



# Win Cowger

ENVIRONMENTAL SCIENTIST

Moore Institute for Plastic Pollution Research

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*I use science, data, and software to tackle the global challenges of plastic pollution and waste. This CV was produced with an application I built hosted at <https://wincowger.shinyapps.io/DataDrivenCV/>*

## Education

### University of California, Riverside

PHD. ENVIRONMENTAL SCIENCE SOIL AND WATER

- (3.62 GPA)

Riverside, CA, USA

2017 → 2021

### Iowa State University

BS ENVIRONMENTAL SCIENCE

- (3.93 GPA) & Honors Program Graduate

Ames, IA, USA

2013 → 2015

### Hawkeye Community College

ASSOCIATE OF ARTS IN LIBERAL ARTS

- (4.0 GPA)

Waterloo, CA, USA

2011 → 2013

## Employment

### Moore Institute for Plastic Pollution Research

RESEARCH SCIENTIST

- Leading research on plastic pollution, applying for grants, publishing peer reviewed papers, collecting field and lab based data.

Long Beach, CA, USA

October 2021 → Current

### University of California at Riverside

GRADUATE STUDENT RESEARCHER

- I research plastic pollution, specifically source allocation of plastic pollution with an emphasis on fluvial transport dynamics. I collect field data, conduct lab experiments, write grants, orchestrate collaborations, present at conferences, and develop process-based models. I apply my science to real-world problems by collaborating closely with nonprofit and government groups to develop my research priorities.

Riverside, CA, USA

July 2017 → October 2021

### 5 Gyres

CONTRACT DATA SCIENTIST

- I analyze and compile large datasets to answer questions about mismanaged waste for 5 Gyres Institute. Some examples of questions are: What are the most common types of litter in the United States and Where are hotspot sources and sinks of plastic pollution to the marine environment in South East Asia?

California, USA

June 2017 → September 2020

### Plant Prudent

FOUNDING MEMBER (LINK: [HTTP://ARCG.IS/0Y9NB](http://arCG.is/0Y9NB))

- I founded a small business focused on developing web based tools to help people grow plants wisely. Our beta tool is out now which helps Iowa landowners determine the most suitable species of trees to plant on their land based on soil type.

Ames, IA, USA

February 2017 → August 2018

### Prudenterra

SENIOR GIS ANALYST

- I research the feasibility of utilizing advanced GIS functions for Prudenterra, a company that specializes in sustainable agriculture and conservation consulting. Promoted to Senior GIS Analyst on July 2017 and hours cut to 5 hours or less per week during graduate school. I lead a small team of GIS analysts.

Ames, IA, USA

February 2016 → September 2017

### Cradle to Grave Farms

ORGANIC FARM ENVIRONMENTAL SPECIALIST

- Provided technical GIS and environmental management planning assistance to an organic hop, barley, honey, chicken, and tomato farm. Directly managed hop and tomato fields and chickens.

Sioux Falls, SD, USA

February 2016 → December 2016

## Conservation Corps of Minnesota and Iowa

Midwest, USA

CREW LEADER

February 2016 → December 2016

- I led a team of 5 conservation workers that traveled around the Midwest. We worked with professionals in Fish and Wildlife Service, The Nature Conservancy, National Parks Service, and various state and county conservation agencies. I coordinated projects, submitted time sheets, project reports, and expense reports. My crew controlled invasive plant species with power tools and herbicide, built boardwalks, maintained fences, and mapped work using GPS and GIS. I volunteered for a one-month disaster relief effort where I built a phone application for FEMA to quickly find resources for survivors.

## Conservation Corps of Minnesota and Iowa

Iowa, USA

CREW MEMBER

May 2015 → December 2015

- Worked with the Polk County Conservation Board to upkeep parks by removing invasive species using power tools and/or herbicide, built trails and stairs, and harvested prairie seeds. I volunteered for a disaster relief effort for two weeks where I was the database manager for the volunteer reception center.

## Iowa State University

Ames, IA, USA

RESEARCH ASSISTANT

January 2014 → May 2015

- Supervised by Dr. Soupir & Dr. Cademartiri, Worked with a similar freedom to a graduate student to develop a chemical assay for quantifying bacteria in water and developed a device to concentrate bacteria from freshwater sources. Worked in a biological lab doing colony counts, growth curves, and filtration. Worked in a chemical lab creating chemical combinations, testing pH, and working with enzymes.

## Iowa State University

Ames, IA, USA

TUTOR

September 2013 → December 2013

- ASC Tutor in Algebra, Geometry, and Calculus. Tutored college and high school math courses in Algebra, Geometry, and Calculus to groups ranging from 1-5 people.

## Service

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### UNIVERSITY

#### University of California Riverside

Riverside, CA, USA

GRADUATE STUDENT ASSOCIATION MEMBER

June 2019 → September 2021

- Graduate student association member in my department. Expanded inclusivity, diversity, and transparency within our department and advocated for the graduate students.

#### Iowa State University

Ames, IA, USA

PRESIDENT OF THE SOIL AND WATER CONSERVATION CLUB

December 2013 → December 2014

- Led meetings, and planned activities and speakers. Presented with a groundwater flow model to children and professionals to teach the basics of groundwater flow.

#### Iowa State University

Ames, IA, USA

MAGAZINE EDITORIAL COMMITTEE MEMBER

August 2013 → May 2014

- Contacted authors, edited their submissions, and found sponsors for magazine Getting into Soil and Water.

#### Iowa State University

Ames, IA, USA

CALS AMBASSADOR

September 2013 → May 2015

- Led tours for the College of Agriculture and Life Sciences to prospective students. Planned training and social events for the Ambassador group.

### NONPROFIT

#### Recycle My Battery

New Jersey, USA

ADVISER

June 2022 → Current

- Advise on strategies for preventing batteries from getting into the environment.

#### Code for Sacramento

Sacramento, CA, USA

PROJECT SPONSOR

September 2021 → Current

- I advise the Code for Sacramento group on how to create software for progressing knowledge and management actions on trash and microplastics.

#### Moore Institute for Plastic Pollution Research

Long Beach, CA, USA

BOARD MEMBER

September 2020 → Current

- I am a board member for the institute serving this institute that focuses on plastic pollution research.

#### National Cleanup Day

USA

SCIENCE ADVISER

December 2019 → Current

- Advise on the availability and use of data for reporting about the problem of litter pollution and cleanup.

## 5 Gyres

RESEARCH ADVISER

- Assist with research priorities, writing manuscripts, and developing software tools.

California, USA

June 2018 → Current

## Longest Swim

METHODS ADVISER

- Advised on methods for ocean litter monitoring during a swim across the Pacific Ocean.

North Pacific Ocean

2018

## Lets Do It World

DATA SCIENCE AND IT ADVISER

- I guide data management, data collection, and emerging IT for Let's Do It World. I advised creating the World Waste Platform, a data sharing and visualization platform for all waste data worldwide.

Tallinn, Estonia

September 2017 → June 2020

## GOVERNMENT ORGANIZATIONS

### Open Research Europe

GATEWAY ADVISER

- I am a Gateway Adviser to Open Research Europe, a scientific publisher that is free to publish in and free to view. Promoting their efforts on Social Media.

Europe

June 2022 → Current

### US Congress

WRITTEN TESTIMONY

- Assisted in the drafting of a written testimony to the US Congress on plastic pollution.

Washington, DC, USA

2021

### California EPA

REGULATION ADVISER

- Reviewed definition of microplastics for regulation in drinking water.

California, USA

2019

### US EPA

METHODS ADVISER

- Reviewed trash monitoring methods for an EPA workgroup.

USA

2018

### TeamMates

MENTOR

- Mentored a fifth-grader once a week to encourage him to be the best that he could be.

Waterloo, IA, USA

October 2012 → May 2013

## PROFESSIONAL SOCIETIES

### SoCal SETAC

BOARD MEMBER

- On the board of directors for Southern California SETAC Chapter.

California, USA

September 2022 → Current

### Thriving Earth Exchange, AGU

SCIENCE PARTNER

- Worked with AGU to mentor a workgroup composed of city officials and nonprofit groups, on how to collect data on trash in streams to inform management and policy making. Gave hands-on field training and data analysis services.

Pinole, CA, USA

January 2021 → Current

### Thriving Earth Exchange, AGU

SCIENCE PARTNER

- Worked with AGU to mentor a nonprofit group, Shenandoah Green, on how to collect microplastic data. Visited them in Staunton, VA to give hands-on field training.

Staunton, CA, USA

May 2019 → June 2020

## REVIEWING FOR JOURNALS

### Environmental Science and Pollution Research (1)

### Applied Spectroscopy (2)

### Science of the Total Environment (4)

### Environmental Science and Technology (7)

### Environmental Science and Technology Letters (3)

**Environmental Research Letters (2)**

**Journal of Open Source Software (1)**

**Frontiers in (1)**

**ACS Omega (1)**

**Nature Scientific Reports (1)**

**Analytical Chemistry (1)**

**ASCE (1)**

**Microplastics and Nanoplastics (1)**

**Water Research (1)**

## SOCIETY MEMBERSHIPS

**Geological Society of America**

USA  
2022 -> Current

**Society for Applied Spectroscopy**

USA  
2020 -> 2021

**American Geophysical Union**

USA  
2018 -> Current

**SETAC North America**

North America  
2018 -> 2021

**SETAC Southern California**

Southern California, USA  
2018 -> Current

## WORKING GROUPS

**American Geophysical Union**

REVIEWER

USA  
August 2022 -> Current

- Reviewing the Thriving Earth Exchanges policies and procedures.

**California EPA**

FACILITATOR

California, USA  
2022 -> Current

- California Water Data Challenge 3 day event on microplastics data portals.

**Institute for Global Environmental Strategies**

REVIEWER

Japan  
2022

- Reviewed a Training Needs Assessment report on microplastic monitoring in Sri Lanka.

**Pacific Northwest Microplastic Consortium**

TEAM MEMBER

Pacific Northwest, USA  
2020 -> Current

- Participate in biannual meetings about microplastics research progress.

**Microplastics Methodology Working Group**

TEAM MEMBER

California, USA  
2019 -> Current

- Developing standard operating procedures and writing review manuscripts for microplastic pollution.

**Trash Monitoring Work Group**

SUBGROUP CO-LEAD

California, USA  
2019 -> Current

- Led a group of government employees, private professionals and nonprofit groups to develop tools for improving the quality and utility of trash data.

## Ocean Protection Council

ACTION ITEM CO-LEAD

California, USA

2018 → Current

- Led action items for Ocean Protection Council to improve chemical analysis of trash and develop databases.

## United Nations

REVIEWER

China

2018

- Reviewed a litter methodology on an expert panel with the United Nations in China.

## Southern California Coastal Water Research Project

Southern California, USA

TEAM MEMBER

2017 → 2022

- Bight 2018 Trash Monitoring Team Planning and implementation of the regional trash monitoring in streams around Southern California.

# Publications

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## PEER-REVIEWED ARTICLES

### Science of the Total Environment

Global

COAUTHOR (LINK: [HTTPS://DOI.ORG/10.1016/J.SCITOTENV.2022.158866](https://doi.org/10.1016/j.scitotenv.2022.158866))

2022

- Koutnik, V. S., Leonard, J., El Rassi, L. A., Choy, M. M., Brar, J., Glasman, J. B., Cowger, W., & Mohanty, S. (2022). Children's playgrounds contain more microplastics than other areas in urban parks. *The Science of the Total Environment*, 158866.

### Chemosphere

Global

COAUTHOR (LINK: [HTTPS://DOI.ORG/10.1016/J.CHEMOSPHERE.2022.136449](https://doi.org/10.1016/j.chemosphere.2022.136449))

2022

- Kotar, S., McNeish, R., Murphy-Hagan, C., Renick, V., Lee, C.-F. T., Steele, C., Lusher, A., Moore, C., Minor, E., Schroeder, J., Helm, P., Rickabaugh, K., De Frond, H., Gesulga, K., Lao, W., Munno, K., Thornton Hampton, L. M., Weisberg, S. B., Wong, C. S., ... Rochman, C. M. (2022). Quantitative assessment of visual microscopy as a tool for microplastic research: Recommendations for improving methods and reporting. *Chemosphere*, 136449.

### Microplastics and Nanoplastics

California, USA

CORRESPONDING AUTHOR (LINK: [HTTPS://DOI.ORG/10.1186/S43591-022-00035-1](https://doi.org/10.1186/s43591-022-00035-1))

2022

- Hapich, H., Cowger, W., Gray, A. et al. Trash Taxonomy Tool: harmonizing classification systems used to describe trash in environments. *Micropl.&Nanopl.* 2, 15 (2022).

### Water Research

Southern California, USA

COAUTHOR (LINK: [HTTPS://DOI.ORG/10.1016/J.WATRES.2022.118950](https://doi.org/10.1016/j.watres.2022.118950))

2022

- Koutnik, V. S., Leonard, J., Brar, J., Cao, S., Glasman, J. B., Cowger, W., Ravi, S., & Mohanty, S. K. (2022). Transport of microplastics in stormwater treatment systems under freeze-thaw cycles: Critical role of plastic density. *Water Research*, 222, 118950.

### Journal of Hydrology: Regional Studies

Southern California, USA

COAUTHOR (LINK: [HTTPS://DOI.ORG/10.1016/J.EJRH.2022.101096](https://doi.org/10.1016/j.ejrh.2022.101096))

2022

- Jumps, N., Gray, A. B., Guilinger, J. J., & Cowger, W. C. (2022). Wildfire impacts on the persistent suspended sediment dynamics of the Ventura River, California. *Journal of Hydrology: Regional Studies*, 41, 101096.

### Earth-Science Reviews

Global

COAUTHOR (LINK: [HTTPS://DOI.ORG/10.1016/J.EARSCIREV.2022.104021](https://doi.org/10.1016/j.earscirev.2022.104021))

2022

- Waldschläger, K., Brückner, M. Z. M., Carney Almroth, B., Hackney, C. R., Adyel, T. M., Alimi, O. S., Belontz, S. L., Cowger, W., Doyle, D., Gray, A., Kane, I., Kooi, M., Kramer, M., Lechthaler, S., Michie, L., Nordam, T., Pohl, F., Russell, C., Thit, A., ... Wu, N. (2022). Learning from natural sediments to tackle microplastics challenges: A multidisciplinary perspective. *Earth-Science Reviews*, 228, 104021.

### Frontiers of Environmental Science & Engineering

Canada

COAUTHOR (LINK: [HTTPS://DOI.ORG/10.3389/FENVS.2022.912107](https://doi.org/10.3389/fenvs.2022.912107))

2022

- Jenkins, T., Persaud, B. D., Cowger, W., Szigeti, K., Roche, D. G., Clary, E., Slowinski, S., Lei, B., Abeynayaka, A., Nyadjro, E. S., Maes, T., Thornton Hampton, L., Bergmann, M., Aherne, J., Mason, S. A., Honek, J. F., Rezanezhad, F., Lusher, A. L., Booth, A. M., ... Van Cappellen, P. (2022). Current State of Microplastic Pollution Research Data: Trends in Availability and Sources of Open Data. *Frontiers of Environmental Science & Engineering in China*, 10.

### Environmental Research Letters

Southern California, USA

FIRST AUTHOR (LINK: [HTTPS://IOPSCIENCE.IOP.ORG/ARTICLE/10.1088/1748-9326/AC3C6A](https://iopscience.iop.org/article/10.1088/1748-9326/AC3C6A))

2022

- Cowger, W., Gray, A., Hapich, H., Osei-Enin, J., Olguin, S., Huynh, B., Nogi, H., Singh, S., Brownlee, S., Fong, J., Lok, T., Singer, G., & Ajami, H. (2022). Litter origins, accumulation rates, and hierarchical composition on urban roadsides of the Inland Empire, California. *Environmental Research Letters*: ERL, 17(1), 015007.

### Analytical Chemistry

Global

FIRST AUTHOR (LINK: [HTTPS://DOI.ORG/10.1021/ACS.ANALCHEM.1C00123](https://doi.org/10.1021/acs.analchem.1c00123))

2021

- Win Cowger, Zacharias Steinmetz, Andrew Gray, Keenan Munno, Jennifer Lynch, Hannah Hapich, Sebastian Primpke, Hannah De Frond, Chelsea Rochman, Orestis Herodotou. Microplastic Spectral Classification Needs an Open Source Community: Open Specy to the Rescue! 2021. *Analytical Chemistry*.

## Environmental Science and Technology

Global

FIRST AUTHOR (LINK: [HTTPS://DOI.ORG/10.1021/ACS.EST.1C01768](https://doi.org/10.1021/acs.est.1c01768))

2021

- Win Cowger, Andrew Gray, James Guilinger, Brandon Fong, Kryss Waldschläger. Concentration Depth Profiles of Microplastic Particles in River Flow and Implications for Surface Sampling. 2021. Environmental Science and Technology.

## Applied Spectroscopy

Global

FIRST AUTHOR (LINK: [HTTPS://DOI.ORG/10.1177/0003702820930292](https://doi.org/10.1177/0003702820930292))

2020

- Win Cowger, Andy M. Booth, Bonnie M. Hamilton, Clara Thaysen, Sebastian Pimpke, Keenan Munno, Amy L. Lusher, et al. 2020. Reporting Guidelines to Increase the Reproducibility and Comparability of Research on Microplastics. Applied Spectroscopy 74 (9): 1066–77.

## Applied Spectroscopy

Global

FIRST AUTHOR (LINK: [HTTPS://DOI.ORG/10.1177/0003702820929064](https://doi.org/10.1177/0003702820929064))

2020

- Win Cowger, Andrew Gray, Silke H. Christiansen, Hannah DeFrono, Ashok D. Deshpande, Ludovic Hemabessiere, Eunah Lee, et al. 2020. Critical Review of Processing and Classification Techniques for Images and Spectra in Microplastic Research. Applied Spectroscopy 74 (9): 989–1010.

## Environmental Research

Germany and Southern California

COAUTHOR (LINK: [HTTPS://DOI.ORG/10.1016/J.ENVRES.2020.110192](https://doi.org/10.1016/j.envres.2020.110192))

2020

- Waldschläger, Kryss, Maximilian Born, Win Cowger, Andrew Gray, and Holger Schüttrumpf. 2020. Settling and Rising Velocities of Environmentally Weathered Micro- and Macroplastic Particles. Environmental Research, September, 110192.

## Applied Spectroscopy

Global

COAUTHOR (LINK: [HTTPS://DOI.ORG/10.1177/0003702820921465](https://doi.org/10.1177/0003702820921465))

2020

- Pimpke, Sebastian, Silke H. Christiansen, Win Cowger, Hannah De Frono, Ashok Deshpande, Marten Fischer, Erika Holland, et al. 2020. EXPRESS: Critical Assessment of Analytical Methods for the Harmonized and Cost Efficient Analysis of Microplastics. Applied Spectroscopy, April, 3702820921465.

## Environmental Pollution

Iowa, USA

FIRST AUTHOR (LINK: [HTTPS://DOI.ORG/10.1016/J.ENVPOL.2019.04.052](https://doi.org/10.1016/j.envpol.2019.04.052))

2019

- Cowger, W., Gray, A. B., & Schultz, R. C. (2019). Anthropogenic litter cleanups in Iowa riparian areas reveal the importance of near-stream and watershed scale land use. Environmental Pollution, 250, 981-989.

## BOOK CHAPTERS

### IWA Publishing

Global

FIRST AUTHOR (LINK: [HTTPS://DOI.ORG/10.2166/9781789061697\\_0109](https://doi.org/10.2166/9781789061697_0109))

2019

- Cowger, W., Gray, A. B., Eriksen, M., Moore, C., & Thiel, M. (2019). Evaluating wastewater effluent as a source of microplastics in environmental samples. MICROPLASTICS IN WATER AND WASTEWATER, 109.

## CONFERENCE PROCEEDINGS

### ACM Sigspatial

Riverside, CA, USA

COAUTHOR (LINK: [HTTPS://DOI.ORG/10.1145/3347146.3359074](https://doi.org/10.1145/3347146.3359074))

2019

- Kang, Y., Zhao, Z., Magdy, A., Cowger, W., & Gray, A. (2019, November). Scalable Multi-resolution Spatial Visualization for Anthropogenic Litter Data. In Proceedings of the 27th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (pp. 560-563).

### IEEE

Riverside, CA, USA

COAUTHOR

2019

- Zhao, Z., Kang, Y., Magdy, A., Cowger, W., & Gray, A. (2019, April). A Data-Driven Approach for Tracking Human Litter in Modern Cities. In 2019 IEEE 35th International Conference on Data Engineering Workshops (ICDEW) (pp. 69-73). IEEE.

## DISSERTATION

### UC Riverside

Riverside, CA, USA

FIRST AUTHOR

2021

- Cowger W, 2021, Watershed Transport Processes of Anthropogenic Litter, University of California Riverside

## THESIS

### Iowa State University

Ames, IA, USA

FIRST AUTHOR

2015

- Cowger W, Schultz R. 2015. The Bhagsu Clean Watershed Project, Iowa State University, Honors Program, Honors Project Records, RS 3/3/3, Special Collections Department, Iowa State University Library.

## INVITED EDITORIALS

## Cleanup News

FIRST AUTHOR (LINK: [HTTPS://WWW.CLEANUPNEWS.ORG/HOME/LITTER-HURTS-HUMANS-TOO](https://www.cleanupnews.org/home/litter-hurts-humans-too))

- Win Cowger, 3 Ways Littering Hurts Humans Too. Cleanup News. 2020.

USA

2020

## Cleanup News

FIRST AUTHOR (LINK: [HTTPS://WWW.CLEANUPNEWS.ORG/HOME/5-PLASTIC-POLLUTION-MYTHS-DEBUNKED](https://www.cleanupnews.org/home/5-plastic-pollution-myths-debunked))

- Win Cowger, 5 Myths About Plastic Pollution Debunked. Cleanup News. 2020.

USA

2020

## Iowa State University

FIRST AUTHOR

- Win Cowger, A letter from the President in Getting into Soil and Water Magazine, 2015

Ames, IA, USA

2015

## Conservation Corps of Minnesota and Iowa

FIRST AUTHOR

- Win Cowger, Minnesota and Iowa Conservation Corps Blogger, 2015

Ames, IA, USA

2015

## ACKNOWLEDGEMENT ON PUBLICATIONS

### Break Free From Plastic

BREAK FREE FROM PLASTIC. BRAND AUDIT 2020. 2020. (LINK:

[HTTPS://WWW.BREAKFREEFROMPLASTIC.ORG/WP-CONTENT/UPLOADS/2020/12/BFFP-2020-BRAND-AUDIT-REPORT.PDF](https://www.breakfreefromplastic.org/wp-content/uploads/2020/12/BFFP-2020-Brand-Audit-Report.pdf))

California, USA

2020

### Syracuse University

KATHRYN MUNSTER, AN ANALYSIS OF CITIZEN SCIENCE AND ITS EFFECTS ON MARINE PLASTIC POLLUTION, 2019.

UNDERGRADUATE THESIS, SYRACUSE UNIVERSITY.

Syracuse, NY, USA

2019

### Environment International

COFFIN S, DUDLEY S, TAYLOR A, WOLF D, WANG J, LEE I, ET AL. COMPARISONS OF ANALYTICAL CHEMISTRY AND BIOLOGICAL

ACTIVITIES OF EXTRACTS FROM NORTH PACIFIC GYRE PLASTICS WITH UV-TREATED AND UNTREATED PLASTICS USING IN VITRO

AND IN VIVO MODELS. ENVIRON INT. 2018 DEC 1;121:942-54.

Riverside, CA, USA

2018

### 5 Gyres

5 GYRES ET AL., BAN LIST 2.0, 2018. (LINK:

[HTTPS://WWW.BREAKFREEFROMPLASTIC.ORG/WP-CONTENT/UPLOADS/2018/05/5GYRES\\_BANLIST2.PDF](https://www.breakfreefromplastic.org/wp-content/uploads/2018/05/5GYRES_BANLIST2.PDF))

California, USA

2018

### Lets Do It World

WORLD CLEANUP DAY 2018 WASTE REPORT, LET'S DO IT WORLD. 2018. (LINK:

[HTTPS://WWW.LETSDOITWORLD.ORG/WP-CONTENT/UPLOADS/2019/01/WCD\\_2018\\_WASTE\\_REPORT\\_FINAL\\_26.01.2019.PDF](https://www.letsdoitworld.org/wp-content/uploads/2019/01/WCD_2018_WASTE_REPORT_FINAL_26.01.2019.pdf))

Tallinn, Estonia

2018

## IN THE NEWS

### KVCR Inland Edition

WIN COWGER DISCUSSES ROADSIDE RUBBISH. (LINK:

[HTTPS://WWW.KVCRNEWS.ORG/SHOW/INLAND-EDITION/2022-03-02/3-2-2022-WIN-COWGER-DISCUSSES-ROADSIDE-RUBBISH](https://www.kvcrnews.org/show/inland-edition/2022-03-02/3-2-2022-win-cowger-discusses-roadside-rubbish))

Riverside, CA, USA

2022

### Code for America

TRASH AI PROJECT WAS HIGHLIGHTED IN CODE FOR AMERICA BLOG (LINK:

[HTTPS://CODEFORAMERICA.ORG/NEWS/VOLUNTEER-SPOTLIGHT-TRASHAI/](https://codeforamerica.org/news/volunteer-spotlight-trashai/))

USA

2022

### Mina Guli

QUOTED IN A BLOG POST BY ACCLAIMED RUNNER (LINK: [HTTPS://TWITTER.COM/MINAGULI/STATUS/1555483770152751110](https://twitter.com/minaguli/status/1555483770152751110))

Global

2022

### Scientific American

INTERVIEWED IN SCIENTIFIC AMERICAN ARTICLE (LINK:

[HTTPS://WWW.SCIENTIFICAMERICAN.COM/ARTICLE/SPRAY-ON-RINSE-OFF-FOOD-LSQUO-WRAPPER-RSQUO-CAN-CUT-PLASTIC-PACKAGING/?UTM\\_TERM=AUTOFEED&UTM\\_MEDIUM=SOCIAL&UTM\\_SOURCE=TWITTER#ECHOBOX=1657485704](https://www.scientificamerican.com/article/spray-on-rinse-off-food-wrappers-can-cut-plastic-packaging/?utm_term=autofeed&utm_medium=social&utm_source=twitter#Echobox=1657485704))

Long Beach, CA, USA

2022

### NBC

INTERVIEWED ON NBC ABOUT CHEWING GUM (LINK: [HTTPS://WWW.LX.COM/CULTURE/SPORTS/HOW-THE-YANKEES-CHEWING-](https://www.lx.com/culture/sports/how-the-yankees-chewing-gum-game-could-impact-the-environment/54979/)

[GUM-GAME-COULD-IMPACT-THE-ENVIRONMENT/54979/](https://www.lx.com/culture/sports/how-the-yankees-chewing-gum-game-could-impact-the-environment/54979/))

Long Beach, CA, USA

2022

### Popular Science

MOST ROADSIDE LITTER COMES FROM JUST DOWN THE STREET. (LINK:

[HTTPS://WWW.POPSCI.COM/ENVIRONMENT/LITTER-PLASTIC-WASTE/](https://www.popsci.com/environment/litter-plastic-waste/))

Riverside, CA, USA

2022

## Bloomberg

THE FUTILITY OF PICKING UP THE TRASH (LINK: [HTTPS://WWW.BLOOMBERG.COM/NEWS/ARTICLES/2022-02-16/HOW-TO-PREVENT-LITTERING-ACCORDING-TO-RESEARCHERS?UTM\\_MEDIUM=SOCIAL&UTM\\_CAMPAIGN=SOCIALFLOW-ORGANIC&UTM\\_CONTENT=CITYLAB&UTM\\_SOURCE=TWITTER](https://www.bloomberg.com/news/articles/2022-02-16/how-to-prevent-littering-according-to-researchers?utm_medium=social&utm_campaign=socialflow-organic&utm_content=citylab&utm_source=twitter))

Riverside, CA, USA

2022

## Scientific American

TINY ROBOTS COULD CLEAN UP MICROPLASTIC POLLUTION. SCIENTIFIC AMERICAN (LINK: [HTTPS://WWW.SCIENTIFICAMERICAN.COM/ARTICLE/TINY-ROBOTS-COULD-CLEAN-UP-MICROPLASTIC-POLLUTION/](https://www.scientificamerican.com/article/tiny-robots-could-clean-up-microplastic-pollution/))

Riverside, CA, USA

2021

## AGU Thriving Earth Exchange

SCIENTIST SPOTLIGHT: DISRUPTING THE SCIENTIFIC ECHO CHAMBER (LINK: [HTTPS://THRIVINGEARTHEXCHANGE.ORG/SCIENTIST-SPOTLIGHT-DISRUPTING-THE-SCIENTIFIC-ECHO-CHAMBER/?MKT\\_TOK=OTG3LULHVC01NzIAAAF-ZA61CY9HcfTv6w\\_GRL72WV2DN-C6iIC7TuLJEBgFiz5UPbly0WTCYHVEx2zWtHHYuRSaki4ODiK0C1W7MI2UxZFDuk8K-JI4SU-YVzW](https://thrivingearthexchange.org/scientist-spotlight-disrupting-the-scientific-echo-chamber/?mkt_tok=OTG3LULHVC01NzIAAAF-ZA61CY9HcfTv6w_GRL72WV2DN-C6iIC7TuLJEBgFiz5UPbly0WTCYHVEx2zWtHHYuRSaki4ODiK0C1W7MI2UxZFDuk8K-JI4SU-YVzW))

Pinole, CA, USA

2021

## ECO Magazine

OCEAN INNOVATORS (LINK: [HTTP://DIGITAL.ECOMAGAZINE.COM/PUBLICATION/?M=9890&I=696698&P=48&VER=HTML5](http://digital.ecomagazine.com/publication/?m=9890&i=696698&p=48&ver=html5))

Riverside, CA, USA

2021

## SCRIPPS-RADY

TRASH DATA TREASURE: HUNTING FOR SOLUTIONS TO PLASTIC WASTE (LINK: [HTTPS://CMBC.UCS.D.EDU/BLOG-TRASH-DATA-TREASURE/](https://cmbc.ucsd.edu/blog-trash-data-treasure/))

Riverside, CA, USA

2020

## Ecowatch

THE OCEAN CLEANUPS INTERCEPTOR AIMS TO CLEAN 1,000 RIVERS IN 5 YEARS. WILL IT WORK? (LINK: [HTTPS://WWW.ECOWATCH.COM/OCEAN-CLEANUP-INTERCEPTOR-2645510058.HTML](https://www.ecowatch.com/ocean-cleanup-interceptor-2645510058.html))

Riverside, CA, USA

2020

## KHOI Public Radio

WIN COWGERS RESEARCH ON TRASH IN IOWAS WATERWAYS (LINK: [HTTPS://KHOIFM.ORG/NODE/2119](https://khoifm.org/node/2119))

Iowa, USA

2019

## Engineering and Technology Magazine

PLASTIC WASTE POLLUTION IN THE OCEAN: TECHNOLOGY AT THE TIPPING POINT (LINK: [HTTPS://EANDT.THEIET.ORG/CONTENT/ARTICLES/2018/05/PLASTIC-WASTE-POLLUTION-IN-THE-OCEAN-TECHNOLOGY-AT-THE-TIPPING-POINT/](https://eandt.theiet.org/content/articles/2018/05/plastic-waste-pollution-in-the-ocean-technology-at-the-tipping-point/))

United Kingdom

2018

## Let's Do It World

A VOYAGE TO HUMANKIND'S LARGEST CREATION – THE NORTH PACIFIC GARBAGE PATCH (LINK: [HTTP://VANNEWSAGENCY.COM/DETAILSNEWS?NEWSID=VN2963071023](http://vannewsagency.com/detailsnews?newsid=VN2963071023))

Tallinn, Estonia

2019

## NOAA MDP Blog

MONITORING FOR CLEAN BEACHES (LINK: [HTTPS://BLOG.MARINEDEBRIS.NOAA.GOV/MONITORING-CLEAN-BEACHES?UTM\\_MEDIUM=EMAIL&UTM\\_SOURCE=GOVDELIVERY](https://blog.marinedebris.noaa.gov/monitoring-clean-beaches?utm_medium=email&utm_source=GovDelivery))

California, USA

2019

## UNESCO Press Release

UNESCO PRIZEWINNER USES AI TOOL TO DETECT AND COLLECT TRASH WORLDWIDE (LINK: [HTTPS://EN.UNESCO.ORG/NEWS/UNESCO-PRIZEWINNER-USES-AI-TOOL-DETECT-AND-COLLECT-TRASH-WORLDWIDE](https://en.unesco.org/news/unesco-prizewinner-uses-ai-tool-detect-and-collect-trash-worldwide))

Tallinn, Estonia

2019

## ARTISTIC CONTRIBUTIONS

### UC Riverside

LEAD (LINK: [HTTPS://WWW.YOUTUBE.COM/WATCH?V=S2IH2X4BPBU&LIST=PLCPTAL\\_CR2BL-RKEYG4610V4AGRYK5BD5](https://www.youtube.com/watch?v=S2IH2X4BPBU&list=PLcPTal_cr2BL-rkeYG4610V4AGRYK5BD5))

Riverside, CA, USA

2020 -> 2021

- Win Cowger, UCR Environmental Science Podcast

### Digital Topo

SCIENTIFIC ADVISOR (LINK: [HTTP://DIGITALTOPO.NET/DEV/PROJECTS/NATGEO-OCEANS-VIZ/](http://digitaltopo.net/dev/projects/natgeo-oceans-viz/))

Oakland, CA, USA

2020

- Orestis Herodotou, Win Cowger, Facing the Facts of Ocean Plastic Pollution

### SCI-Arc

SCIENTIFIC ADVISOR (LINK: [HTTPS://SHURUQTRAMONTINI.COM/CURRENT-AFFAIRS](https://shuruqtramontini.com/current-affairs))

Los Angeles, CA, USA

2019

- Shuruq Tramontini, Current Affairs

## Funding

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### ONGOING

#### McPike Zima Charitable Foundation (\$5,000)

PI (MOORE INSTITUTE)

USA

2022 -> Current

- Trash in the Wilderness



<b>Break Free From Plastic (\$10,000)</b>	<i>Asia</i>
PI (MOORE INSTITUTE)	2022 -> Current
• Global Brand Audit Study	
<b>HIDA (\$10,000)</b>	<i>Germany</i>
PI (PERSONAL)	2022 -> Current
• HIDA Visiting Researcher Grant	
<b>NREL (\$110,000)</b>	<i>USA</i>
PI (MOORE INSTITUTE)	2022 -> Current
• Water Pact	
<b>Peoples Lab (\$250,000)</b>	<i>California, USA</i>
PI (MOORE INSTITUTE, UCR, SFEI)	2022 -> Current
• Microplastics Data Portal	
<b>5 Gyres (\$2500)</b>	<i>Long Beach, CA, USA</i>
PI (MOORE INSTITUTE)	2022 -> Current
• Microfiber Analysis	
<b>NSF I Corps (\$2,000)</b>	<i>Riverside, CA, USA</i>
PI (PERSONAL)	2020 -> Current
• Open Specy Startup Grant. NSF I Corps.	
<b>NOAA (\$350,000)</b>	<i>California, USA</i>
WRITING (UCR)	2019 -> Current
• NOAA Marine Debris Grant	
<b>California Waterboards (\$100,000)</b>	<i>California, USA</i>
WRITING (UCR)	2019 -> Current
• California Waterboards	
<b>COMPLETED</b>	
<b>CICLO (\$2,000)</b>	<i>Long Beach, CA, USA</i>
PI (MOORE INSTITUTE)	2022
• Measurement of degraded fibers	
<b>IGES (\$600)</b>	<i>Japan</i>
PI (MOORE INSTITUTE)	2022
• Honorarium for reviewing a technical manuscript.	
<b>UC Riverside (\$14,400)</b>	<i>Riverside, CA, USA</i>
PI (UCR)	2021 -> 2021
• Dissertation Year Fellowship	
<b>National Marine Sanctuaries and NOAA (\$6,000)</b>	<i>Riverside, CA, USA</i>
WRITING (UCR)	2019 -> 2021
• Trash Taxonomy	
<b>Renew Oceans (\$6,000)</b>	<i>Varanasi, India</i>
CoPI (UCR)	2019 -> 2019
• River Trash Monitoring	
<b>UCR Office of Technology Partnerships (\$1,000)</b>	<i>Riverside, CA, USA</i>
PI (PERSONAL)	2019 -> 2019
• Open Specy	
<b>Benioff Ocean Institute (\$1,000,000)</b>	<i>Varanasi, India</i>
CoPI (UCR, RENEW OCEANS)	2019 -> 2020
• River Trash Monitoring and Collection Innovation	
<b>5 Gyres (\$1,000)</b>	<i>Maryland, USA</i>
PI (PERSONAL)	2019
• Solutions Summit	
<b>5 Gyres (\$3,000)</b>	<i>Bermuda</i>
PI (PERSONAL)	2019
• Ocean Plastic Leadership Summit	

<b>UC Riverside (\$1,400)</b>	<i>Riverside, CA, USA</i>
PI (PERSONAL)	2019
• GSA Travel Grant	
<b>Microsoft (\$40,000)</b>	<i>Estonia</i>
CoPI (LET'S DO IT WORLD)	2019
• Microsoft Artificial Intelligence Development	
<b>Microsoft (\$16,776)</b>	<i>Estonia</i>
CoPI (LET'S DO IT WORLD)	2018
• Microsoft AI for Earth Grant	
<b>UC Riverside (\$1,960)</b>	<i>Riverside, CA, USA</i>
WRITING (UCR)	2018
• UC Riverside Undergraduate Summer Learn and Earn	
<b>Lets Do It World (\$1,200)</b>	<i>Tallinn, Estonia</i>
PI (PERSONAL)	2018
• Let's Do It World, Clean World Conference, Estonia	
<b>United Nations (\$1500)</b>	<i>China</i>
PI (PERSONAL)	2018
• United Nations Working Group, Hotspots of Marine Litter	
<b>Socal SETAC (\$500)</b>	<i>Southern California, USA</i>
PI (PERSONAL)	2018
• SETAC North America Competitive Travel Grant	
<b>UC Riverside (\$700)</b>	<i>Riverside, CA, USA</i>
PI (PERSONAL)	2018
• GSA Travel Grant	
<b>NSF (\$138,000)</b>	<i>Riverside, CA, USA</i>
PI (PERSONAL)	2018 -> 2021
• National Science Foundation GRFP	
<b>UC Riverside (\$40,000)</b>	<i>Riverside, CA, USA</i>
PI (PERSONAL)	2017 -> 2021
• Chancellors Distinguished Fellowship	
<b>Algalita (\$500)</b>	<i>North Pacific Ocean</i>
PI (PERSONAL)	2017
• Algalita Pacific Gyre Research Voyage	
<b>Lets Do It World (\$450)</b>	<i>Tallinn, Estonia</i>
PI (PERSONAL)	2017
• Let's Do It World, Clean World Conference, Estonia	
<b>CSIRO (\$500)</b>	<i>Tasmania, Australia</i>
PI (PERSONAL)	2017
• CSIRO Research Travel Grant, Australia	
<b>UC Riverside (\$1,400)</b>	<i>Riverside, CA, USA</i>
PI (PERSONAL)	2017
• GSA Travel Grant	
<b>Oklahoma State University (\$250)</b>	<i>Stillwater, Oklahoma, USA</i>
PI (PERSONAL)	2014
• Oklahoma Student Water Conference Travel Scholarship	
<b>Iowa State University (\$750)</b>	<i>Ames, Iowa</i>
PI (PERSONAL)	2014
• Undergraduate Honors Program Grant	
<b>Iowa State University (\$500)</b>	<i>Ames, Iowa</i>
PI (PERSONAL)	2014
• Iowa Soil and Water Conservation Society Scholarship	

## Phi Theta Kappa (\$1,000)

PI (PERSONAL)

- Phi Theta Kappa Scholarship

Ames, Iowa

2014

## Iowa State University (\$1,000)

PI (PERSONAL)

- Fred Foreman Scholarship in Leadership Participation

Ames, Iowa

2014

## Iowa State University (\$1,250)

PI (PERSONAL)

- Iowa State Agronomy Travel Fellowship

Ames, Iowa

2013

## Phi Theta Kappa (\$1,000)

PI (PERSONAL)

- Phi Theta Kappa Scholarship

Ames, Iowa

2013

## Hawkeye Community College (\$2,500)

PI (PERSONAL)

- McElroy Minority Scholarship

Waterloo, IA, USA

2012

## Hawkeye Community College (\$1250)

PI (PERSONAL)

- McElroy Minority Scholarship

Waterloo, IA, USA

2011

## Teaching

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### COURSE INSTRUCTOR

#### UC Riverside

COURSE CO-FACILITATOR

- Diversity Equity and Inclusion in Geosciences Course

Riverside, California, USA

2021

#### UC Riverside

COURSE FACILITATOR

- R Clean Community. Community-focused student-led research.

Riverside, California, USA

2018 -> 2019

### WORKSHOP FACILITATOR

#### California EPA

CO-FACILITATOR

- Annual full day meetings focused on advancing trash data for California. Workshops were called Trash Data Dives

California, USA

2018 -> 2021

### PROFESSIONAL DEVELOPMENT

#### Hawkeye Community College

STUDENT

- Exploring Math and Teaching Course

Waterloo, IA, USA

2011

## Mentoring

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#### UC Riverside

GRADUATE STUDENT RESEARCHER

- A COMPARISON OF PLASTIC WASTE INPUT MODELS WITH GROUND OBSERVATIONS IN VARANASI, INDIA. Undergraduate Capstone Project. Primary Mentor. Spring 2021.

Riverside, California, USA

2021

#### UC Riverside

GRADUATE STUDENT RESEARCHER

- During my time as a PhD student, I taught over 20 undergraduate students to collect field and lab data, many of whom coauthored my peer reviewed manuscripts, and mentored 2 other graduate students. Summer 2017-Summer 2021.

Riverside, California, USA

2017 -> 2021

## Presentations

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### INVITED

<b>CSU Long Beach</b>	<i>Long Beach, CA, USA</i>
DR. HOLLANDS CLASS	2022
• Watershed Transport Processes of Anthropogenic Litter	
<b>Pinole City Council</b>	<i>Pinole, CA, USA</i>
PINOLE CITY COUNCIL MEETING	2022
• Final results of creek trash assessment.	
<b>AWWA</b>	<i>Anaheim, CA, USA</i>
ANNUAL MEETING	2022
• Watershed Transport Processes of Anthropogenic Litter	
<b>UC Riverside</b>	<i>Riverside, CA, USA</i>
MODEL UNITED NATIONS	2022
• Highlights on plastic pollution progress and resources for success	
<b>Pinole City Council</b>	<i>Pinole, CA, USA</i>
PINOLE CITY COUNCIL MEETING	2021
• Engaging Community to Protect the Pinole Creek Watershed: Assessment of trash impacts to promote a thriving ecosystem.	
<b>Santa Ana College</b>	<i>Santa Ana, CA, USA</i>
SHELLY MOORE'S CLASS	2021
• Past present and future of waste management	
<b>University of Waterloo</b>	<i>Waterloo, ON, Canada</i>
MAXIMIZING THE VALUE OF ENVIRONMENTAL MICROPLASTICS DATA	2021
• Reporting Guidelines to Increase the Reproducibility and Comparability of Microplastic Research	
<b>San Francisco Estuary Institute</b>	<i>Richmond, CA, USA</i>
SFEI CLEAN WATER GROUP	2021
• Watershed transport processes of anthropogenic litter	
<b>Pacific Northwest Microplastic Workgroup</b>	<i>Virtual</i>
PACIFIC NORTHWEST MICROPLASTIC WORKGROUP MEETING	2021
• Big Trash Data Sets and Applications	
<b>California EPA</b>	<i>California, USA</i>
TRASH WEBINAR SERIES	2021
• Big Trash Data Sets and Applications	
<b>Rita Allen Foundation</b>	<i>USA</i>
CIVIC SCIENCE WORKSHOP	2021
• Panel discussion on civic science.	
<b>SETAC Europe</b>	<i>Europe</i>
SETAC EUROPE MEETING	2021
• Reporting Guidelines for Increasing the Comparability and Reproducibility of Microplastic Research	
<b>ThermoFisher Scientific</b>	<i>Virtual</i>
THERMOFISHER GLOBAL MICROPLASTIC SYMPOSIUM	2021
• Open Source Raman and IR Spectroscopy, Paving the Future for Spectral Analysis using Artificial Intelligence	
<b>Scripps-Rady</b>	<i>Southern California, USA</i>
SCRIPPS-RADY OCEAN PLASTIC POLLUTION CHALLENGE	2021
• Trash Data Tools	
<b>Socal SETAC</b>	<i>Southern California, USA</i>
SOCAL SETAC MEETING	2020
• Open Specy: An open source, online, spectra classification and sharing tool for plastic pollution research	
<b>Drexel University</b>	<i>Pennsylvania, USA</i>
DR. WATSON'S LAB SEMINAR	2020
• Processes of Fluvial Plastic Pollution Transport and Community Science	
<b>Staunton City Council</b>	<i>Staunton, VA, USA</i>
STAUNTON CITY COUNCIL WORKING SESSION	2019
• Plastic pollution in Staunton	

## **James Madison University**

SUSTAINABLE SHENANDOAH

- A discussion on plastic pollution.

*Harrisonburg, VA, USA*

2019

## **UC Riverside**

UNDERGRADUATE ENVIRONMENTAL SCIENCE CLUB

- Life of a graduate student

*Riverside, CA, USA*

2019

## **5 Gyres**

SOLUTIONS SUMMIT

- Global trends in plastic pollution research

*Maryland, USA*

2019

## **Lets Do It World**

CLEAN WORLD CONFERENCE

- Policy implications of waste data.

*Tallinn, Estonia*

2019

## **CONFERENCE PLATFORM**

### **American Geophysical Union**

HYDROLOGY

- Litter origins, accumulation rates, and hierarchical composition on urban roadsides of the Inland Empire, California

*New Orleans, LA, USA*

2021

### **SETAC North America**

FATE AND TRANSPORT

- Trash Taxonomy coauthored with Hannah Hapich.

*Virtual*

2021

### **American Geophysical Union**

HYDROLOGY

- Concentration-Discharge Relationships of Plastic Pollutants in Streams

*Virtual*

2020

### **UC Riverside**

SANTA ANA RIVER SYMPOSIUM

- R Clean Community

*Riverside, CA, USA*

2019

### **SciX**

MICROPLASTIC SPECTROSCOPY

- Open Specy: An open source, online, spectra classification and sharing tool

*Palm Springs, CA, USA*

2019

### **SETAC North America**

FATE AND TRANSPORT

- How to sample microplastics in streams

*Toronto, Canada*

2019

### **Socal SETAC**

FATE AND TRANSPORT

- Are Microplastic Methods Comparable and Do They Reflect Reality?

*Southern California, USA*

2019

### **California EPA**

CALIFORNIA WATER DATA SYMPOSIUM

- A Call for Open Access to Trash Data

*Sacramento, CA, USA*

2019

### **Microsoft**

AI FOR GOOD

- Coauthored Kristiina Kerg, Kris Haamer, Win Cowger, WADE an AI Trash Detection Algorithm.

*Geneva Switzerland*

2019

### **American Geophysical Union**

ANNUAL MEETING

- Are Microplastic Methods Comparable and Do They Reflect Reality?

*Washington, DC, USA*

2018

### **SETAC North America**

ANNUAL MEETING

- Are Microplastic Methods Comparable and Do They Reflect Reality?

*Sacramento, CA, USA*

2018

### **NOAA**

INTERNATIONAL MARINE DEBRIS CONFERENCE

- Lead a session on big data in marine debris science that combined lectures with a panel discussion. Presented in a session about the role of open data in marine debris with Let's Do It World.

*San Diego, CA, USA*

2018

## Lets Do It World

CLEAN WORLD CONFERENCE

Tallinn, Estonia

2018

- Panel discussion Development of the World Waste Platform

## University of California ANR

APPS FOR AG HACKATHON

Sacramento, CA, USA

2017

- Developed and presented a suite of spatial tools and business model for a business that utilizes urban land for agriculture, pays landowners for underutilized land, beautifies neighborhoods, and combats food deserts.

## Project AWARE

ANNUAL MEETING

Iowa, USA

2016

- Where did the trash you've cleaned up come from? A more productive future for stream cleanups.

## CONFERENCE POSTER

### SETAC North America

ANNUAL MEETING

North America

2021

- Open Specy: An Open Source Online Tool for Raman and FTIR Spectral Analysis of Microplastics and Beyond, Led a session on big data, methods, and standards in microplastic research.

### SETAC Europe

ANNUAL MEETING

North America

2021

- Open Specy: An Open Source Online Tool for Raman and FTIR Spectral Analysis of Microplastics and Beyond

### American Geophysical Union

ANNUAL MEETING

San Francisco, California

2019

- Estimating Riverine Microplastic Flux by Accounting for Transport Dynamics

### SETAC North America

ANNUAL MEETING

Toronto, Canada

2019

- Coauthored Hannah Hapich, Win Cowger, Twitter Reveals Public Conversation Around Plastic Pollution

### Council for Watershed Health

LA WATERSHED SYMPOSIUM

Los Angeles, California

2018

- Are Microplastic Methods Comparable and Do They Reflect Reality?

### UC Riverside

WILDLAND URBAN INTERFACE CONFERENCE UCR

Riverside, California

2018

- Environmental Relevance in a Sea of Plastic

### UC Riverside

GIS DAY CONFERENCE UCR

Riverside, California

2018

- R Clean Community

### Socal SETAC

ANNUAL MEETING

Los Angeles, California

2018

- Environmental Relevance in a Sea of Plastic

### UC Riverside

GIS DAY CONFERENCE UCR

Riverside, California

2017

- CleanupOurWorld: Open Source Mismanaged Waste Database with Visualization

### Iowa State University

IOWA WATER CONFERENCE

Ames, Iowa

2015

### Oklahoma State University

OKLAHOMA STUDENT WATER CONFERENCE

Stillwater, Oklahoma, USA

2015

## Software Competencies

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### LANGUAGES

R

VISUAL BASIC

HTML

CSS

PYTHON

JAVASCRIPT

## PROGRAMS

DOCKER

TERMINAL

R STUDIO

IMAGEJ

QGIS

INKSCAPE

ARCMAP

ARCGIS ONLINE AND GEOAPPS

MICROSOFT OFFICE SUITE

GOOGLE SUITE

AGRICULTURAL CONSERVATION PLANNING FRAMEWORK (ACPF)

STELLA

AMAZON AWS EC2

## Lab Hardwater Competencies

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RAMAN MICROSCOPE

FTIR ATR, MICROSCOPE, FOCAL PLANE ARRAY

FLUORESCENCE MICROSCOPE

PARTICLE SIZE ANALYZER

FLUORESCENCE SPECTROPHOTOMETER

## Field Measurement Competencies

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DISCHARGE MEASUREMENT

GRAB SAMPLING

OCEAN NEUSTON SAMPLING

STREAM PARTICULATE SAMPLING

DRONE FLYING

INFILTRATION MEASUREMENT

ECOSYSTEM SURVEYING

SOIL SURVEYING

TRASH SURVEYING

## Certificates

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NSF I CORPS INNOVAT'R BUSINESS DISCOVERY

*August 2020*

LAB SAFETY TRAINING UCR

*August 2017*

COMMERCIAL HERBICIDE APPLICATOR

*February 2016*

WILDLAND FIRE FIGHTER TYPE II

*February 2016*

GENERAL LAB SAFETY ISU

*January 2015*

DEFENSIVE DRIVING COURSE

*May 2015*

FEMA TRAININGS ICS AND NIMS

*May 2015*

## Awards

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### **SETAC North America**

3RD BEST STUDENT PLATFORM PRESENTATION (COAUTHOR)

*Virtual*

*2021*

### **UC Riverside**

S. SUE JOHNSON ENDOWED GRADUATE AWARD (\$2,500)

*Riverside, California*

*2021*

### **American Geophysical Union**

OUTSTANDING STUDENT PRESENTATION AWARD

*San Francisco, California*

*2019*

### **UC Riverside**

3RD PLACE IN COAUTHORED POSTER, GIS DAY

*Riverside, California*

*2019*

### **UC Riverside**

2ND PLACE IN POSTER COMPETITION, GIS DAY

*Riverside, California*

*2018*

### **Iowa State University**

2ND PLACE IN POSTER PRESENTATION COMPETITION

*Ames, IA, USA*

*2015*

### **NACTA**

3RD PLACE, NACTA SOIL JUDGING COMPETITION

*Illinois, USA*

*2015*

### **Conservation Corps of Minnesota and Iowa**

HIGHEST VIEWED BLOG POST

*Iowa*

*2015*