

SHEA T. RANSFORD

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LOCAL ADDRESS
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OBJECTIVE Seeking employment with a Life Science or Biomedical technology company or Laboratory as a research scientist where I can make a meaningful contribution to society.

EDUCATION **University of Michigan** Ann Arbor, MI
B.S. in Biophysics with a Minor in Creative Writing Expected April 2017
GPA: 3.54/4.0

EXPERIENCE **Laboratory Research Assistant, Ann Arbor, MI** January 2016 – Current

- Study OG1RF and CH19 strains of *Enterococcus faecalis* and their biofilm formation patterns
- Operated ZEISS Confocal Microscope to study 24 hr. *E. faecalis* biofilm mixtures.
- PCR and some qPCR for DNA segments used in plasmid and bacterial transformation
- Located and documented genes and primers on SnapGene Viewer using BLAST
- NEBuilder Hifi Assembly and optimization of Gibson Assembly for fluorescent tags essential for identification and facilitation of biofilm production
- Expressed and Purified Proteins and DNA plasmids for Ubiquilin-2 testing
- Data mining for functions of interactors through the UniProt and NCBI Databases
- Use of the Bio-Rad NGC Chromatography system for purifying proteins for connecting columns, running proteins, and interpreting chromatograms

Teaching Assistant for Biophysics Lab Class, Ann Arbor, MI Fall 2016 – Current

- Oversaw both graduate and undergraduate Biophysics/Chemistry students performing biophysical techniques such as Protein Purification and Molecular Dynamics Imaging
- Led and taught Circular Dichroism Lab without professor assistance
- Redesigned out-of-date lab protocols and grading rubrics to fit the current needs of the curriculum
- Prepared, tested, and maintained elution buffers and solutions for lab use
- Clarified student questions on homework assignments and lab write-ups

Laboratory Research Assistant, University of Rochester, Rochester, NY Summer 2015

- Worked with Candida strains of yeast (*Cryptococcus neoformans* and *Saccharomyces*) finding Minimum Inhibitory and Drug Concentrations
- Studied calmodulin-based photo-fluorescence in *Cryptococcus neoformans* to tag and label cells after 24-hour cultures were exposed to DAPI and GFP filters
- Enabled the screening and documentation of a Merck drug library against AR-12 in yeast strains
- Published in ACS Infectious Diseases on February 23, 2016 for work with AR-12 establishing that it is an ATP-competitive, time-dependent inhibitor of yeast acetyl-CoA synthetase

COMPUTER/ LABORATORY SKILLS

Applications: Matlab, Image J, Microbe J, SnapGene Viewer, VMD, CHARMM (introductory)
Languages: Basic C++ and growing Matlab experience
Techniques: Fluorescence Confocal Microscopy, Circular Dichroism, PCR, Gel Electrophoresis (SDS and TAE), Miniprep, Gibson Assembly, Plasmid/Bacterial Transformations, Protein Assays (AK, BCA, Enzyme), Protein Purification (Gst and His), Culture Plating, Centrifugation

AWARDS Dean's List Fall 2013, Winter 2015, Fall 2015, Winter 2016, Fall 2016

LEADERSHIP EXPERIENCE/ ACTIVITIES

Training Chair for SWAM Swim Club at the University of Michigan – facilitating and monitoring team practices as well as creating weekly practice schedules, nutritional tips, and fitness workouts.
Writer for Wolverine Cuisine – creating articles for monthly foodie newsletters distributed on campus
Raised \$300+ dollars for Michigan's Dance Marathon Organization for Mott Children's Hospital
Head of three-man team that built a small-scale wind turbine capable of generating 5W of power
Part of six-person team that sent a camera into space, recorded images, and provided live tracking