

Sheila A. McCarthy, CIH
Managing Scientist

Professional Profile

Ms. Sheila McCarthy is a Certified Industrial Hygienist and Managing Scientist in Exponent's Health Sciences Center Occupational and Environmental Medicine. Ms. McCarthy is experienced in the fields of industrial hygiene and risk assessment involving potential exposures to fibers, pesticides, metals, organic, and inorganic chemicals, as well as physical agents such as noise, heat, and sources of ionizing and non-ionizing radiation. Her experience includes performing industrial hygiene studies to evaluate OSHA compliance, illness clusters, and indoor air quality evaluations, and conducting historical and quantitative exposure assessment in support of site-specific risk assessments.

As a CIH, Ms. McCarthy has conducted exposure assessments for both occupational and environmental settings. In these settings, she has developed and implemented sampling methodologies and evaluated a number of agents including fibers, metals, particulate matter, volatile organic compounds, bioaerosols, mold, non-ionizing radiation, and noise. Examples of her work include a historical exposure assessment that required the evaluation of thousands of industrial hygiene sampling reports, for the purpose of developing a job exposure matrix (JEM) that provided 8-hr time-weighted average (TWA) exposures for various occupations involving asbestos-containing products. Her work has also included assessments of indoor air quality within concentrated animal feeding operations (CAFOs) and measurements of emissions from these types of facilities. She conducted a study measuring the radio-frequency (RF) signals from an active network of automated meter reader systems in residential areas. Ms. McCarthy recently conducted a comprehensive analysis of exposure data related to metal fumes, including hexavalent chromium, from common welding activities in light of new OSHA regulations related to hexavalent chromium.

Ms. McCarthy teaches at the University of California Extension Program at Davis. Her lectures focus on industrial hygiene and physical agents in the workplace (noise, radiation, heat/cold stress, and ergonomics).

Prior to her work in public health, Ms. McCarthy has over 10 years experience in the engineering and computer science fields.

Academic Credentials and Professional Honors

M.H.S., Johns Hopkins Bloomberg School of Public Health, 2004
B.E.E., The Catholic University of America, 1991

Publications and Presentations

Hicks JB, McCarthy SA, Mezei G, Sayes CM. PM1 particles at coal- and gas-fired power plant work areas. *Annals of Occupational Hygiene* 2012; 56:182–193.

McCarthy SA, Hicks JB. Reaction to California's heat illness and prevention regulation. American Industrial Hygiene Annual Conference (AIHce), May 26, 2010.

Hicks J, McCarthy SA. Hexavalent chromium air sampling data from welding and steel cutting. Electric Power Research Institute, Report no. 1016821, October 2009.

McCarthy SA, Suen M, Rey P, Hicks JB. Fungal concentrations during typical household activities. American Industrial Hygiene Annual Conference (AIHce), June 2, 2009.

Hicks J. Program on technology innovation: Nanoparticles at coal and gas fired power plants. Electric Power Research Institute (EPRI), Report No. 1016820, December 2008.

Rule AM, Chapin AR, McCarthy SA, Gibson KE, Schwab KJ, Buckley TJ. Assessment of an aerosol treatment to improve air quality in a swine Concentrated Animal Feeding Operation (CAFO). *Environmental Science and Technology* 2005; 39(24):9649–9655.

Centeno JA, Kolker A, Gibb HJ, McCarthy SA. Potential health risks from long-term mercury exposure, a medical geology opportunity. 9th International Symposium on Metal Ions in Biology and Medicine, Lisboa, Portugal, May 21–24, 2006.

Chapin AR, McCarthy SA, Rule AM, Gibson KE, Buckley TJ, Schwab KJ. Antibiotic-resistant bacteria in air and water associated with chicken and hog facilities. 104th General Meeting of the American Society for Microbiology, New Orleans, LA, May 23–27, 2004.

Prior Experience

Project Manager, Sciences International Inc., 2006

Senior Associate, Sciences International Inc., 2004–2006

Research Coordinator, Johns Hopkins Bloomberg School of Public Health, March–August 2002; January–April 2004

Intern, General Electric, Aircraft Engine Division, 2003

Instructor, K Computing, 1999–2001

System Support Engineer, Silicon Graphics Inc. (SGI), 1997–1999

System Administrator, HT Medical, 1995–1997

Electronics Engineer, Naval Surface Warfare Center, Department of Defense, U.S. Navy, 1991–1995

Professional Affiliations

- American Industrial Hygiene Association, 2004–present
- Local chapters for the AIHA
 - Northern California Section of the American Industrial Hygiene Association, 2009–present, Treasurer 2010 - present
 - Potomac Section of the American Industrial Hygiene Association, 2004–2007
 - Chesapeake Section of the American Industrial Hygiene Association, 2002–2004
- Society of Risk Analysis, 2006–present
- Deputy Managing Editor, *Risk Analysis: An International Journal*, 2007–2008