

# William James Johnson

Boulder, CO | [wijo3334@colorado.edu](mailto:wijo3334@colorado.edu)

## RESEARCH FOCUS

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Using computational and analytical tools to characterize and monitor complex risks in the environment.

## EDUCATION

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<b>University of Colorado Boulder</b> <i>PhD Student, Candidate, Environmental Engineering</i> <ul style="list-style-type: none"><li>• Advisor: Professor Cresten Mansfeldt</li><li>• Expected Defense: March 2026</li></ul>	Boulder, CO <i>Jan 2021 — Present</i>
<b>University of Texas at Austin</b> <i>BS in Environmental Science, Biology Track</i> <ul style="list-style-type: none"><li>• Capstone Mentor: Dr. Rob Plowes</li></ul>	Austin, TX <i>Aug 2015 — May 2020</i>

## HONORS & AWARDS

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- **USGS 104B Graduate Student Grant** (2023): *Evaluation of Simulated Wildfire and WUI-fire Ash Through Toxicological Assays*
- **Honorable Mention, GRFP** (National Science Foundation) (2022)
- **Undergraduate Research Fellowship** (UT Austin) (2020)

## PUBLICATIONS

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<b>Nanoparticulate Wood Treatments Contribute to the Aquatic Toxicity of Simulated Urban Wildfire Ashes</b> <b>Johnson, W.*</b> , Mansfeldt, C. <i>Environmental Science &amp; Technology, 2025.</i>
<b>Effectiveness of building-level sewage surveillance during both community-spread and sporadic-infection phases of SARS-CoV-2 in a university campus population</b> <b>Johnson, W.*</b> , Reeves, K.*, ..., Mansfeldt, C. <i>FEMS Microbes, 2022.</i>
<b>High-resolution within-sewer SARS-CoV-2 surveillance facilitates informed intervention</b> Reeves, K.*, Liebig, J., Feula, A., Saldi, T., Lasda, E., <b>Johnson, W.</b> , ..., and Mansfeldt, C. <i>Water Research, 2021.</i>

## CONFERENCE PAPERS

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<b>Lightweight, Reliable, and Efficient Water Recovery Using Treatment with Pressure-Driven Distillation, Biologically Activated Carbon, and UV Disinfection</b> Jorgenson, N.*, Lopez, K.*, <b>Johnson, W.</b> , Mansfeldt, C., Straub, A. <i>Proceedings of the 53rd International Conference on Environmental Systems (ICES), Prague, Czech Republic, 2025.</i>
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## RESEARCH EXPERIENCE

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<b>Graduate Research Assistant</b> Creative Microbial Bio-Maintenance for Greener Environments and Municipalities Laboratory <ul style="list-style-type: none"><li>• Advisor: Professor Cresten Mansfeldt (CU Boulder)</li></ul>	Jan 2021 — Present <i>Boulder, CO</i>
<b>Undergraduate Researcher</b> Brackenridge Field Lab <ul style="list-style-type: none"><li>• Mentors: Dr. Rob Plowes and Dr. Nathan Jones</li><li>• Capstone Title: The effects of controlled burns on the fungal microbiomes of KR Bluestem and Silver Bluestem</li></ul>	Aug 2019 — May 2020 <i>Austin, TX</i>

## TEACHING EXPERIENCE

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<b>Teaching Assistant</b> University of Colorado Boulder • EVEN 4424: Environmental Organic Chemistry	Spring 2025 <i>Boulder, CO</i>
<b>Teaching Assistant</b> University of Colorado Boulder • CVEN 5484: Applied Microbiology and Toxicology	Spring 2024 <i>Boulder, CO</i>
<b>Teaching Assistant</b> University of Colorado Boulder • CVEN 4404: Water Chemistry	Fall 2022 <i>Boulder, CO</i>
<b>Teaching Assistant</b> University of Colorado Boulder • CVEN 4484: Introduction to Microbiology	Spring 2021 <i>Boulder, CO</i>

## CERTIFICATE IN COLLEGE TEACHING

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### Certificate in College Teaching (*In Progress*)

Fulfilling requirements for certification through CU Boulder's Center for Teaching and Learning

## PRESENTATIONS

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### Oral: Chemical Legacies of Wildfires: Considering Persistent Hazardous Residues and Those Formed Over Time

ACS Fall Meeting in Washington, D.C. (August 2025)

### Poster: Monitoring the Formation of Hazardous Oxygenated PAHs in Wildfire-Affected Watersheds

AGU Fall Meeting in Washington, D.C. (December 2024)

### Oral: Developing a model for the microbial mediation of wildfire impacts on aquatic ecosystems through PAH transport and transformation

ACS Fall Meeting in Denver, Colorado (August 2024)

### Poster: Microbes at the Interface: The Role of Solubility and Biotransformation in Contaminant Transport after Wildfire

ASM Microbe in Atlanta, Georgia (June 2024)

### Poster: Can Aquatic Microbes Close the Solubility Gap of Pyrogenic Carbon?

Front Range Microbiome Symposium at CSU (April 2024)

### Lightning Talk: Wildfire Impacts on Aquatic Biofilms

Wildfires in the WUI Workshop at CU Boulder (September 2023)

### Oral: Microbial Community Interactions with Wildland-Urban Interface Fire Contamination in Aquatic Systems

AEESP Conference at Northeastern University (July 2023)

### Oral: Shifts in riverine biofilms induced by WUI-fires and wastewater effluent

Hydrologic Sciences Symposium at CU Boulder (April 2023)

### Oral: Investigating the Effects of Wastewater Microbes on Nitrogen Cycling in Streams and Rivers

Rocky Mountain Water Conference in Keystone, Colorado (September 2022)

### Poster: Lessons Learned from Building-Scale Wastewater Monitoring at the University of Colorado Boulder

AEESP Conference at WUSTL (July 2022)

## SERVICE & OUTREACH

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<b>Austin Youth River Watch</b> • Mentored and taught under-served high school students about water quality testing and environmental principles	Spring 2019
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