

JAMES C. ROBERTSON
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EXPERIENCE

NIH IRACDA NY-CAPS Postdoctoral Scholar **June 2016-present**
Protein Folding Simulations
Department of Chemistry
Laufer Center for Physical and Quantitative Biology, Stony Brook University
Advisor: Ken 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

Instructor **Fall 2018**
Research and Discovery in STEM, Stony Brook University Stony Brook, NY

- Led 3-class module for Women in Science and Engineering Honors Program
- Hands-on research experience exploring protein structure, function, and modeling

Adjunct Assistant Professor **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

- 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

Fall 2014

Organic Medicinal Chemistry, University of Utah College of Pharmacy

Salt Lake City, UT

Peer Led Team Learning

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

PUBLICATIONS

- Robertson JC, Perez A, Dill KA. MELDxMD Folds Nonthreadables, Giving Native Structures and Populations. **2018**, *J. Chem. Theory Comput.*, DOI: 10.1021/acs.jctc.8b00886
- 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 & OUTREACH

- \$100 3rd Place: Postdoc Spotlight *Stony Brook University* Fall 2018
- 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 94th *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” 94th **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 Folds Nonthreadable Proteins” **IRACDA** Atlanta, GA *July 2018*
- “MELD Folds Nonthreadable Proteins” **Blue Waters Symposium** Sunriver, OR *June 2018*
- “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