# Frederick W. Lurmann

*Chairman*
*Manager of Exposure Assessment Studies*

Sonoma Technology, Inc.

Mr. Lurmann is Manager of Exposure Assessment Studies at STI and is the Chairman of STI's Board of Directors. He has more than 35 years of experience in air quality and exposure analysis. He has designed regional air quality studies, developed air quality simulation models for ozone and PM, and evaluated alternate emission control strategies. Mr. Lurmann designed and managed the exposure assessments of numerous epidemiologic studies including the 10-year Southern California Children's Health Study (CHS). He developed human exposure models for both criteria air pollutants and air toxics for application to the general population and to cohorts with individual-level time-activity and housing data. Mr. Lurmann has co-authored 70 peer-reviewed articles and is a member of numerous state and local air pollution agency advisory committees.

Mr. Lurmann is currently co-directing exposure assessments for two U.S. Environmental Protection Agency (EPA)/National Institute of Environmental Health Sciences (NIEHS) Children's Environmental Health Centers. The southern California center is investigating the role of traffic-related air pollution exposure during key developmental periods in the trajectory toward childhood obesity, adipose tissue redistribution, obesity-related inflammation, and metabolic dysfunction. Mr. Lurmann's role in this center is to characterize the previous 20 years and next 5 years of exposure to traffic-related pollutants and regional pollutants in southern California for subjects in the CHS. The northern California center is investigating the roles of air pollution and genetics on the risk of birth defects and preterm birth and the mechanisms of polycyclic aromatic hydrocarbon (PAH)-linked immunopathogenesis in atopy. Mr. Lurmann's role in the center involves measurements of ambient PAH and elemental carbon concentrations and development of fine-scale spatiotemporal exposure models of combustion-related pollutants for the San Joaquin Valley.

A key focus of Mr. Lurmann's current research is the exposure of susceptible populations to mobile source-related pollutants. He is currently leading data collection, data analyses, and modeling efforts to investigate the relationship of children's exposures to a variety of outcomes, including asthma, lung function, autism, obesity, and neurologic development. The studies involve collection and analysis of $NO/NO_2$, CO, ultrafine PM, $PM_{2.5}$, $PM_{2.5\text{-}10}$, elemental carbon, trace metals, and PAHs. He is especially interested in studies designed to distinguish the separate effects of exposure to near-road air pollution and regional air pollution on chronic health effects.

## Education

- MS, Mechanical and Environmental Engineering, UC Santa Barbara
- BS, Mechanical Engineering, UC Santa Barbara

## Memberships

- Air & Waste Management Association
- International Society for Exposure Analysis
- American Association for Aerosol Research
- American Chemical Society
- American Geophysical Union

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