



Olivia S. Ryder, PhD

Senior Atmospheric Data Scientist

Team Leader

Kids Making Sense Program Manager

Dr. Ryder is an Atmospheric Scientist in the Data Sciences department and the Program Manager of Sonoma Technology's educational program, Kids Making Sense. Dr. Ryder joined Sonoma Technology in 2019 and has over a decade of experience analyzing atmospheric chemistry. Her current projects include analyzing ambient data for toxic metals as part of community air monitoring efforts, conducting source apportionment assessments, and working with the U.S. Environmental Protection Agency (EPA) to develop best practices guides for mitigating air pollution in (1) near-road environments, and (2) indoor environments during smoke events. Dr. Ryder has a strong interest in communicating environmental information across scientific disciplines and to the public through outreach efforts. In her role as Program Manager of Kids Making Sense, she coordinates projects with teachers, schools, and community groups. She leads business development, program implementation, social media efforts, curriculum development, and teacher trainings, and works with tribes and community groups to develop specifically tailored learning modules. Additionally, Dr. Ryder has worked with the EPA to create learning modules for their sensor library loan programs.

Dr. Ryder has been an Air Quality Fellow for the U.S. State Department–U.S. EPA Global Air Quality Fellowship program since 2020, where she supports the U.S. Embassy in Bosnia and Herzegovina with air quality measurements and improvement strategies.

Prior to joining Sonoma Technology, Dr. Ryder was a Staff Researcher at UC San Diego's Center for Aerosol Impacts on Chemistry of the Environment (CAICE). She also worked as the Center's Education, Outreach, and Diversity Coordinator, and planned, coordinated, managed, and evaluated activities related to formal and informal education, public relations, and diversity initiatives. She used her skills in science communication and technical workshop planning to integrate laboratory technology and experiments into outreach demonstrations and community engagement efforts. Dr. Ryder also planned and ran the Center's summer research program for undergraduates. Dr. Ryder's graduate work included field and laboratory studies that investigated the impact of particle chemical composition on reactive trace gas uptake to ambient aerosol particles, especially in coastal environments. She used gas and particle phase instrumentation to explore the role aerosol composition plays in impacting daytime air quality and NO_x and ozone budgets. For her efforts, she was awarded three years of full funding through a National Science Foundation Graduate Research Fellowship.

Dr. Ryder brings her experience of working with a broad range of scientists from diverse disciplines to Sonoma Technology, enabling her to effectively communicate scientific results and solve complex problems by adapting standard techniques and developing new ones. Dr. Ryder is a co-author of 15 peer-reviewed publications and has presented numerous works at scientific conferences, including the American Geophysical Union and American Chemical Society National meetings. She also chaired a session on community monitoring at the Air & Waste Management Association's 2022 Air Quality Measurement Methods and Technology Conference.

Education

- PhD, Chemistry, University of California, San Diego
- MS, Chemistry, University of California, San Diego
- BS, Chemistry, University of California, Irvine
- Mini-MBA Certificate Program, Rady School of Business, University of California, San Diego

Memberships

- American Geophysical Union
- American Chemical Society

For a list of publications, see sonomatech.com/ResPub/OSRpub.pdf