



Josette E. Marrero, PhD

*Group Manager, Southern California Field Group
Lead Air Quality Measurement Specialist*



Dr. Marrero has nearly a decade of experience conducting field measurements of atmospheric species relevant to air quality, global climate, and human health. Since joining Sonoma Technology in 2018, Dr. Marrero's work has included monitoring ambient levels of trace gases and particulate matter, designing and operating field studies, and evaluating data quality. Dr. Marrero manages large fenceline emissions monitoring projects for multiple oil and gas refineries throughout California, providing

technical direction and managing field staff and schedules. She leads the production and update of air monitoring plans, quality assurance project plans, and other regular reports related to measurements projects.

Before joining Sonoma Technology, Dr. Marrero was a Research Assistant at UC Irvine, where she received her PhD in chemistry. Her thesis focused on emissions of volatile organic compounds (VOCs) from unconventional oil and natural gas production infrastructure in North America. She examined the local atmospheric and health impacts of the oil sands mining and refinery operations in Alberta, Canada. Dr. Marrero participated in various NASA ground-based and airborne field campaigns, including the Deep Convective Clouds & Chemistry Experiment (DC3); Studies of Emissions and Atmospheric Composition, Clouds and Climate Coupling by Regional Surveys (SEAC4RS); and the Student Airborne Research Program (SARP) missions.

After completing her PhD, Dr. Marrero became a NASA Postdoctoral Program Research Fellow at the NASA Ames Research Center in California's Silicon Valley, where she joined the Alpha Jet Atmospheric Experiment (AJAX) science team. The AJAX mission conducts regular research flights throughout California and Nevada to measure carbon dioxide (CO₂), methane (CH₄), ozone (O₃), and formaldehyde (HCHO), and better understand local photochemical smog production, trans-Pacific transport of pollution to the western U.S., urban pollution sources, and emissions from California wildfires. In addition, the airborne measurements are used for comparisons with trace gases measurements collected by multiple space satellites. After her postdoctoral appointment, Dr. Marrero worked for the Bay Area Environmental Research Institute, and continued her AJAX team duties of instrument operation, flight coordination and mission planning, and data analysis.

Dr. Marrero is a co-author of multiple peer-reviewed publications and has presented numerous works at scientific conferences.

Education

- PhD, Chemistry, University of California, Irvine
- MS, Chemistry, University of California, Irvine
- BS, Chemistry, The College of New Jersey, NJ

Memberships

- American Geophysical Union

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