

Michael McCarthy

FOUNDER AND CHIEF SCIENTIST

Radical Research LLC, Riverside, CA

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Summary

Founder and Chief Scientist at Radical Research LLC, an environmental consulting firm. I have over 20 years of experience as an atmospheric scientist, with most of my career spent at Sonoma Technology, Inc. My areas of scientific interest include data science, visualization, quality assurance, risk assessment, source apportionment, network evaluation, and monitoring study design. I have extensive experience with speciated trace chemicals in the atmosphere, including hazardous air pollutants, volatile organic compounds, speciated components of particulate matter, and PFAS (polyfluoroalkyl substances).

Experience

Founder

RADICAL RESEARCH LLC

Riverside, California

March 2021 – May 2021

Senior Atmospheric Scientist

SONOMA TECHNOLOGY, INC.

Petaluma, California

January 2005 – March 2021

Air Quality Analyst

SONOMA TECHNOLOGY, INC.

Petaluma, California

October 2003 – December 2005

Education

PhD in Chemistry

UNIVERSITY OF CALIFORNIA AT BERKELEY

Berkeley, California

August 1998 – December 2003

BS in Chemistry

CREIGHTON UNIVERSITY

Omaha, Nebraska

August 1994 – May 1998

Skills

Programming and Markup Languages

R, SQL, C+, BASH, FORTRAN, IDL, MARKDOWN, RMARKDOWN, CSS, HTML, LATEX

Web Applications

R SHINY, HTML, DISTILL, API

Database Software

R TIDYVERSE, SQL, ORACLE, ACCESS

Quality Assurance

QAPPS, QMPs, SOPs, DASHBOARDS, AUDITS, VERIFICATIONS, BLANKS, ONE-POINT QC CHECKS, PRECISION, BIAS

Statistical Analysis

REGRESSIONS, FACTOR ANALYSIS, TIME-SERIES ANALYSIS, DISTRIBUTIONS, SIGNIFICANCE TESTING

Network and Monitoring Evaluations

COLLOCATION COMPARISONS, NETWORK ASSESSMENTS, COMMUNITY-SCALE MONITORING, ENVIRONMENTAL JUSTICE

Relevant peer-reviewed journal articles for this call.

- (1) McCarthy, M. C.; Mukherjee, A. D.; Ogletree, M.; Furst, J.; Gosselin, M. I.; Tigges, M.; Thomas, G.; Brown, S. G. Assessment of Mobile Source Air Toxics in an Environmental Justice Denver Community Adjacent to a Freeway. *Journal of the Air & Waste Management Association* **2021**, 71 (2), 231–246. <https://doi.org/10.1080/10962247.2020.1734113>.
- (2) Brown, S. G.; Lam Snyder, J.; McCarthy, M. C.; Pavlovic, N. R.; D’Andrea, S.; Hanson, J.; Sullivan, A. P.; Hafner, H. R. Assessment of Ambient Air Toxics and Wood Smoke Pollution Among Communities in Sacramento County. *International Journal of Environmental Research and Public Health* **2020**, 17 (3), 1080. <https://doi.org/10.3390/ijerph17031080>.
- (3) Mukherjee, A.; Brown, S. G.; McCarthy, M. C.; Pavlovic, N. R.; Stanton, L. G.; Snyder, J. L.; D’Andrea, S.; Hafner, H. R. Measuring Spatial and Temporal Pm2.5 Variations in Sacramento, California, Communities Using a Network of Low-Cost Sensors. *Sensors* **2019**, 19 (21), 4701. <https://doi.org/10.3390/s19214701>.
- (4) McCarthy, M. C.; Aklilu, Y.-A.; Brown, S. G.; Lyder, D. A. Source Apportionment of Volatile Organic Compounds Measured in Edmonton, Alberta. *Atmospheric Environment* **2013**, 81, 504–516. <https://doi.org/10.1016/j.atmosenv.2013.09.016>.
- (5) McCarthy, M. C.; Ludwig, J. F.; Brown, S. G.; Vaughn, D. L.; Roberts, P. T. Filtration Effectiveness of HVAC Systems at Near-Roadway Schools. *Indoor Air* **2013**, 23 (3), 196–207. <https://doi.org/https://doi.org/10.1111/ina.12015>.
- (6) McCarthy, M.; O’Brien, T.; Charrier Jessica G.; Hafner Hilary R. Characterization of the Chronic Risk and Hazard of Hazardous Air Pollutants in the United States Using Ambient Monitoring Data. *Environmental Health Perspectives* **2009**, 117 (5), 790–796. <https://doi.org/10.1289/ehp.11861>.
- (7) McCarthy, M. C.; Hafner, H. R.; Chinkin, L. R.; Charrier, J. G. Temporal Variability of Selected Air Toxics in the United States. *Atmospheric Environment* **2007**, 41 (34), 7180–7194. <https://doi.org/10.1016/j.atmosenv.2007.05.037>.
- (8) McCarthy, M. C.; Hafner, H. R.; Montzka, S. A. Background Concentrations of 18 Air Toxics for North America. *Journal of the Air & Waste Management Association* **2006**, 56 (1), 3–11. <https://doi.org/10.1080/10473289.2006.10464436>.
- (9) Kenski, D.; Koerber, M.; Hafner, H. R.; McCarthy, M. C.; Wheeler, N. Lessons Learned from Air Toxics Data: A National Perspective. *Environ. Man. J* **2005**, 19–22.