

Curriculum Vitae

Bret N. Flanders

Oklahoma State University
Department of Physics
145 Physical Sciences
Phone (Office): (405) 744-6699
(Lab): (405) 744-2865
FAX: (405) 744-6811
Email: flandeb@okstate.edu

Education

NIH Postdoctoral Fellow, The University of Kansas, 2000-2002

Research Project: Near-field Scanning Optical Microscopy (NSOM) Studies of Model Lung Surfactants

Research Advisor: Professor Robert C. Dunn

Ph.D in Chemistry, The University of Chicago, December 1999

Thesis Title: *Time-Domain Far-Infrared Studies of Equilibrium and Non-Equilibrium Condensed Phase Systems*

Research Advisor: Professor Norbert F. Scherer

B.S. in Chemistry/Chemical Physics, University of California, San Diego, June 1993

Research Project: Spectroscopy of OCIO in the Condensed Phase

Research Advisor: Professor John D. Simon

Awards and Honors

NIH Postdoctoral National Research Service Award, 2000-2002

Chairman's Award, University of Pennsylvania, 1993

Activities and Organizations

American Physical Society, Member

American Association for the Advancement of Science, Member

MRSEC Student Host, 1997-99 (The University of Chicago)

Teaching Experience

Assistant Professor of Physics, Oklahoma State University
Department of Physics (August, 2002)

Grader, The University of Chicago

Physical Chemistry (Quantum Mechanics)- Fall, 1997

Teaching Assistantship: University of Pennsylvania

General Chemistry, Spring, 1994 through Fall, 1995

Teaching Assistantship, University of Pennsylvania

General Chemistry Lab, Fall, 1993

Publications

1. B. N. Flanders, S. A. Vickery, R. C. Dunn, "Divergent fluctuations in the molar area of a model lung surfactant," *J. Phys. Chem. B* **106** 3530-3533 (2002).
2. B. N. Flanders, R. C. Dunn, "Near-field microscopy study of submicron domain structure in a model lung surfactant," *Ultramicroscopy* **In Press**.
3. B. N. Flanders, S. A. Vickery, R. C. Dunn, "Imaging of monolayers composed of palmitic acid and lung surfactant protein," *J. Microscopy* **202** 379-385, (2001).
4. B. N. Flanders, X. Shang, D. Grischkowsky, N. F. Scherer, "The Pure Rotational Spectrum of Solvated HCl: Solute-Bath Interaction Strength and Dynamics," *J. Phys. Chem. A*, **103**, 10054-10064 (1999).
5. B.N. Flanders, D.C. Arnett, and N.F. Scherer, "Optical Pump-Terahertz Probe Spectroscopy Utilizing a Cavity-Dumped Oscillator-Driven Terahertz Spectrometer," *IEEE Journal of Selected Topics in Quantum Electronics* **4** 353-359 (1998).
6. B.N. Flanders, P. Moore, R.A. Cheville, M.L. Klein, D. Grischkowsky, and N.F. Scherer, "Pulsed Terahertz Study and Spectral Analysis of a Simple Solution: HCl in CCl₄," Conference Proceedings for *QELS'97* **12** 115-116(1997).
7. B.N. Flanders, R.A. Cheville, D. Grischkowsky, and N.F. Scherer, "Pulsed Terahertz Transmission Spectroscopy of Liquid CHCl₃, CCl₄ and their Mixtures," *Journal of Physical Chemistry* **100** 11824-11835 (1996).
8. B.N. Flanders, R.A. Cheville, D. Grischkowsky, and N.F. Scherer, "Pulsed Terahertz Spectroscopy of Solutions: Experiment and Memory Function Analysis," *Ultrafast Phenomena X*, Barbara, P. F., Fujimoto, J. G., Knox, W. H. and Zinth, W. (Eds.) Springer (1996).
9. R.C. Dunn, B.N. Flanders, and J.D. Simon, "Solvent Effects of the Spectroscopy and Photochemistry of Chlorine Dioxide," *Journal of Physical Chemistry* **99** 7360-7370 (1995).
10. V. Vaida, K. Goudjil, J.D. Simon, and B.N Flanders, "Comparisons Between the Reactivity of Chlorine Dioxide in the Gas Phase and Water Solution," *Journal of Molecular Liquids* **61** 133-152 (1994).
11. R.C. Dunn, B.N. Flanders, J.D. Simon, and V. Vaida, "The Spectroscopy of OCIO in Polar Liquids," *Spectrochimica Acta* **48A** 1293-1301 (1992).

Oral Presentations

1. "Using Imaging to Motivate a Novel Strategy for Combating Respiratory Distress Syndrome," *Analytical Chemistry Colloquium*, The University of Kansas, Lawrence, KS: October 8, 2001.
2. "Phase Coexistence in Model Lung Surfactant Monolayers," *Tokyo 2001: Scanning Probe Microscopy, Sensors, and Nanostructures*, Chiba, Japan: May 28, 2001.
3. "Second Order Phase Transition in Model Lung Surfactant Monolayer," *American Physical Society Centennial Meeting*, Seattle, WA: March 25, 2001.
4. "SP-B Induced Disorder in Lung Surfactant Monolayers," *Analytical Chemistry Colloquium*. The University of Kansas, Lawrence, KS: October 30, 2000.
5. "SP-B Induced Second Order Phases Transition," *KU-K-State Joint Physical Chemistry Conference*, The University of Kansas, Lawrence, KS: October 15, 2000.
6. "Imaging of Model Lung Surfactants," *6th International Conference on Near-field Optics and Related Techniques*, The University of Twente, Enschede, The Netherlands: August 31, 2000.

7. "Time-Domain Far-Infrared Studies of Condensed Phases Systems," *Physical Chemistry Colloquium*, The University of Kansas, Lawrence, KS: February, 2000.
8. "Time-Domain Far-Infrared Studies of Equilibrium and Non-Equilibrium Condensed-Phase Systems," *Thesis Defense*, The University of Chicago, Chicago, IL: November 9, 1999.
9. "Steady-State and Time-Resolved Studies of Chemical Solutions in the Far-Infrared Spectral Region," *American Physical Society Centennial Meeting*, Atlanta, GA: March 1999.
10. "Time-Resolved Terahertz Spectroscopy of Liquids and Solids," *American Physical Society Meeting*, Los Angeles, CA: March 1998.
11. "Optical Pump-THz Probe Spectroscopy: Looking at Dynamics through the Far-Infrared Spectral Window," *Student Administered Seminar Series*, The University of Chicago, Chicago, IL: February 1998.
12. "A Cavity-Dumped Oscillator-Driven Terahertz Spectrometer for Optical Pump-THz Probe Spectroscopy," *Ultrafast Optics*, Monterey, CA: August 1997.
13. "Terahertz Spectroscopy of Liquids and Solutions," *Spectroscopy and Photochemical Kinetics Colloquium*, The Max Planck Institute for Biophysical Chemistry, Göttingen, Germany: December 1996.
14. "Pulsed Terahertz Spectroscopy of Solutions: Experiment and Memory Function Analysis," *Ultrafast Phenomena X*, Del Coronado, CA: May 1996.