

MADJID DELKASH, PhD, PE

Environmental Engineer | U.S. Environmental Protection Agency, Office of Air and Radiation
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RESEARCH INTERESTS

Solid waste management and air emissions; Soil processes modeling; greenhouse gas and air pollutant emissions from landfills, composting, incineration, site remediation; regulatory science and emissions quantification for Clean Air Act compliance

EDUCATION

Ph.D., Environmental Engineering — University of Delaware, Newark, DE, 2017

Advisor: Prof. Paul T. Imhoff. Dissertation: Landfill methane emissions — wind dependence and modeling.

M.Sc., Environmental Engineering — Sharif University of Technology, Tehran, Iran

B.Sc., Civil Engineering — Sharif University of Technology, Tehran, Iran

PROFESSIONAL LICENSURE & CERTIFICATIONS

Professional Engineer (PE), State of California and North Carolina

U.S. Citizen

PROFESSIONAL APPOINTMENTS

Environmental Engineer, U.S. Environmental Protection Agency, Office of Air and Radiation, Durham, NC (2023–Present)

Lead technical work on development of Clean Air Act regulations (New Source Performance Standards and Emission Guidelines) for greenhouse gas and co-pollutant emissions from municipal solid waste landfills and related solid waste industries.

Associate Editor, *Journal of the Air & Waste Management Association* (2024–Present)

Environmental Engineer, California Environmental Protection Agency, Sacramento, CA (2019–2023)

Oversight of groundwater, soil vapor, and indoor air remediation projects under California site cleanup programs; technical review of remedial investigations and feasibility studies.

Landfill Gas Engineer, Golder Associates Inc., Sacramento, CA (2017–2019)

Design of landfill gas and leachate collection systems; regulatory compliance for solid waste facilities.

Graduate Research Assistant, University of Delaware, Newark, DE (2013–2017)

Measurement and modeling of greenhouse gas emissions from municipal solid waste landfills; coupled field observations and atmospheric dispersion modeling.

FUNDED RESEARCH (COLLABORATING SCIENTIST)

Note: As a federal employee, I cannot be formally named as Investigator on external grants. The projects below are externally funded research programs to which I contribute as a collaborating scientist — providing research design input, scientific direction, data analysis, and manuscript leadership — resulting in peer-reviewed publications co-authored with the academic PIs.

Evaluation of Landfill Cover and Automated Gas Collection as Methane Emissions Controls. California Air Resources Board. Academic PI: R. Yazdani (UC Davis). *Contribution:* Field measurement design, data analysis, manuscript co-authorship.

Assessing Diurnal Variations in Methane Emissions from Landfills and Impact on Whole Landfill Emission

Estimates. Environmental Research and Education Foundation (EREF). Academic PI: P. T. Imhoff (University of Delaware). *Contribution:* Research design, modeling, lead author on resulting publication.

Characterizing Emissions from California Biomethane Facilities. Electric Power Research Institute (EPRI) & California Energy Commission. Academic PI: R. Yazdani (UC Davis). *Contribution:* Measurement framework development, emissions characterization, manuscript co-authorship.

Coupled Multi-Process Research for Reducing Landfill Emissions. NWO Open Competition Domain Science — GROOT (Netherlands). International research consortium. *Contribution:* Scientific collaborator on landfill emissions modeling and measurement integration.

PEER-REVIEWED PUBLICATIONS

Total: 17+ peer-reviewed publications. Google Scholar metrics: 1,236 citations, h-index 13, i10-index 13.

In Press / 2026

Karimi, S., Delkash, M., Imhoff, P., Manheim, D. C., & Yazdani, R. (2026). Facility-wide greenhouse gas and pollutant emissions from covered aerated static pile composting. *Waste Management*, 216, 115468.

Delkash, M. (2026). Air emissions from combustion and incineration processes: insights into air quality and US EPA regulations. *Water, Air, & Soil Pollution*, 237(2), 104.

Manheim, D. C., Karimi, S., Delkash, M., Imhoff, P., & Yazdani, R. (2026). Multi-scale UAV, flux-chamber, and point-source measurement framework for facility-wide greenhouse gas and air pollutant emissions assessment from wastewater treatment operations. *Water Research*, 125950.

Additional 2026 papers in preparation / under review in Waste Management (3 first-author, 2 second-author) — detailed list available on request.

Published

Delkash, M. (2025). Air emissions from municipal solid waste management: comparing landfilling, incineration, and composting. *Sustainability*, 18(1), 108.

Samani, S., Vadiati, M., Delkash, M., & Bonakdari, H. (2023). A hybrid wavelet-machine learning model for qanat water flow prediction. *Acta Geophysica*, 71, 1895–1913.

Delkash, M., Chow, F. K., & Imhoff, P. T. (2022). Diurnal landfill methane flux patterns across different seasons at a landfill in the Southeastern US. *Waste Management*, 144, 76–86.

Taylor, D. M., Chow, F. K., Delkash, M., & Imhoff, P. T. (2018). Atmospheric modeling to assess wind dependence in tracer dilution method measurements of landfill methane emissions. *Waste Management*, 73, 197–209.

Delkash, M., Al-Faraj, F. A., & Scholz, M. (2018). Impacts of anthropogenic land use changes on nutrient concentrations in surface waterbodies: a review. *CLEAN—Soil, Air, Water*, 46, 1800051.

Kamali, M., Delkash, M., & Tajrishy, M. (2017). Evaluation of permeable pavement responses to urban surface runoff. *Journal of Environmental Management*, 187, 43–53.

Nakhli, S. A. A., Delkash, M., Bakhshayesh, B. E., & Kazemian, H. (2017). Application of zeolites for sustainable agriculture: a review on water and nutrient retention. *Water, Air, & Soil Pollution*, 228, 1–34.

Taylor, D. M., Chow, F. K., Delkash, M., & Imhoff, P. T. (2016). Numerical simulations to assess the tracer dilution method for measurement of landfill methane emissions. *Waste Management*, 56, 298–309.

Delkash, M., Zhou, B., Han, B., Chow, F. K., Rella, C. W., & Imhoff, P. T. (2016). Short-term landfill methane emissions dependency on wind. *Waste Management*, 55, 288–298.

Delkash, M., Bakhshayesh, B. E., & Kazemian, H. (2015). Using zeolitic adsorbents to cleanup special wastewater streams: a review. *Microporous and Mesoporous Materials*, 214, 224–241.

Bakhshayesh, B. E., Delkash, M., & Scholz, M. (2014). Response of vegetables to cadmium-enriched soil. *Water*, 6, 1246–1256.

Delkash, M., Al-Faraj, F. A., & Scholz, M. (2014). Comparing the export coefficient approach with the soil and water assessment tool to predict phosphorous pollution: the Kan watershed case study. *Water, Air, & Soil Pollution*, 225, 1–17.

TEACHING EXPERIENCE

Adjunct Professor

Southern New Hampshire University (Online Asynchronous Style)

Stormwater Management

Environmental Site Assessment

Texas A&M University–San Antonio (Hispanic-Serving Institution)

Stormwater Management (S26, S25); Food, Water, and Energy Nexus (S26, S25, S24, S23); Groundwater Remediation (S26); Design of Wastewater Treatment Plants (F25, S25, S24, F23, F22); Pollutants in Environmental Systems (F25); Design of Water Treatment Plants (F25, F23).

University of North Carolina at Wilmington

Environmental Site Assessment (F25, S25).

California State University, Sacramento

Environmental Toxicology (S23).

Catholic University of America

Solid Waste Management (S23).

Courses Prepared to Teach

Solid Waste Engineering; Air Pollution Control; Environmental Regulations and Compliance; Senior Design / Capstone; Engineering Ethics and Professional Practice; Water and Wastewater Treatment Design; Groundwater Remediation; Environmental Site Assessment; Stormwater Management; Food–Water–Energy Nexus; Introduction to Environmental Engineering.

STUDENT MENTORING & ADVISING

Active co-mentor of graduate and undergraduate student researchers on funded projects, including:

University of Delaware — Co-mentoring graduate and undergraduate students on landfill methane measurement and modeling projects in collaboration with Prof. Paul T. Imhoff.

University of California, Berkeley — Working closely with graduate students of Prof. Fotini K. Chow on atmospheric modeling and emissions quantification research, providing research direction and supporting manuscript development.

University of California, Davis — Collaborating with graduate and postdoctoral researchers in the Yazdani group on landfill cover and biomethane facility emissions research.

PROFESSIONAL SERVICE

Associate Editor, *Journal of the Air & Waste Management Association* (2024–Present).

Peer Reviewer for: *Waste Management*; *Water Research*; *Environmental Science & Technology*; *Water, Air, & Soil Pollution*; *Journal of Environmental Management*; *Sustainability*; and others.

Member: *Air & Waste Management Association (AWMA)*; *American Society of Civil Engineers (ASCE)*.