

JAMES C. ROBERTSON  
Laufer Center for Physical and Quantitative Biology  
Stony Brook University Stony Brook, NY 11794  
james.robertson@stonybrook.edu jcrobertsonphd.com  
(541) 227-9540

## EXPERIENCE

**NIH IRACDA NY-CAPS Postdoctoral Scholar** **June 2016-present**  
Research at Stony Brook and Teaching at Minority-Serving Institutions (75:25)  
Department of Chemistry  
Laufer Center for Physical and Quantitative Biology, Stony Brook University  
Advisor: Kenneth A. Dill

## EDUCATION

**Ph.D. Medicinal Chemistry** **May 2016**  
*Molecular Dynamics Simulations of DNA: Force Field Evaluation and Backbone Substate Dynamics In Free and Protein-Bound DNA*  
University of Utah College of Pharmacy  
Advisor: Thomas E. Cheatham, III

**B.S. Chemistry with ACS Certificate in Biochemistry** **June 2011**  
Southern Oregon University, Ashland, OR  
Graduated Cum Laude

## TEACHING EXPERIENCE

**Adjunct Instructor** **Spring 2018**  
Principles of Chemistry II, SUNY Old Westbury Old Westbury, NY

- IRACDA NY-CAPS partner institution
- Instructor of record for 50-student general Chemistry course

**Curriculum Committee** **Spring 2018**  
College Chemistry I and II, Suffolk County Community College Selden, NY

- IRACDA NY-CAPS partner institution
- Review and revise general Chemistry laboratory curriculum

**Teaching Assistant for Graduate Course** **Fall 2016**  
Physical and Quantitative Biology, Stony Brook University Stony Brook, NY  
<https://tinyurl.com/ydcd3vpe>

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

**Teaching Assistant for Graduate Course** **Spring 2014**  
Physiological Chemistry II, University of Utah College of Pharmacy Salt Lake City, UT

- Prepared and taught 5 lessons on transcription, translation, DNA replication, and viruses

- Graded assignments and exams; helped write exam questions

### Guest Lecturer

Organic Medicinal Chemistry, University of Utah College of Pharmacy

Fall 2014

Salt Lake City, UT

### Peer Led Team Learning

Organic Chemistry, Southern Oregon University

2009-2010

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

### 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.

### 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

- \$5000 Wolf Prize: 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 (1 year of tuition) *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

Presentations:

- “BI/BII Backbone Sub State Dynamics in Protein-bound DNA” **American Chemical Society Spring Meeting** San Diego, CA *Spring 2016*
- “Using Configurational Ensembles to Expand LSD1/CoREST Druggability” 94<sup>th</sup> **Annual AAAS Pacific Division Meeting** Las Vegas, NV *June 2013*
- “Ensemble-Based Virtual Screening of LSD1/CoREST” **SC12 Early Research Showcase, SC12** Salt Lake City, UT *Nov 2012*

Posters:

- “MELD Threads the Needle: Physics-Based Simulations Fold Nonthreadable Proteins” **IRACDA** Birmingham, AL *June 2017*
- “Assessing the Current State of AMBER Force Field Modifications for DNA” **American Chemical Society Spring Meeting** San Diego, CA *Spring 2016*
- “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*
- “Molecular Dynamics Generated Ensemble for Structure-Based Drug Design” **Biophysical Society 58th Annual Meeting** San Francisco, CA *Feb 2014*
- “Ensemble-Based Virtual Screening of LSD1/CoREST” **SC12 Early Research Showcase, SC12** Salt Lake City, UT *Nov 2012*
- “Ensemble-Based Virtual Screening of LSD1/CoREST” **Utah Bioscience Symposium** Salt Lake City, UT *Sep 2012*
- “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 AMBER software; additional experience with computational chemistry packages including OpenMM, NAMD, Gromacs, Gaussian, and the Schrödinger suite
- Utilizing High Performance Computing resources including Blue Waters at NCSA, and the following through XSEDE: Stampede, Maverick, Gordon, Comet, Keeneland, and Kraken
- Proficient in linux, bash, python, awk, VMD, xmgrace, LaTeX, and tcl
- Familiarity with C++, R, html, perl, SQL, git, machine learning, and parallel programming
- Familiarity with instrumentation: NMR, GC-MS, FT-IR, ICP-OES, UV-Vis, capillary DNA

sequencer, and thermal cyclers

### **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