RYAN BRADLEY JADRICH

The University of Texas at Austin
McKetta Department of Chemical Engineering, Austin, TX 78712-1589
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EDUCATION

Ph.D., Chemistry, 2009-2014
University of Illinois at Urbana - Champaign
Research: Statistical Mechanics of Soft Condensed Matter, Liquid State Theory, Glassy and Disordered Systems
Thesis: Structure, Slow Dynamics, Kinetic Arrest, and Massively Reconfigurable Assembly in Colloidal Suspensions
Advisor: Kenneth S. Schweizer

B.S., Chemistry, Highest Honors, 2005-2009
Rochester Institute of Technology
Focus: Theoretical and Physical Chemistry
Minor: Mathematics

PROFESSIONAL CERTIFICATION

Data Science, 2015-2016
General Assembly of Austin, TX
Course Material: Supervised and Unsupervised Machine Learning Techniques
Capstone Project: Disaster detection via Twitter (Python Notebook on GitHub)
Instructor: Kevin Safford

PROFESSIONAL EXPERIENCE

Postdoctoral Fellow, 2014-Present
The University of Texas at Austin, McKetta Department of Chemical Engineering
Research: Computational Inverse Design and Optimization of Liquid and Solid State Statistical Mechanics Models
Advisor: Thomas M. Truskett

Analytical Chemistry Cooperative Education with Rochester Institute of Technology, 2007-2008
Xerox Analytical Services
Overview: Provided Technical Support to Various Divisions in Xerox both Local and Foreign
Supervisor: Kevin Marcell

SELECT PUBLICATIONS

*Full List with Free Copies on GitHub

(1) B. A. Lindquist, **R. B. Jadrich** and T. M. Truskett, *Soft Matter (Communication)*, DOI: 10.1039/C5SM03068D (2016); "Assembly of Nothing: Equilibrium Fluids with Designed Structured Porosity" [Journal, GitHub]

(2) A. Singh, B. A. Lindquist, G. K. Ong, **R. B. Jadrich**, A. Singh, H. Ha, C. J. Ellison, T. M. Truskett and D. J. Milliron, *Angewandte Chemie* **54**, 14840–14844 (2015); "Linking Semiconductor Nanocrystals into Gel Networks through all Inorganic Bridges" [Journal, GitHub]

(3) **R. B. Jadrich**, J. A. Bollinger, B. A. Lindquist and T. M. Truskett, *Soft Matter* **11**, 9342-9354 (2015); "Equilibrium Cluster Fluids: Pair Interactions via Inverse Design" [Journal, GitHub]

(4) **R. B. Jadrich** and K. S. Schweizer, *Physical Review Letters* **113**, 208302 (2014); "Directing Colloidal Assembly and a Metal-Insulator Transition Using a Quench-Disordered Porous Rod Template" [Journal, GitHub]

SELECT AWARDS

List of Teachers Ranked as Excellent by Their Students
University of Illinois Center for Teaching Excellence, Spring Semester 2010, (With Designation of Outstanding)
University of Illinois Center for Teaching Excellence, Fall Semester 2009

Undergraduate Senior Achievement Award
American Chemical Society (Rochester NY Region), May 2009

Outstanding Student in Physical Chemistry Award
Chemistry Department, Rochester Institute of Technology, May 2009

COMPUTING EXPERIENCE

Programming Languages
C/C++, Python, Bash Scripting

Coding
Monte Carlo and Molecular Dynamics Simulations **|** Relative Entropy Maximization **|** Integral Equation Solvers **|** Simulated Annealing Optimization **|** Stochastic Integration

Statistical and Mathematical Packages
SciKit-Learn [Python] **|** Gensim for Natural Language Processing and Topic Modeling [Python] **|** Pandas [Python] **|** Numpy [Python] **|** Mathematica **|** GSL Mathematical Library [C/C++] **|** KINSOL Optimization Code [C/C++]

Molecular Simulation Packages
Groningen Machine for Chemical Simulations (GROMACS)

Statistical Mechanics Probabilistic Optimization Packages
Versatile Object-oriented Toolkit for Coarse-graining Applications (VOTCA)

Supercomputing Experience
Texas Advanced Computing Center (TACC)

Relevant Graduate Coursework
Atomic Scale Simulations (Fall 2010)
• Monte Carlo and Molecular Dynamic Simulation • Genetic Algorithms and Simulated Annealing

TEACHING EXPERIENCE

University of Illinois at Urbana-Champaign
Teaching Assistant for CHEM 315: Instrumental Chemical Systems Lab (Spring 2010)
• Taught Fundamentals of Nuclear Magnetic Resonance (NMR) Spectroscopy
Teaching Assistant for CHEM 102: General Chemistry I (Fall 2009)
• Held Six Weekly 50 minute Discussion Sections, Graded Quizzes and Administered Examinations
Chemistry Learning Center Tutor (Fall 2009)

Rochester Institute of Technology
Teaching Assistant for 1008 - 261: Quantitative Analysis (Winter 2008-2009)
• Helped Construct and Grade Quizzes and Exams while Providing Tutoring Outside of Class
Teaching Assistant for 1014 - 447: Chemical Kinetics Lab (Fall 2008-2009)
• Helped Teach and Assist With the Various Chemical Measurement Techniques
Teaching Assistant for 1008 - 265: Quantitative Analysis Lab (Winter 2006-2007)
• Taught Wet Lab Chemical Techniques, Lab Safety and Helped Students Develop Lab Writing Skills