



Garnet B. Erdakos, PhD

*Group Manager, Atmospheric and Emissions Modeling
Senior Scientist*

Dr. Garnet Erdakos is a Senior Scientist and Group Manager for Sonoma Technology's Atmospheric and Emissions Modeling Group. She has developed, implemented, and delivered innovative modeling and analysis solutions with Sonoma Technology since 2011. Dr. Erdakos applies her 25 years of scientific and technical experience to assemble and lead interdisciplinary teams that develop strategic, creative, and efficient approaches with streamlined quality assurance processes for our clients. She has conducted air quality, emissions, and meteorological modeling using regulatory and other models across dozens of projects and many of Sonoma Technology's service areas, and brings that experience to her management of projects for our clients.

Dr. Erdakos has more than a decade of experience in our litigation support and transportation business areas, and provides expertise in the application of a wide range of local- and regional-scale air quality (photochemical and dispersion) models (CAMx, CMAQ, AERMOD) and emissions models (SMOKE, EMFAC, MOVES), and experience with meteorological models (WRF, AERMET). She provides expertise regarding on-road emissions and air quality impacts from transportation projects, including regulatory requirements and guidance (Conformity, NEPA, CEQA), modeling and analysis methods, environmental documentation, and interagency consultation.

Dr. Erdakos has technical and project management experience ranging from large, complex modeling and analysis projects that assess impacts of various air pollution sources, to literature reviews and practical research studies of emerging and priority air quality topics, such as electric vehicles, environmental justice, novel mitigation technologies, and methane emissions.

Dr. Erdakos has worked with the California Department of Transportation (Caltrans) on a variety of air quality and emissions modeling and analysis services related to mobile sources and transportation and off-road construction projects since joining Sonoma Technology. She has created and implemented custom modeling tools and data-processing programs, developed emissions and particulate matter (PM) hot-spot analysis guidance, and trained Caltrans air quality specialists and engineers on how to complete project-level emissions and air quality analyses. She also participated in the 2014-2019 Transportation Pooled Fund, a partnership between the U.S. Federal Highway Administration (FHWA) and several state Departments of Transportation (DOTs), led by the Washington State DOT (WSDOT); she co-led the design and implementation of a detailed emissions and air quality modeling and analysis study that was published in 2016. Dr. Erdakos is currently managing air quality and greenhouse gas (GHG) analyses in support of Colorado Department of Transportation (CDOT) projects, including hot-spot dispersion modeling and development of project-level criteria air pollutant, mobile source air toxic (MSAT), and GHG emissions inventories.

Before joining Sonoma Technology, Dr. Erdakos was a National Research Council (NRC) Research Associate in the (now) Atmospheric and Environmental Systems Modeling Division with the U.S. Environmental Protection Agency (EPA) in Research Triangle Park, NC. Her work at EPA resulted in two peer-reviewed publications, one as lead author, that were recognized with an EPA Level III Scientific and Technological Achievement Award (STAA) in 2015. Prior to that, Dr. Erdakos was an Instructional Assistant Professor at Illinois State University, where she taught introductory physics to non-science majors after completing a post-doctoral scholarship at the California Institute of Technology (2004-2005), where she had continued research and numerical modeling of atmospheric aerosols.

Education

- PhD, Environmental Science and Engineering, Oregon Health and Science University
- MS, Environmental Science and Engineering, Oregon Graduate Institute of Science and Technology
- BS, Physics, Illinois State University

Memberships

Association for Women in Science

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