Rebecca P. Wong

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Education

Grinnell College – Grinnell, IA **August 2013 – December 2016**

- B.A., Physics, Minors in Environmental Studies and East Asian Studies, GPA: 3.61/4.0

Languages and Skills

- Python, web-based APIs
- Microsoft Excel, statistical analysis and Origin
- OpenFOAM CFD, mesh quality tests
- Linux terminal, parallel computing
- R Markdown
- Biofuels, TGA
- Literature review
- Standards (IEC, ISO) and SOPs
- German (Intermediate)
- Japanese (Intermediate)

Selected Research and Company Experience

SunOyster Systems GmbH and Suntrace GmbH – Hamburg, Germany
Researcher **February 2019 – July 2019**

- Developed model in OpenFOAM to evaluate lift, drag, and moment coefficients at maximum wind load as well as atmospheric boundary layer model for concentrated solar power (CSP) product SunOyster8
- Wrote Python codes to evaluate shading effects at site due to local topology for solar resource assessment (SRA) using Open Elevation API, create maps displaying coverage zones of different satellites and SRA providers using Basemap, and to plot histograms with fits for extreme wind assessment using DarkSky API
- Presented on updated standards IEC 61724-1 and ISO 9060 relating to SRA measurements and equipment

Okinawa Institute of Science and Technology Graduate University Research Internship – Okinawa, Japan
Researcher in Femtosecond Spectroscopy Unit **January 2018 – July 2018**

- Optimized alignment of optical pump-terahertz probe (OPTP) system and designed cryostat holder for experiment on single crystal perovskite carrier mobility at low temperatures
- Plotted and determined charge carrier lifetimes using Origin

Student Undergraduate Laboratory Internship – Argonne National Laboratory, Lemont, IL
Researcher in Tribology Lab **September 2017 – December 2017**

- Conducted 4-Ball, High Frequency Reciprocating Rig (HFRR), and Pin-on-Disk tests to determine lubricant properties regarding wear and friction
- Analyzed results using optical microscopy and white light interferometry/profilometry
- Wrote Python code to analyze material porosity through calculation of pore area in images

Student Undergraduate Laboratory Internship – Lawrence Berkeley National Laboratory, Berkeley, CA
Researcher at Advanced Biofuels Process Development Unit **January 2017 – April 2017**

- Pretreated, fermented, and quantified yields (using HPLC) of biofuel from agricultural residue and waste
- Performed tangential flow filtration and rotoevaporation for protein concentration and purification tests

Sustainable Forest Bioproduct Research Experience for Undergraduates – University of Maine, Orono, ME
Researcher in Energy Testing Lab for Sustainable Bioproducts **June 2016 – August 2016**

- Determined densities and moisture of softwood, hardwood, and mixed wood fuel pellets using a pycnometer
- Evaluated impacts of heating at different temperatures on residual higher heating value, combustion characteristics, and peaks of mass loss using a thermogravimetric analyzer and bomb calorimeter

NanoJapan International Research Experience for Undergraduates – Osaka University, Osaka, Japan
Researcher in Terahertz Nanoscience Lab under Dr. Masayoshi Tonouchi **May 2015 – August 2015**

- Executed terahertz and optical imaging of photoconductive antenna and MoS_2-Si heterojunction to characterize 2D-3D material junctions and verify presence of band bending in MoS_2-Si
- Analyzed Raman peaks of MoS_2-Si heterojunction to identify different materials present in sample
- Received Honorable Mention in Smalley-Curl Institute Undergraduate Poster Presentation at Rice University

Microscale Sensing Actuation and Imaging Research Experience for Undergraduates – Iowa State University, Ames, IA
Researcher in Computational Physics Lab under Dr. Baskar Ganapathysubramanian **June 2014 – August 2014**

- Manipulated evaporation rate and blend ratio to create a 10 X 10 morphology map classifying the various types of microstructures in organic photovoltaics and identified useful parameters

- Wrote codes in MATLAB to transfer microstructure domain size collected from images into a graph of time versus distance to interface (recombination lifetime)

Additional Experience

IOWATER – Grinnell, IA

Chief Leader **August 2013 – December 2016**

- Wrote and implemented $2,500 grant funding 4 bioreactor/nitrate reduction educational workshops
- Monthly data collection and entry on stream quality (pH, chloride, nitrate/nitride, phosphorus, etc.)
- Managed ArcGIS mapping system for labelling over 60 storm drains to prevent dumping

Food Recovery Network – Grinnell, IA

President **August 2013 – December 2016**

- Managed the collection and distribution of over 15,000 lbs. of food to over 50 individuals in need
- Implemented a reusable container system for daily food recovery and storage saving over 1,000 aluminum containers from disposal
- Won the Environmental Protection Agency's Food Recovery Challenge Regional Award (2017)

American Conservation Experience – Flagstaff, AZ

450 Hour AmeriCorps Member **June 2013 – August 2013**

- Built and maintained 50 miles of trails and historical monuments in national parks across America

Honors and Achievements

Congress-Bundestag Youth Exchange for Young Professionals 2018 - 2019

Harvard Business School Credential of Readiness (CORe) in Business, Passed with Honors 2016

Udall Scholar Foundation Honorable Mention Recipient 2015

450 Hour AmeriCorps Member with American Conservation Experience 2013