



## Paul T. Roberts

Senior Scientist

Dr. Roberts joined STI in 1986. He has designed and managed many air quality field, data management, and data analysis projects. Most of these projects involve using field data and analysis methods to understand important meteorological, air quality, and exposure phenomena; to develop, apply, and evaluate meteorological, photochemical, and exposure models; and to evaluate the effectiveness of ambient air quality and meteorological networks in meeting various regulatory requirements. These projects have focused on a range of issues, including ozone, PM<sub>10</sub> and PM<sub>2.5</sub>, visibility, toxics, carbon monoxide (CO), and meteorology.

He has often presented complex technical project results to governmental bodies and the public. Dr. Roberts has co-authored three book chapters; published 38 peer-reviewed journal papers and over 240 reports; and made over 75 presentations at conferences, universities, public agencies, and public meetings.

**Near-roadway and near-source studies.** Dr. Roberts led the US 95 Mobile Source Air Toxics Near-Roadway Study sponsored by the Nevada Department of Transportation in Las Vegas, the Mountain View Corridor near-roadway study in Salt Lake City sponsored by the Utah Department of Transportation, the air quality and meteorological measurements for a study of near-roadway emissions from construction equipment for the Arizona Department of Transportation, and a study of recreational boat CO emissions and exposure at Lake Havasu City in Arizona. He has also led several near-source studies, including an air toxics study in the Inglewood Oil Field (for Los Angeles County), measurements near the Sunshine Canyon Landfill in Los Angeles, and fence-line measurements of benzene and other toxics at several oil refineries.

**Air quality and meteorological studies.** Dr. Roberts designed and managed regional air quality and meteorological field studies in many areas of the United States, including California (greater Los Angeles, San Joaquin Valley, Sacramento Valley, San Francisco Bay Area, and southeastern desert); Arizona; Nevada; Texas (Houston, and El Paso/Ciudad Juarez); Texas and Louisiana Gulf Coast; the area around Lake Michigan; and the northeastern United States from Virginia to Maine. He also performed and led data analysis efforts for these field studies, including evaluations of emissions, meteorological, and chemical model results. As co-lead, he developed and presented a three-day photochemical assessment monitoring stations (PAMS) data analysis workshop and a PM workshop for the U.S. EPA. He has done air quality and exposure work in cooperation with governmental, university, and industrial organizations in Egypt, Jamaica, Mexico, and Thailand.

**Long-term epidemiologic studies.** Dr. Roberts designed and managed the field exposure measurements for a long-term epidemiologic study in Southern California and for the Fresno Asthmatic Children's Environment Study.

**Prior to STI.** From 1981 to 1986, Dr. Roberts was chairman of several oil-industry trade association committees that sponsored air quality research, was a consultant to the environmental affairs group of Chevron, and testified at Federal hearings. From 1975 to 1986, he planned and directed research and development projects at Chevron Research Company and helped apply the results to operating plants in various Chevron refineries. He also led Chevron's process research efforts on tar sands and coal gasification and was involved in numerous methods development and methods evaluation projects. In graduate school, Dr. Roberts developed the flash vaporization technique for measuring nanogram levels of particulate sulfur, and investigated the transformation of SO<sub>2</sub> to particulate sulfur in Los Angeles. He also participated in the California Air Resources Board's Aerosol Characterization Experiment (ACHEX) and the EPA's Regional Air Pollution Study (RAPS).

### Education

- PhD, Environmental Engineering Science, California Institute of Technology
- MChE, Chemical Engineering, Rice University
- BA, Chemical Engineering, Rice University

### Memberships and Affiliations

- Air & Waste Management Association
- American Association of Aerosol Research
- California Inspection and Maintenance Review Committee, 1994-1995
- EPA peer-review panels, 1995 to 2010

For a list of publications, see [sonomatech.com/ResPub/PTRpub.pdf](http://sonomatech.com/ResPub/PTRpub.pdf).