# **Kristen Anna Riedinger**

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# Education

Doctor of Philosophy in Civil and Environmental Engineering September 2022 — pres	ent
GPA 5.0/5.0	
Master of Science in Civil and Environmental Engineering September 2020 — August 20	)22
Thesis title: A Survey of Superfund Chemicals in Massachusetts Farms	
GPA 5.0/5.0	
Washington University in St. Louis St. Louis, I	NO
Bachelor of Arts in Chemistry, minor in Environmental Earth Sciences August 2016 — May 20	)20
GPA 3.98/4.0	
The University of Edinburgh Edinburgh,	UK

Undergraduate coursework for Environmental Earth Sciences minor

### **Research Projects**

### Massachusetts Institute of Technology

PhD student (Advisor: Dr. Desirée Plata)

- Collecting over 100 drinking water samples from two communities with suspected contamination from *N*-Nitrosdimethylamine (NDMA)
- Using improved laboratory techniques to evaluate the presence of nitrosamines and other disinfection byproducts in collected samples
- Identifying peaks in community exposure to nitrosamines and investigating potential factors contributing to high occurrence
- Developing sampling kits for community members to collect samples for laboratory analysis
- Collaborating with other members of the MIT Superfund Research Program

SM student (Advisor: Dr. Desirée Plata)

- Collected soil, water, and produce samples from 21 farms around Massachusetts
- Analyzed collected samples for the list of Superfund chemicals in the Inorganic, Organic Volatile, Organic Semi-volatile, and Pesticides and Aroclors classes, as well as a subset of the list of Dioxins, Furans, and Polychlorinated Biphenyl Group (targeted screening)
- Improved protocols for self-sampling at farms
- Investigated systematic relationships between contaminant levels and nearby Superfund sites

### Washington University in St. Louis

Undergraduate Research Assistant

- Engaged in a summer research project in Dr. Jeffrey Catalano's lab (Aqueous Geochemistry and • Mineralogy group), under the guidance of Dr. Elaine Flynn
- Set up a field experiment to monitor the effects of added biochar on heavy metals in soil and their uptake into plants
- Collected soil and plant tissue samples at regular intervals, performed sequential extraction of metals and nutrient extraction procedures, and analyzed extracts for heavy metal and nutrient content

#### Cambridge, MA

September 2022 — present

September 2020 — August 2022

January — May 2019

#### St. Louis, MO

June 2019 — March 2020

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May — August 2018

#### Tyson Undergraduate Research Fellow

- Collaborated with a 13-person research team to collect data on trees in a Forest Global Earth Observatory (Smithsonian ForestGEO) network plot
- Refined and executed field protocol for accurate and consistent data collection
- Utilized forestry techniques such as Missouri tree identification, using a dbh tape and calipers, spatial mapping of trees using a rangefinder, canopy leaf collection, and using a dry shipper

### Achievements and Awards

- The Trond Kaalstad (Class of 1957) Fellowship (May 2022)
- International Center for Energy, Environment and Sustainability (InCEES) Summer Research Internship (Summer 2019)
- Dean's List, Washington University in St. Louis (Fall 2016, Spring 2017, Fall 2017, Fall 2018, Fall 2019)

# Teaching and Employment Experience

# Washington University in St. Louis

#### St. Louis, MO

Introductory Physics Peer Group Leader August — December 2018, August 2019 — April 2020

- Facilitated weekly meetings with 10-12 students by teaching problem-solving strategies and concepts
- Encouraged group learning and the growth mindset as part of the Peer-Led Team Learning program
- Fostered an inclusive learning environment by respecting students' diverse academic backgrounds

Interlibrary Loan Student Worker February — December 2018, August 2019 — March 2020

- Located and retrieved materials from libraries on campus by Library of Congress Call Number
- Scanned pages from books and journals to be delivered electronically
- Assisted with the training of new student workers

# Activities and Interests

- MIT Water Club (Fall 2020 present), President/Co-President (Fall 2021 present)
- MIT Educational Studies Program; volunteer teacher for Splash event (November 2022)
- Alpha Chi Sigma at Washington University, professional chemistry fraternity (Spring 2018 2020)
- Green Action at Washington University (2016 2020), Co-President (April 2017 April 2018)