Wesley A. Beckner

CONTACT
INFORMATION

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RESEARCH
INTERESTS

Analysis and simulation of materials for energy and medicine using data science and statistical methods

EDUCATION

University of Washington, Seattle, Washington USA

> Ph.D. Student, Chemical Engineering, December 2019 (expected graduation date)
> - Advisor: Jim Pfaendtner

University of Texas, Austin, Texas USA

> B.S., Chemical Engineering, May, 2014

HONORS AND
AWARDS

Data Intensive Research Enabling Clean Technologies (DIRECT) graduate trainee, 2016-2018
National Science Foundation Graduate Research Fellowship Honorable Mention, 2015

Chemical Engineering Endowment, 2014

Achievement Rewards for College Scientists Fellow, 2014-2016

Friends of Alec Scholar, 2014

Undergraduate Research Fellowship, 2013

Tracor/Frank W. McBee, Jr. Scholarship, 2013

Texas Academy of Mathematics and Science Honors Diploma, 2010

ACADEMIC
EXPERIENCE

University of Washington, Seattle, Washington USA

Graduate Student   **September, 2014 - present**
Includes current Ph.D. research, Ph.D. and Masters level coursework and research/consulting projects.

Visiting Researcher   **June 2016**
Assisted in the training of new graduate students to use molecular simulation engines in the research lab of Dr. Yi He at Zhejiang University, Hangzhou, China.

Study Abroad Teaching Assistant   **June - July, 2016**
Co-taught unit operations labs for undergraduates from University of Wisconsin and University of Washington at Zhejiang University in Hangzhou, China. Emphasis on responsibility for professional writing and heat/mass transfer workshops.

Instructor   **July - August, 2015**
Co-taught programming course for data science incubator for social good at the UW eScience Institute. Shared responsibility for lectures, workshops, and homework assignments.

Teaching Assistant   **January, 2015 - present**
Duties at various times have included office hours and leading weekly computer and unit operations labs and exercises.

PUBLICATIONS	W. A. Beckner, Y. He, J. Pfaendtner, "Chain Flexibility in Self-Assembled Monolayers Affects Protein Adsorption and Surface Hydration, a Molecular Dynamics Study", *J. Phys. Chem. B.*, 2016, 120(40), 10423-10432. DOI: 10.1021/acs.jpcb.6b05882
PAPERS IN PREPARATION	L. Schmser, M. Trefz, S. Roeters, W. A. Beckner, J. Pfaendtner, S. Woutersen, M. Bonn, D. Schneider, T. Weidner, "Refining the X-ray crystal structure of aquaporin with Sum Frequency Generation spectroscopy"
	W. A. Beckner, J. Pfaendtner, "Application of Machine Learning and Molecular Simulation to Intelligently Design Solvents for Flow Batteries"
CONFERENCE PRESENTATIONS	Beckner, W. A., Application of High Performance Computing and Machine Learning to Accelerate Material Discovery for Energy Capture and Storage. American Institute of Chemical Engineers Conference, San Francisco, CA, 2016
	Beckner, W. A., Green Events: Engaging Students in Sustainable Practice Through On-Campus Event Planning. Smart and Sustainable Campus Conference, Baltimore, MA, 2014.
	Beckner, W. A., Entzminger, K., and Maynard, J. A. Site-Directed Incorporation of Nitrophenylalanine to Study Antibody:Nitro Group Interaction. Rice University Regional Undergraduate Symposium, Houston, TX, 2013.

PROFESSIONAL EXPERIENCE

Campus Environmental Center, Austin, Texas USA

Assistant Director **August, 2012 - August, 2014**

- Co-founded Green Events, a university-funded events consultation service for registered student organizations
- Provided network of campus resources to organization partners
- Executed and expanded campus sustainability initiatives
- Served as a student liaison between students and administrators
- Planned milestone sustainability events including a world record-breaking build-a-thon on America Recycles Day 2013
- Participated in search committee with other administrators and facilities directors to hire campus zero waste coordinator

SKILLS

- Languages: C, Unix shell scripts, Python MPI parallel processing library.
- Applications: LaTeX, common Windows database, spreadsheet, and presentation software
- Algorithms: GROMACS molecular dynamics engine
- Operating Systems: Unix/Linux, Windows, iOS.