Paul Kim
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Objective: To attend a graduate school with a focus in the field of renewable energy

Education

Yale University, New Haven, CT — Expected Graduation Date: May 2017
B.S. Chemical Engineering

Work/Research Experience

Molecular Engineering of Corroles for Photoelectrochemical Devices — May 2014 – Present

- Research assistant, Yale Energy Science Institute, conducted under supervision of Professor Gary Brudvig.
- Fabricated dye-sensitized solar cells (DSSC) for use in light-driven water oxidation.
- Investigated the usage of corroles and porphyrins for use in DSSCs.

Organic Solar Cells based on Free-standing Silver Nanowire Electrodes — May 2015 – July 2015

- Summer intern, University of Konstanz in Germany, supervised by Professor Lukas Schmidt-Mende
- Analyzed the effect of silver nanowire arrays on the performance of hybrid solar cells.
- Optimized construction procedure of flat film hybrid solar cells to achieve greatest efficiency.
- Deutscher Akademischer Austausch Dienst (DAAD) Research Internships in Science and Engineering.

Sandia National Laboratories (Livermore, CA) – Summer Intern — June 2016 – August 2016

- Measured the change in transport properties (thermal conductivity, resistivity) of thermoelectric materials after aging
- Used Adobe Creative Suite to measure porosity and pore size of thermoelectric materials after aging
- Conducted thermal conductivity measurements to characterize thin coatings for use in thermal barriers

BASF Catalysts (Iselin, NJ) – Research and Development Intern — July 2013 – August 2013

- Synthesized diesel oxidation catalysts (classified materials and methods).
- Prepared and coated cores to be tested for use in catalytic converters.

Polymer Processing Institute (Newark, NJ) **–** Intern — August 2012 – May 2013

- Assist in production and analysis of classified polymers.
- Learn different characterization techniques utilized to identify materials and substances, and what each of these different techniques offered in terms of identifying substances and their properties.

NJ Meadowlands Environmental Research Institute (Lyndhurst, NJ) – Research Intern — July 2011 – August 2011

- Investigated the effects of tides on a local reconstructed wetland.
- Studied eutrophication by conducting fieldwork to sample tidal water coming into and leaving a constructed wetland.

Publications:

Feng, Y. et al. (2016). Uniform Large-Area Free-Standing Silver Nanowire Arrays on Transparent Conducting Substrates. *J. Electrochem. Soc.,* 163(8), D447-D452.

Brennan, Bradley J., et al. "Surface-Induced Deprotection of THP-Protected Hydroxamic Acids on Titanium Dioxide." *The Journal of Physical Chemistry C*(2016).

Brennan, B. J., Lam, Y. C., Kim, P. M., Zhang, X., & Brudvig, G. W. (2015). Photoelectrochemical cells utilizing tunable corroles. *ACS applied materials & interfaces*, *7*(29), 16124-16130.

Extracurricular Activities:

Director, Splash at Yale**:** Organized an educational outreach program for 200+ middle and high school students
President, Yale AIChE**:** Organized career/networking events for chemical engineering majors at Yale.
Equipment Specialist Coordinator, Yale Student Technology Collaborative: Assist in provision and repair of media equipment on Yale campus