KARA RODBY

(773)-892-6284 krodby@mit.edu

EDUCATION

Massachusetts Institute of Technology (MIT), Cambridge, MA
PhD Candidate in Chemical Engineering (expected December 2022)

Northwestern University (NU) – McCormick School of Engineering, Evanston, IL
Bachelor of Sciences in Environmental Engineering with Honors (2017)
Cumulative GPA: 3.91/4.00 – *Summa Cum Laude*

INDUSTRY

MIT Dept. of Chemical Engineering Practice School

- Four intensive 1-month projects on unfamiliar engineering problems, executed in groups of three students
- Projects were self-led by and designed by us students, with minimal input from company sponsors
- Led two team project: gave weekly presentations and reports to the company, interfaced with sponsors

Corning Incorporated, Corning, NY and Wilmington, NC (2019)

- Worked in both the Life Sciences and Fiber Optics Manufacturing departments. Performed early-stage design of new products and optimization of existing manufacturing processes

Woodside Energy, Perth, Western Australia (2019)

- Worked in the Technology department researching potential alternative fuels and engineering state-of-the-art maintenance technologies for their LNG plants

RESEARCH

https://orcid.org/0000-0003-0097-6444

MIT – Brushett Lab, Chemical Engineering (2018-present)

- Systems-level engineering and technoeconomic analysis of electrochemical redox flow batteries for long duration grid storage applications
- Build and test flow batteries under various operating conditions and develop models with MATLAB

NU – Gaillard Lab, Environmental Engineering (2015-2017)
Honors Thesis: *"Microbial uptake of mercury in aquatic systems"*

- Tested the effect of speciation, certain ions, and physical alterations on the natural mercury biouptake of *E. coli*
- Used environmental and analytical chemistry to probe the environmental and health problem of mercury poisoning due to biological conversion of inorganic mercury into neurotoxic methylmercury

AWARDS & LEADERSHIP

Academic:

- NSF Honorable Mention (2017)
- Winner of NU CEE Dept. "Thesis in 180" Competition (2016)
- 1st Place in Science Posters & "People's Choice Award" Winner at NU Research Expo (2016)
- American Chemical Society Undergraduate Student Award in Environmental Chemistry (2016)
- NU Environmental Engineering Senior Award (2017)
- NU Merit Scholar (2013-2017)
- Chemistry Olympiad National Finalist (2012)

Service & Leadership:

- Co-founder of MIT Graduate Women in Chem.E. (2018)
- MIT Graduate Woman of Excellence (2019)
- MIT/Title IX Change-Maker Award (2019)
- Member of MIT's Committee on Sexual Misconduct Prevention and Response (2018-present)
- President of Real Food at NU (2014-2017)
- Environmental Citizenship and Service at NU Award Recipient (2016)
- Northwestern Campus Life Award Recipient (2015)

SKILLS

- **Computer:** Experienced in many numerical methods such as modeling/simulations, optimization, and data processing and visualizing in MATLAB.
- **Laboratory:** Strong overall skills for experimental design on any topic. Electrochemical theory and experimentation. Basic skills with growing/using bacteria. Metal bio uptake assays. Analytical tools such as TEM and SEM.
- **Interests:** Distance running and fitness, photography, pop culture expert.