

Xin-Xing Zhang

Email: xxzhang@uchicago.edu

Education

2008-2013 Nankai University, PhD of Science, Condensed Matter Physics

2009-2013 Humboldt University, Berlin, Germany

Joint Ph.D. Program in Physical Chemistry

(Femtosecond Spectroscopy and Ultrafast Molecular Dynamics)

Supervisor: **Prof. Nikolaus P. Ernsting** (Humboldt University, Germany)

Prof. Mark Maroncelli (Penn State University, USA)

Prof. Lijuan Zhao (Nankai University, China)

2004-2008 Nankai University, Tianjin, China

Bachelor of Science, Optical Information Science and Technology

WORK EXPERIENCE

12/2013-2/2015 Postdoc Fellow, the University of Chicago

12/2013-2/2015 Academic Visitor,

Institute of Chemistry, Chinese Academy of Sciences

7/2013-10/2013 Academic Visitor, Penn State University

1/2012-4/2013 Technical/Teaching Assistant, Humboldt University

6/2011-7/2011 Visiting Scholar, Penn State University

2/2009-7/2009 Teaching Assistant, Nankai University

7/2006-8/2006 Visiting Scholar, Institute of Optics and Precision Mechanics of CAS

RESEACH EXPERIENCE

Research in James Frank Institute, **the University of Chicago**, 2015-now

-Binding of insulin dimers.

-Molecular recognition and binding of antifreeze proteins to ice.

Research in Institute of Chemistry, **Chinese Academy of Sciences**, 2013-2015.

-Building up the FLUPS (time-resolved broadband fluorescence upconversion spectroscopy) setup.

-Energy transfer of hyperbranched molecules

-Electron transfer and quenching of fluorescent protein

Research in Institute of Chemistry, **Penn State University**, 2013.

-Theoretical study of local dielectric field prediction based on simple continuum model. - Probe dependence of solvation in ionic liquids.

Research in Institute of Chemistry, **Humboldt University**, 2009- 2013.

-Improvements on time-resolved broadband fluorescence upconversion spectroscopy (FLUPS) setup: time resolution improving, scattering reducing and sample cell designs.

-New design of broadband FLUPS setup with BBO crystal.

-Solvation dynamics of chromophores in ionic liquids and their mixtures with acetonitrile and water.

-Theoretical study of solvation dynamics and local dielectric field predictions based on simple continuum model.

-Steady-state fluorescence study of n-methyl-6-quinolone linked to DNA in water at different temperatures.

-Steady-state absorption study of 7-hydroxy quinolone at different PH values.

Research in Institute of Physics, **Nankai University**, 2006-2009

-Dispersion properties study in a diverse collection of 37 optical mediums

-Optical design of fluorescence collection setup in the Laboratory of Ultra-Fast Photon

SKILLS

Language: fluent English, basic German

Software: Matlab, Labview, Mathematica, C++, Origin, SigmalPlot, CorelDraw etc

AWARDS AND HONORS

Distinguished Ph.D. Thesis Award, Nankai University, 2014

Ph.D. Scholarship, Nankai University, 2009

First-class Special Graduate Scholarship, Nankai University, 2008

Individual Scholarship (twice), Nankai University, 2006-2007

Scholarship for Excellent Freshman, Nankai University, 2004

PUBLICATIONS (total citations 226, H-index 8, last updated 08/2015)

1. **Xin-Xing Zhang**, C. Würth, L. Zhao, U. Resch-Genger, N. P. Ernsting and M. Sajadi, *Femtosecond Broadband Fluorescence Upconversion Spectroscopy: Improved Setup and Photometric Correction*, Rev. Sci. Instrum., 82, 062108 (2011)
2. M. Sajadi, K. E. Furse, **Xin-Xing Zhang**, L. Dehmel, S. A. Kovalenko, S. A. Corcelli and N. P. Ernsting, *Detection of DNA-Ligand Binding Oscillations by Stokes-Shift Measurements*, *Angewandte Chemie Int. Ed.*, 123, 6973 (2011)
3. Mark Maroncelli, **Xin-Xing Zhang**, Min Liang, Durba Roy and Nikolaus P. Ernsting, *Measurements of the Complete Solvation Response of Coumarin 153 in Ionic Liquids and the Accuracy of Simple Dielectric Continuum Predictions*, Faraday Discuss, 154, 409 (2012)
4. **Xin-Xing Zhang**, Min Liang, Nikolaus P. Ernsting and Mark Maroncelli, *Complete Solvation Response of Coumarin 153 in Ionic*, J. Phys. Chem. B, 117, 4291 (2013)
5. **Xin-Xing Zhang**, Christine Schröder and Nikolaus P. Ernsting, *Solvation and Dielectric Response in Ionic Liquids-Conductivity Extension of the Simple Continuum Model*, J. Chem. Phys. 138, 111102-3 (2013)
6. **Xin-Xing Zhang**, Min Liang, Nikolaus P. Ernsting and Mark Maroncelli, *Conductivity and Solvation Dynamics in Ionic Liquids*, J. Phys. Chem. Lett.4(7), 1205-1210 (2013)
7. **Xin-Xing Zhang**, Min Liang, Johannes Hunger, Nikolaus P. Ernsting, Richard Buchner and Mark Maroncelli, *Solvation and Dielectric Relaxation in 1-Butyl-3-Methylimidazolium Tetrafluoroborate + Water Mixture*, J. Phys. Chem. B, 117(49), 15356 (2013)

8. Hui Guo, Hua Yu, **Xin-Xing Zhang**, Zijian Lan, Yiming Li and Lijuan Zhao, *Doping concentration induced phase transition in Eu³⁺-doped beta-PbF₂ nano-particles*, Opt. Express, 21(21), 24742 (2013)
9. Min Liang, **Xin-Xing Zhang**, Nikolaus P. Ernsting and Mark Maroncelli, *Solvation and Rotational Dynamics in a Prototypical Ionic Liquid + Dipolar Solvent Mixture: Coumarin C153 in 1-Butyl-3-Methylimidazolium Tetrafluoroborate + Acetonitrile*, J. Phys. Chem. B, 118(5), 1340-1352 (2014)
10. **Xin-Xing Zhang***, Jens Breffke, Nikolaus P. Ernsting and Mark Maroncelli, *Rotation and Solvation Dynamics in Room Temperature Ionic Liquids: Solute Dependence*, Phys. Chem. Chem. Phys., 17(19), 12949-12956 (2015)

PRESENTATIONS

1. 29th Annual Meeting of Chinese Chemical Society, Beijing, August 4-8, 2014. Xin-Xing Zhang, Andong Xia, Mark Maroncelli, N. P. Ernsting, Solvation Dynamics and Dielectric Response in Ionic Liquids, **Oral Presentation**.
2. 2nd National Seminar of Ultrafast Spectroscopy, Beijing, July 18-20, 2014. Xin-Xing Zhang, Andong Xia, Mark Maroncelli, N. P. Ernsting, Solvation Dynamics and Dielectric Response in Ionic Liquids, **Oral Presentation**.
3. 5th COIL meeting, A, Portugal, April 22-25, 2013. Xin-Xing Zhang, Mark Maroncelli and N. P. Ernsting, Solvation Dynamics in Ionic Liquids - the Simple Continuum Model Prediction, Poster Presentation.
4. DFG-SPP 1191 Meeting, Bonn, Germany, December 13-14, 2012. Xin-Xing Zhang, N. P. Ernsting, Conductivity Extension of the Simple Continuum Model in ILs, **Oral Presentation and Poster Presentation**.
5. DFG-SPP 1191 Meeting, Fürth, Germany, November 30-December 1, 2011. Xin-Xing Zhang, Min Liang, N. P. Ernsting, Mark Maroncelli, Solvation Dynamics of Ionic Liquids, Poster Presentation.
6. 4th COIL meeting, Washington D.C., USA, June 15-18, 2011. Xin-Xing Zhang, Min Liang, N. P. Ernsting, Mark Maroncelli, Complete Solvation Response of C153 in Ionic Liquids, Poster Presentation.
7. GCCCD (Society of Chinese Chemist and Chemical Engineer in Germany) meeting, Berlin, Germany, April 9, 2011. Xin-Xing Zhang, Min Liang, N. P. Ernsting, Mark Maroncelli, Ultrafast Dynamics Detection Techniques: Complete Solvation of C153 in Ionic Liquids, **Oral Presentation**.
8. DFG-SPP 1191 Meeting, Postdam, Germany, March 30-April 2, 2011. Xin-Xing Zhang, Min Liang, N. P. Ernsting, Mark Maroncelli, Complete Solvation Response of Ionic Liquids, Poster Presentation.
9. DFG-SPP 1191 Summer School, Siegen, Germany, September 17-21, 2010. Xin-Xing Zhang, Min Liang, N. P. Ernsting, Mark Maroncelli, FLUPS Measurement of Solvation Dynamics in Ionic Liquids, Poster Presentation.