

RICHARD MESSERLY

1995 E COALTON RD 89-102, BOULDER, CO 80027
801-358-1741 • r.alma.messlerly@gmail.com

EDUCATION

Ph.D. Chemical Engineering, Brigham Young University, Provo, UT 2017

- Dissertation: How a Systematic Approach to Uncertainty Quantification Renders Molecular Simulation a Quantitative Tool in Predicting the Critical Constants for Large n -Alkanes
 - Expertise: Force Field Development, Computational Chemistry, Configuration Reweighting, Uncertainties in Molecular Simulation, Thermodynamic Data Analysis
 - Elective Courses: Quantum Chemistry, Statistical Mechanics, Nonlinear Statistical Analysis, Polymer Science and Engineering, Advanced Organic Chemistry, Classical Mechanics, Instrumental Analysis Lecture/Lab
- GPA: 4.0

B.S. Chemical Engineering, Brigham Young University, Provo, UT 2012

- Elective Courses: Molecular Modeling, Introduction to Partial Differential Equations
 - Excelled in: Thermodynamics, Physical Chemistry, Reaction Engineering, Separations, Process Control, Statistics
 - Minors: Spanish, French
- Overall GPA: 3.78

WORK EXPERIENCE

NRC Postdoc Associate, Thermodynamics Research Center, Boulder, CO Feb. 2017- 2019

- Implemented alchemical free energy methods to accelerate optimizing force field parameters
- Collaborated with researchers at the National Institute of Standards and Technology, University of Colorado, University of Akron, and Wayne State University
- Mentored undergraduate student during three-month project

Research Assistant, Design Institute for Physical Properties, Provo, UT Jan. 2012-Feb. 2014

- Performed experimental work that involved: preparation, execution, cleaning, and processing data
- Evaluated thermophysical property data for two biofuels

Teaching Assistant, BYU Chemical Engineering, Provo, UT

- Courses: Chemical Process Principles, Dr. Thomas H. Fletcher Jan.-Apr. 2012
- Plant Design & Synthesis, Dr. W. Vincent Wilding Jan.-Apr. 2013/2014
- Molecular Modeling, Dr. Thomas A. Knotts IV Jan.-Apr. 2015
- Conducted exam reviews, held office hours, and graded homework assignments

VOLUNTEER WORK

Church Representative, The Church of Jesus Christ of Latter-day Saint, Guatemala Nov. 2006-2008

- Led a regional group of 12 representatives

Boy Scout Leader, Boy Scouts of America 1999-2006

- Inspired younger scouts to achieve their Eagle while organizing campouts and teaching activities

SKILLS/AWARDS

- **Trained in:** C++, VBA, MATLAB, Python, Towhee, Cassandra, Gromacs, GOMC

- **Spanish, French, Portuguese** - proficient reading, writing, and speaking
- **Dean's List Student** - achieved a 4.0 semester GPA as undergraduate
- **Eagle Scout Award** - erected a flag pole in front of a religious center

Apr. 2009 & Jun. 2010
Sept. 11th, 2002