James C. Robertson

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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

Instructor of Record   Spring 2018
Protein Chemistry, SUNY Old Westbury   Old Westbury, NY
- I am in the process of designing this upper-division Chemistry course for Spring 2018

Teaching Assistant   Fall 2017
College Chemistry I, Suffolk County Community College   Selden, NY
- IRACDA NY-CAPS partner institution
- Implement clickers in the classroom

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 cooperativiy in proteins
- Prepared recitation problems and led weekly recitation sessions
- Prepared 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

- 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 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 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