

Cameron Bodenschutz

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EDUCATION

Clemson University, Clemson, SC
Expected Graduation: June 2017

Intended Degree: Ph.D. Chemical Engineering
GPA: 3.90 (4.00 scale)

Thesis Title (Tentative): A Combined Density Functional Theory and Monte Carlo Approach for Quantifying Catalytic Energies in a Water Environment

The Ohio State University, Columbus, OH
Conferred June 2012

B.S. Chemical Engineering, Polymer Option
GPA: 3.55 (4.00 scale)

Graduation with Honors in Engineering, Honors Research Distinction in Mechanical Engineering
Thesis Title: Design and Fabrication of an Active Membrane Desalination Module

HONORS AND ACTIVITIES

- Awarded 2014 NASA Space Technology Research Fellowship
Selected as one of approximately 80 recipients nationwide
- 2nd Place, Denman Undergraduate Research Forum, The Ohio State University
Poster Title: Design and Fabrication of an Active Membrane Desalination Module
- Awarded Undergraduate Research Scholarship from The Ohio State University College of Engineering
- Treasurer, Kappa Theta Epsilon Society, the national engineering co-op and internship honorary
- Treasurer, “A Very Share-y Halloween” philanthropy project with Sigma Phi Epsilon Fraternity

PRESENTATIONS

- Poster, 2014 Annual Meeting of the Southeastern Theoretical Chemistry Association, Atlanta, GA
Poster Title: Analysis of Solvation Model, Adsorption Site, and Adsorbate Coverage Effects on Adsorption Energies at the Anode in Direct Methanol Fuel Cells
- Poster, 2014 9th Annual Materials Research Soc. and Optical Soc. of America Poster Session, Clemson, SC
Poster Title: Analysis of Solvation Model, Adsorption Site, and Adsorbate Coverage Effects on Adsorption Energies at the Anode in Direct Methanol Fuel Cells
- Poster, 2014 Annual ChBE Department Graduate Research Symposium, Clemson, SC
Poster Title: Analysis of Solvation Model, Adsorption Site, and Adsorbate Coverage Effects on Adsorption Energies at the Anode in Direct Methanol Fuel Cells
- Poster, 2013 12th Annual Symposium of the Southeastern Catalysis Society, Asheville, NC
Poster Title: Analysis of Solvation Model, Adsorption Site, and Adsorbate Coverage Effects on Adsorption Energies at the Anode in Direct Methanol Fuel Cells

RESEARCH EXPERIENCE

Clemson University, Department of Chemical and Biomolecular Engineering, Clemson, SC

Ph.D. Candidate, Graduate Research Assistant – Getman Research Program (November 2012 – Present)

- Develop novel methods of rational heterogeneous catalyst design using computational modeling
- Utilize the Vienna Ab initio Simulation Package (VASP) to calculate catalyzed reaction energies using Density Functional Theory
- Program novel code using a grand canonical Monte Carlo approach to determine catalyst composition under experimental conditions
- Install, maintain, and optimize the VASP code on Clemson’s 17,000-core high performance computer cluster

The Ohio State University, Department of Mechanical and Aeronautical Engineering, Columbus, OH

Undergraduate Research Assistant – Microsystems and Nanosystems Laboratory (January 2011 – August 2012)

- Assisted in various projects related to salt water desalination membranes and devices
- Completed various lab duties such as gold plating of membranes and assist in prototype development
- Designed and fabricated a water desalination device utilizing concentration polarization mitigation techniques

SKILLS

- VASP – proficient; Gaussian 09 – introductory experience; LAMMPS – introductory experience
- MATLAB, Microsoft Visual Basic, C++, Python computer programming – introductory experience