

# JAMES C. ROBERTSON

## CONTACT INFORMATION

Laufer Center for Physical and Quantitative Biology, Stony Brook University  
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## EXPERIENCE

**NIH IRACDA NY-CAPS Postdoctoral Scholar** **2016-present**  
Laufer Center for Physical and Quantitative Biology, Stony Brook University  
Advisor: Kenneth A. Dill

## EDUCATION

**Ph.D. Medicinal Chemistry, *Biomolecular Simulations*** **2016**  
University of Utah College of Pharmacy  
Advisor: Thomas E. Cheatham, III

**B.S. Chemistry with American Chemical Society Certificate in Biochemistry** **2011**  
Southern Oregon University, Ashland, OR  
Graduated Cum Laude

## PUBLICATIONS

- Galindo-Murillo R\*, Robertson JC\*, Zgarbová M, Šponer J, Otyepka M, Jurečka P, Cheatham III, TE. Assessing the Current State of AMBER Force Field Modifications for DNA. **2016**, *J. Chem. Theory Comput.*, 12 (8), 4114-4127. (\*co-first authors)
- Robertson JC, Cheatham III, TE. DNA Backbone BI/BII Distribution and Dynamics in E2 Protein-Bound Environment Determined by Molecular Dynamics Simulations, **2015**, *J. Phys. Chem. B*, 119, 14111-14119.
- Robertson JC, Hurley N, Tortorici M, Ciossani G, Borrello MT, Vellore NA, Ganesan A, Mattevi A, Baron R. Expanding the Druggable Space of the LSD1/CoREST Epigenetic Target: New Potential Binding Regions for Drug-Like Molecules, Peptides, Protein Partners, and Chromatin, **2013**, *PLoS Comp. Biol.*, 9(7):e1003158. doi:10.1371/journal.pcbi.1003158
- Dixon AS, Miller GD, Bruno BJ, Constance JE, Woessner DW, Fidler TP, Robertson JC, Cheatham III TE, Lim CS. Improved Coiled-Coil Design Enhances Interaction with Bcr-Abl and Induces Apoptosis, **2012**, *Mol. Pharm.*, 9, 187-195.

## TEACHING EXPERIENCE

**Teaching Assistant** **Fall 2016**  
Physical and Quantitative Biology, Stony Brook University **Stony Brook, NY**

- Prepared and delivered 3 lectures on protein functions & mechanisms, protein folding & stability, and cooperativity in proteins
- Prepared recitation problems and led weekly recitation sessions
- Prepared and graded weekly homework assignments
- Wrote and graded final exam

- Instructed students on difficult concepts and course material during office hours

### Teaching Assistant

Spring 2014

Physiological Chemistry II, University of Utah College of Pharmacy

Salt Lake City, UT

- Prepared and taught 5 lectures on transcription, translation, DNA replication, and viruses
- Graded assignments and exams; helped write exam questions
- Instructed students on difficult concepts and course material during office hours

### Guest Lecturer

Fall 2014

Organic Medicinal Chemistry, University of Utah College of Pharmacy

Salt Lake City, UT

- Delivered 2 lectures on cholinergics

### Student Mentor

2009-2010

Organic Chemistry, Southern Oregon University

Ashland, OR

- Led workshops to solve organic chemistry review problems
- Selected by faculty to lead the workshops

### Pedagogy Workshops and Courses Completed

2014-present

- Scientists Teaching Science: A Short Course in Best Practices in Science Education • Alan Alda Center for Communicating Science Boot Camp: Improvisation for Scientists & Distilling Your Message • Flipping the Classroom • Building a Fool-Proof Syllabus • Evidence-based Instructional Practices: Process Oriented Guided Inquiry Learning • Evidence-based Instruction: Active Learning/Effective Questioning/Clickers • Overview of Scientific Teaching • Establishing Rapport: Secret Ingredient for Successful Teaching • Active Learning • Classroom Civility • Multimedia in Canvas • Spicing Up Your Lecture

### LEADERSHIP & SERVICE

- Instructor: Academic Writing Workshops *Stony Brook University* June 2017
- Member and Chair: Student Advisory Committee for Retention, Promotion, and Tenure *University of Utah College of Pharmacy* 2014-2016
- Tutor: Physiological Chemistry PharmD students *University of Utah* Spring 2014
- Biological Chemistry Student Retreat Organizing Committee *University of Utah* 2012-2013
- President: Chemistry Club *Southern Oregon University* 2010-2011 (Member 2009-2011)
- National Science Foundation Research Experience for Undergraduates *Coe College* 2010

### HONORS & AWARDS

- Wolf Prize for excellence in teaching, research, and service *University of Utah* May 2016
- AAAS Pacific Division Student Travel Grant 94<sup>th</sup> *Annual AAAS Pacific Division Meeting Las Vegas, NV* June 2013
- Coyner Graf Memorial Scholarship *Southern Oregon University* 2010-2011
- National Science Foundation Research Experience for Undergraduates Chemistry Leadership Group Travel Award *ACS Spring Meeting* 2011
- Department of Chemistry Outstanding Service Award *Southern Oregon University* 2010-2011
- Department of Chemistry Award in Inorganic Chemistry *Southern Oregon University* 2010-2011

## NATIONAL PRESENTATIONS & POSTERS

- Poster: “MELD Threads the Needle: Physics-Based Simulations Fold Nonthreadable Proteins” **IRACDA** Birmingham, AL *June 2017*
- Presentation: “BI/BII Backbone Sub State Dynamics in Protein-bound DNA” **American Chemical Society Spring Meeting** San Diego, CA *Spring 2016*
- Poster: “Assessing the Current State of AMBER Force Field Modifications for DNA” **American Chemical Society Spring Meeting** San Diego, CA *Spring 2016*
- Poster: “Human Low Molecular Weight Protein Tyrosine Phosphatases: Molecular Dynamics of A and B Isoforms” **International Society of Quantum Biology and Pharmacology President’s Meeting** Telluride, CO *June 2014*
- Poster: “Molecular Dynamics Generated Ensemble for Structure-Based Drug Design” **Biophysical Society 58th Annual Meeting** San Francisco, CA *Feb 2014*
- Presentation: “Using Configurational Ensembles to Expand LSD1/CoREST Druggability” **94<sup>th</sup> Annual AAAS Pacific Division Meeting** Las Vegas, NV *June 2013*
- Presentation and Poster: “Ensemble-Based Virtual Screening of LSD1/CoREST” **SC12 Early Research Showcase, SC12** Salt Lake City, UT *Nov 2012*
- Poster: “Ensemble-Based Virtual Screening of LSD1/CoREST” **Utah Bioscience Symposium** Salt Lake City, UT *Sep 2012*
- Poster: “Primer-Directed Biocement and Kinase Searches from *Phragmatopoma lapidosa* and *Pectinaria gouldii* cDNA” **American Chemical Society Spring Meeting** Anaheim, CA *Spring 2011*

## TECHNICAL SKILLS & EXPERTISE

- Molecular dynamics simulations and data analysis primarily with the AMBER software suite; additional experience with OpenMM, NAMD, and Gromacs
- Utilizing HPC resources including Blue Waters at NCSA, and the following through XSEDE: Stampede, Maverick, Gordon, Comet, Keeneland, and Kraken
- Proficient in bash, awk, VMD, xmgrace, LaTeX, and tcl
- Familiarity with C++, python, html, perl, R, SQL, git, and parallel programming

## MEMBERSHIPS & AFFILIATIONS

- American Chemical Society
- American Chemical Society Computers in Chemistry Division
- Biophysical Society
- American Association for the Advancement of Science
- New York Academy of Sciences