESENTATIONS

1. S. L. Veatch and M. Schick, *Using polymers to aid in drug delivery: A thermodynamic model of pH tunable polymers*. StatPhys Satellite Meeting, July 2001.
2. S. L. Veatch and S.L. Keller, *Lateral Phase Separation of Domains (Rafts) in Model Monolayer and Bilayer Systems*. Biophysical Society Meeting, February 2002. Abstract published in *Biophys. J.* **82**(1) part 2, 521A.
3. S. L. Veatch and S.L. Keller, *Lateral Organization in Model Lipid Membranes Containing Cholesterol*. American Society for Cell Biology Meeting, December 2002. Abstract published in *Mol. Biol. Cell.* **13** 2021.
4. S. L. Veatch, K Gawrisch, and S.L. Keller, *Observing immiscible liquid phases in lipid bilayers containing cholesterol by fluorescence microscopy and NMR.*. Biophysical Society Meeting. March 2003. Abstract published in *Biophys. J.* **84**(2) p.371A.
5. S. L. Veatch, K Gawrisch, and S.L. Keller, *Observing immiscible liquid phases in lipid bilayers containing cholesterol by fluorescence microscopy and NMR*. American Physical Society Meeting. March 2003.
6. S. L. Veatch, K Gawrisch, and S.L. Keller, *Immiscibility in Model Lipid Membranes*. American Society for Cell Biology Meeting. December 2003.
7. S.L. Veatch, I.V. Polozov, K. Gawrisch, S.L. Keller, *NMR and Fluorescence Microscopy Reveal Tielines and Low Temperature Transition in Membranes Containing DOPC, DPPC, and Cholesterol*. Biophysical Society Meeting, February 2004. Abstract published in *Biophys. J.* **86**(1) 201A.
8. S.L. Veatch, I.V. Polozov, K. Gawrisch, S.L. Keller, *NMR and fluorescence microscopy reveal tie-lines and low temperature transition in membranes containing DOPC, DPPC, and cholesterol*. NATO Summer School in Soft Condensed Matter Physics in Molecular and Cell Biology. March 2004.
9. S. L. Veatch and S.L. Keller, *Unanswered Questions on Liquid Immiscibility*, Biophysical Discussions Conference, October 2004.
10. S. L. Veatch and S.L. Keller, *Coexisting Liquid Domains in Membranes of Extracted and Synthetic Lipid Mixtures*. American Society for Cell Biology Meeting. December 2004.
11. S. L. Veatch, K. Gawrisch, and S. L. Keller, *Phase Diagrams of Ternary Lipid Mixtures Containing Cholesterol*, Biophysical Society Annual Meeting. February 2005.
12. S. L. Veatch, K. Gawrisch, and S. L. Keller, *Phase diagrams of ternary lipid bilayer mixtures by fluorescence microscopy and ²H NMR*. International Biophysics Congress August, 2005.
13. S. L. Veatch, K. Gawrisch, and S. L. Keller, *²H NMR reveals quantitative tie-lines and three phase region in membranes of DOPC, DPPCd62, and cholesterol*. Biophysical Society Annual Meeting. February 2006.

INVITED CONFERENCE PRESENTATIONS

1. S. L. Veatch, K. Gawrisch, and S. L. Keller *Complex phase behavior in 'simple' membranes*. Keystone Symposia on Lipid Rafts and cell function. Steamboat Springs, CO. March 24, 2006.
2. S. L. Veatch, *Liquid immiscibility in model bilayer membranes: phase diagrams, critical phenomena, and implications for lipid rafts*. International Workshop on Frontiers in Biophysics and Nanobiotechnology. Seoul, Korea. June 2006.

PROFESSIONAL ACTIVITIES:

Member of the Biophysical Society	2000-Present
Member of the American Physical Society	2000-Present
Member of the American Society for Cell Biology	2000-Present
Vice President of the UW Nanotechnology Student Association	2001-2002
Co-founder of the UW Physics Graduate Student Council	2002-2004
Co-founder of the UW Women In Physics Discussion Group	2002-2004