

Cody Enslin Finke

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Education

Carleton College: B.A. in Chemistry (Distinction), GPA: 3.872 *Fall 2008 - Winter 2012 (University of Sydney: Fall 2009)*

California Institute of Technology: Ph.D. in Environmental Science and Engineering, In Progress *Winter 2014 - Present*

Honors/Awards

- King County Earth Hero at School Award (2008)
- **Barry M. Goldwater Scholarship for Excellence in Education** (2011)
- Carleton College Parent's Fund Scholarship for Excellence (2011)
- Phi Beta Kappa (2012)
- Sigma Xi (2012)
- The Carleton College Charles Carlin Prize in Chemistry (2012)
- Distinction in the Chemistry Major (2012)
- **Vodafone Wireless Innovation Project First Place** (2015)
- Resnick Institute for Sustainability Fellowship (2015)
- Invited Panelist to the IEEE Global Humanitarian Technology Conference (2016)
- Invited Speaker to the De Nora Symposium for Electrochemical Technologies (2016)

Current Research Interests

Fighting the causes and symptoms of climate change: Software Engineering as a way to aid/enable international development and environmental sustainability, the interplay between electrochemical and photochemical oxidation of organic water pollutants, rational electrocatalyst design for wastewater treatment and solar fuel production using active site characterization and tuning binding site charge density.

Related Work/Coursework

Climate Change Ecology, Gerace Field Station

June - July 2011

Studied the effects that increased hurricane frequency has on Atlantic pearl oyster populations habitat with Dr. E. Cole

Graduate Research Assistant, Caltech Div. Engineering and Applied Sciences

January 2014 - Present

Discovered a new technique for rationally optimizing electrodes critical to energy storage in a green economy. Developed the only solution to the maintenance issue for high tech humanitarian technologies. Developed a wastewater treatment technology for applications in the developing world.

Sustainable Technology Consultant, the Kohler Company

September 2015 - Present

Technology consultant on wastewater treatment in the developing world.

Water Sustainability Consultant, CA State Water Resources Control Board/Resnick Institute

October 2015 - Present

Consultant on California's state water resources and water sustainability plan and call for proposals.

Sustainable Technology Consultant, Bill and Melinda Gates Foundation

May 2016 - Present

Consultant on electrochemical green and humanitarian technologies for water treatment, nutrient recovery, and energy storage.

Selected Patents, Publications, and Conference Proceedings

2016

- **Tuning Electrode Surface Electronics with Thin Layers** Cody E. Finke, Stefan R. Omelchenko, Laleh Majari Kasamaee, Justin T. Jasper, Michael R. Hoffmann. Provisional Patent Number CIT-7623-P.
- **Towards Rational Optimization of a Wastewater Treatment Electrocatalyst for the Chlorine Evolution Reaction Using a Method for Finding Active Sites on Brush Coated Samples** Cody E. Finke, Stefan R. Omelchenko, Michael R. Hoffmann. Presented at the 2016 ECS PRIME Conference in Honolulu, Hawaii.
- **Tuning a Heterogeneous Electrocatalyst's Activity by Altering Binding Site Charge Density** Cody E. Finke, Stefan T. Omelchenko, Hai Xiao, Laleh Majari Kasamaee, Justin T. Jasper, Nathan S. Lewis, William A. Goddard, Michael R. Hoffmann. (In Prep for the Journal Science)

2015

- **Electrochemical Disinfection of Toilet Wastewater using Solar-Powered Wastewater Electrolysis Cell** Xiao Huang; Yan Qu, Ph.D.; Cody E. Finke; Clément A Cid; Michael R Hoffmann, Ph.D.; Sunny Jiang. Department of Engineering and Applied Sciences the California Institute of Technology. (Submitted to the Journal of Water Research for publication).
- **Self-Diagnosis and Maintenance Guide for Non-Sewered Sanitation Systems** Cody E. Finke, Clement A. Cid, Anastasia Hanan, Michael R. Hoffmann. US Patent Application Number 62/190,173.