

Ruby Kohn

1 Chapin Way #8112

Northampton, MA 01063

(858) 888-3229

rkohn@smith.edu

Education

Smith College, Northampton, MA

BS, Engineering (expected May 2019)

Full-Year Honors Thesis: "Design of Microcosms for Testing of Contaminant Removal"

GPA: 3.72/4.0

Experience

NSF Funded Research Experience for Undergraduates (REU), June - August 2018

Institute for Mechatronic Systems, Technical University Darmstadt, Germany

- Created a model of charging infrastructure for electric vehicles in residential complexes based on driver habits and charger scenarios using MATLAB
- Optimized the model to significantly reduce the energy consumption of an outdated housing complex being refurbished with a smart grid controller
- Directed the research and design of the model independently in collaboration with a graduate mentor

Summer Undergraduate Research Fellowship, May - July 2017

Ismail Lab, Smith College

- Collected water quality data of a stream running through a cattle pasture at the Smith College field station to assess geographic correlation of fecal contamination and inform rechanneling of the stream
- Implemented a diurnal study of E. coli levels in the stream to explore the impact of environmental conditions, especially sunlight, on the fecal contaminant

Research Assistant, February 2017 - Present

Ismail Lab, Smith College

- Designed and implemented original experiments assessing the ability of zooplankton to filter microbial pollutants from aquatic systems under various environmental conditions
- Currently building flow-through microcosm tanks that model engineered treatment wetlands to study the long-term filter feeding behavior of zooplankton in natural systems
- Coordinated laboratory upkeep, maintenance of organisms, and training of new research assistants

Mushroom Mycelium Project, September - December 2017

Contaminants in Aquatic Systems, Smith College

- Collaborated with a local farmer to develop a productive use for mushroom mycelium waste that would be otherwise composted
- Reviewed relevant literature and designed an experiment measuring the sorption of lead from water by powdered mycelium
- Performed batch experiments, collected data using a microwave digester and ICP-OES, and evaluated sorption favorability using the Freundlich isotherm model

Rhythmic Gymnastics Coach, November 2013 - August 2015

YMCA, Encinitas, CA

- Coached beginner and intermediate rhythmic gymnastics classes made up of girls ages five to twelve
- Individualized training to inspire each gymnast to set goals and do their best to achieve them

Skills and Activities

Proficient in MATLAB, Mathematica, Python, R, ArcGIS, and Microsoft Suite

Administrative liaison for Divest Smith College, a social and environmental justice organization