

Patricia D. Koman, Ph.D., MPP

trishkoman@gmail.com

Education

Ph.D. University of Michigan, School of Public Health, Environmental Health Sciences, 2016
M.P.P. Graduate School of Public Policy, University of California, Berkeley
B.A. with Distinction, Chemistry and Philosophy, University of Virginia, *Phi Beta Kappa*, Louis Hammond Prize, Raven Society member, Echols Scholar

Professional Experience

U.S. Environmental Protection Agency, Office of Air and Radiation (March 2022 – Dec 2025)

Senior Health Scientist and Senior OAR Environmental Justice Coordinator, Office of Policy and Program Support, Washington, DC, 40 hrs/week (returned with 20+ years of federal service)

- Shaped grant making strategy across entire Office of Air and Radiation (OAR) Inflation Reduction Act (IRA) portfolio for Presidential Justice 40 provisions including grants to states and Climate Pollution Reduction Grants; rapidly distilled complex policy issues into actionable programs while navigating deadlines and competing priorities and high visibility with legislators, governors and state officials
- Led first ever strategic planning for environmental justice goals to support OAR 5 program offices and 10 Regional offices to help communities with the worst air pollution to improve health and mitigate climate change; the process became model across Agency for annual planning
- Routinely briefed and supported high-level executives by developing and analyzing policy options, understanding external stakeholder positions, and making recommendations
- Represented OAR on Agency-wide working groups to create cumulative impact framework, indicators of environmental health disparities, equity action plans and strategic plans required by Presidential executive orders; represented EPA at White House summit
- Presented to Clean Air Act Advisory Committee and supported an air pollution monitoring working group of the National Environmental Justice Advisory Committee (NEJAC)
- Created and led cross-office community of practice to improve efficiencies and share best practices for regulatory analytics and rulemaking processes to document how programs impact public health
- Identified and sponsored contract funded projects to better assess and address cumulative impacts of OAR programs including advanced data science techniques and heat island data

University of Michigan, Ann Arbor, MI (Sept 2012 – March 2022 and January 2026 – present)

College of Literature, Sciences and the Arts (LSA), Program in the Environment (PiTE), LEO Instructor (January 2026 – present)

- Developed and taught 3 credit upper-level undergraduate course ENVIRON 305 Air pollution, public health and environmental justice

Taubman College of Architecture and Urban Planning, Urban Planning Department, Adjunct Practice Instructor (January 2026 – present)

- Writing instructor for required graduate Law and institutions course

School of Public Health, Senior Project Manager, Dean's office; Assistant Research Scientist, Environmental Health Sciences

- At Flint community groups' invitation during water crisis, developed successful grant application and managed environmental education curriculum; as part of community-participatory process assisted with training of over 900 Flint residents and middle school students about health and the drinking water system; resulted in increases in state-funded visits to residents to install home point of use filters and improved trust of government
- Served on Michigan Department of Environmental Quality (MDEQ) Expert Panel to review Flint water quality data and hazardous clean up criteria technical advisory group; recommended to protection for children, workers and pregnant women from contaminants
- As co-leader the [External Collaboration](#) team for the University of Michigan's President's Commission on Carbon Neutrality, guided 7 research assistants creating a final [report](#)
- Developed and taught Residential College RCNSCI 201 Climate Change and Health
- Conducted research on interaction of obesity and air pollution on cardiopulmonary health
- Principal investigator for MI-Environment cumulative environmental exposure vulnerability mapping for heat stress vulnerability with Detroit-based partners; principal investigator on wildfire and health grants to address climate change
- Surveyed Michigan local public health officials about attitudes, capabilities and actions related to climate determinants of health in collaboration with MDHHS colleagues and as advisor to undergraduate student honors thesis
- Developed experiential learning curriculum and trained teams of scientists, faculty, and community members nationwide to communicate scientific data through the Reach the Decision Makers program (5-years), including working closely with teams from Detroit
- Initiated and led first School of Public Health multi-disciplinary community-engaged project with Michigan Engaging Community Through the Classroom; co-investigator 5-year \$938,000 teaching innovation grant; led experiential learning for 6 students conducting Health Impact Assessment scoping
- Led university-wide public conferences on Climate Change and Health as well as Toxic Chemical Exposure; routinely contacted by the media as expert

University of Michigan, College of Engineering, Ann Arbor, MI (January 2018 – March 2022)
Program Manager, Multidisciplinary Design Program, Faculty Research Teams

- Facilitated the integration of over 200 students into 12 faculty research design teams
- Designed and led summer programs for need-based scholarship students
- Taught cultural competence to very diverse student, faculty and staff research teams

Green Barn Research Associates Non-Profit, Ann Arbor, MI (January 2017 – present)
President, CEO and Senior Health Scientist

Engage with network of over 150 health scientists on policy, communication, and science issues

U.S. Environmental Protection Agency (June 1991 –August 2012)

Proven experience in project leadership, policy development and analysis, and public-private partnerships; fostered diversity and inclusive management practices

Key accomplishments:

- Initiator of partnership program to reduce diesel emissions at U.S. seaports which in 5 years grew to a \$100 million EPA grant program with projects on every coast and significant private investment and forms the basis of multi-billion current program; co-chaired external advisory committee
- Charter developer of Clean School Bus USA nationwide public-private partnership and grant program measurably improving children's health, including in Michigan
- Principal author and team leader of landmark national air pollution standards for fine particulate matter which withstood challenge to the U.S. Supreme Court; led 20-person multi-division planning team and managed \$1 million budget; briefed Congressional staff, state and local governments
- Program manager for multi-disciplinary scientific teams with annual budgets in excess of \$500,000 to deliver complex modeling tasks on-time and under budget for Clean Air Act regulation of diesel emissions from heavy duty vehicles, nonroad equipment, and marine vessels while improving assessment methods and guiding research; distilled complex policy into durable policy solutions
- As Air Toxics Center Director, supervised 11 engineers and specialists; formulated and managed center's annual budget and resource request for 5-year plan
- As Coatings and Consumer Products Group Manager, supervised 12 engineers and Ph.D. scientists; responsible for personnel actions, health & safety and security policies for employees; managed all aspects of regulatory development and technical support for 28 new Clean Air Act actions; managed \$2.3 million budget; advised senior management and prepared EPA witnesses for Congressional hearings; represented office to key stakeholders; briefed Congressional staff and the Office of Management and Budget staff; managed response to comment on six volume Report to Congress; interpreted legislation for first national rulemaking

Professional Honors and Awards

- US EPA Bronze Medal: Justice 40 Team (2023)
- American Public Health Association, Environment Section Advocacy Award (2018) and Distinguished Service Award (2020)
- University of Michigan, Provost's Teaching Innovation Prize (2016)
- U.S. Health Resources and Services Administration and Association of Schools and Programs of Public Health "Promising Practice" recognition for teaching innovation
- Graham Institute Dow Distinguished Interdisciplinary Sustainability Award /
- EPA Administrator's Award for Excellence (2006)
- EPA Gold Medals for Exceptional Service: Clean Diesel Initiative Team (2007); Clean Air Nonroad Diesel Rule (2005); Heavy Duty Diesel Engine and Fuel Rule (2002); Particulate Matter National Ambient Air Quality Standards (1998); EPA Silver Medal: Economic Benefits Methods Development (2004)

Selected Press Appearances

ABC News, ABC News website, Arizona Republic (part of USA Today), Washington Post (letter to editor) PBS Student Reporting Labs, Detroit Public TV, Scientific American, Bridges Magazine, Michigan Radio Stateside, WCMU Radio, WEMU Radio, San Luis Obispo Tribune, Southern Maryland Chronicle, E&E News, San Francisco-Marin Medical Society Magazine, Michigan Climate Action Network, Findings Magazine, University of Michigan Record

Selected Publications: view more on [Google Scholar](#)

Workgroup member and contributing author, [Interim Framework for Advancing Consideration of Cumulative Impacts](#), U.S. EPA report, 2024

Koman, P.D., N.H.F. French, 2023. Assessing Smoke Exposure in Space and Time, Landscape Fire, Smoke, and Health, [10.1002/9781119757030.ch10](#), (193-216), in [Landscape Fire, Smoke, and Health: Linking Biomass Burning Emissions to Human Well-Being](#), American Geophysical Union Online ISBN:9781119757030 | DOI:10.1002/9781119757030 (2024)

Woodruff, T.J., Rayasam, S.D.G., Axelrad, D.A., **Koman, P.D.**, *et al.* 2023. A science-based agenda for health-protective chemical assessments and decisions: overview and consensus statement. *Environ Health* **21** (Suppl 1), 132. <https://doi.org/10.1186/s12940-022-00930-3>

Varshavsky, J.R., Rayasam, S.D.G., Sass, J.B. *et al.* 2023. Current practice and recommendations for advancing how human variability and susceptibility are considered in chemical risk assessment. *Environ Health* **21** (Suppl 1), 133. <https://doi.org/10.1186/s12940-022-00940-1>

Koman, P.D., Billmire, M., Baker, K.R., Carter, J.M., Thelen, B.J., French, N.H.F., Bell, S.A. 2022. [Using wildland fire smoke modeling data in gerontological health research \(California, 2007–2018\)](#) *Science of the Total Environment* **3**, 838. <https://doi.org/10.1016/j.scitotenv.2022.156403>.

Carter, J.M., **Koman, P.D.**, Cameron, L. *et al.* 2021. Assessing perceptions and priorities for health impacts of climate change within local Michigan health departments. *J Environ Stud Sci* **11**, 595–609. <https://doi.org/10.1007/s13412-021-00679-0>

Koman, P.D., Billmire, M., Baker, K.R., de Majo, R., Anderson, F.J., Hoshiko, S., Thelen, B.J., French, N.H.F., 2019. Mapping Modeled Exposure of Wildland Fire Smoke for Human Health Studies in California, *Atmosphere*, **10**, 6, (308). [10.3390/atmos10060308](#)

Koman, P.D., Singla, V., Lam, J., Woodruff, T.J. 2019. Population susceptibility: A vital consideration in chemical risk evaluation under the Lautenberg Toxic Substances Control Act, *PLOS Biology*, **17**, 8, (e3000372). [10.1371/journal.pbio.3000372](#)

Koman, P.D., Hogan, K.A., Sampson, N., Mandell, R., Coombe, C.M., Tetteh, M.M., Hill-Ashford, Y.R., Wilkins, D., Zlatnik, M.G., Loch-Caruso, R., Schulz, A.J., Woodruff, T.J., 2018. Examining Joint Effects of Air Pollution Exposure and Social Determinants of Health in Defining “At-Risk” Populations Under the Clean Air Act: Susceptibility of Pregnant Women to Hypertensive Disorders of Pregnancy. *World Med. Heal. Policy* **10**, 7–54. <https://doi.org/10.1002/wmh3.257>

Norton R.K., David N.P., Buckman S., **Koman P.D.** 2018. Overlooking the coast: Limited local planning for coastal area management along Michigan’s Great Lakes. *Land use policy* **71**:183–203; doi:10.1016/j.landusepol.2017.11.049

Norton, R.K., Gerber, E.R., Fontaine, P., Hohner, G., **Koman, P.D.**, 2018. The Promise and Challenge of Integrating Multidisciplinary and Civically Engaged Learning. *J. Plan. Educ. Res.* 0739456X1880343. First Published October 1, 2018. <https://doi.org/10.1177/0739456X18803435>

Koman P.D., Mancuso P. 2017. Ozone exposure, cardiopulmonary health, and obesity: a substantive review. *Chem. Res. Toxicol.* <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5556919>

Koman, P.D., P. Goldberg, C. Klawuhn, M. Swain, P.D. Meadows, “Environmental Health Professionals Training Needs Assessment,” University of Michigan, Office of Public Health Practice report, Ann Arbor, MI, 2014

"Report to Congress: Highlights of the Diesel Emissions Reduction Program, Energy Policy Act of 2005," US EPA Office of Air and Radiation report, EPA-420-R-09-006, August 2009 (Principal author)

"National Clean Diesel Campaign: State and Local Government Tools and Resources," U.S. EPA, Office of Transportation and Air Quality, EPA-420-F-09-070, 2009

"Review of the National Ambient Air Quality Standards for Particulate Matter: Policy Assessment of Scientific and Technical Information," U.S. EPA Office of Air and Radiation report, EPA-452-R-96-013, (Principal author)

Selected Conference Program Development and Thought Leadership

Invited panelist, Clean Air Round Table, White House First Environmental Justice Summit, Washington, DC, 2024

"Resetting the Course of EPA" report was featured by the Associated Press, which was reprinted by The New York Times, NBC News, Los Angeles Times, and over 200 others

Contributing author to two chapters:

Restoring Science as the Backbone of EPA Decision-making

Reducing Toxic Risks

Koman, P.D., The Intersection of Climate, Race, and Health: A Discussion of the Empirical Relationship Between the Top Issues of 2020, New York Energy Forum, Oct 28, 2020

Koman, P.D. Heat Stress Vulnerability in Michigan, panel discussion at documentary movie event, Charles H. Wright Museum of African American History, on Detroit Public Television, Detroit, MI (*reached over 700 participants during live event and more on website*) Watch panel, June 11, 2020

Koman P.D. Climate Reality Leaders, Climate Crisis and Public Health, invited webinar with international audience, 200 live viewers, February 28, 2020

University of Michigan, Winter 2021 Design Expo, Multidisciplinary Design Program Faculty Research Teams Presentations, organized and moderated virtual poster presentations for 12 teams representing over 50 students and 9 faculty, including 2 Honors thesis presentations, April 14, 2021

University of Michigan, School of Public Health Symposium, Making the Toxic Substances Control Act (TSCA) work, Ann Arbor, MI (steering committee chairperson, organizer, speaker) March 2022

University of Michigan, School of Public Health Symposium, "TSCA at 5 Years: Opportunities to Act with Foresight," Ann Arbor, MI (steering committee chairperson, organizer, panel moderator and speaker), in partnership with Detroit Public Television and Great Lakes Now TV network, March 2021

University of Michigan, School of Public Health Symposium, "Readiness and Resilience: Climate Change and Health," Ann Arbor, MI (steering committee chairperson, organizer) March 9, 2020

University of Michigan, School of Public Health Symposium, "Climate Change and Health Summit," Ann Arbor, MI (steering committee chairperson, panel moderator, February 2019)

Koman, P.D., M. Billmire, N.H. French. Understanding health equity and population risk implications of exposure to air pollution from wildland fires and hypertensive disorders of pregnancy in California APHA ID 413874, American Public Health Association Annual Meeting, San Diego, CA, Nov 4, 2018

Koman, P.D., S. Bailey, E. DeLoney, D Moses, K. Keys, S. Cupal, M. Munroe-Younis, T. Dvonch.
“Community Participatory Principals in Water Quality Environmental Education Program in Flint, MI”
Genesee County Health Department Conference, Flint, MI, May 9, 2017

University of Michigan, School of Public Health, Inaugural Environmental Health Practice Workshop,
“Health Equity at Industrial Scale – Lautenberg Chemical Safety Act,” Ann Arbor, MI (steering committee
chairperson, panel moderator, March 28, 2017)

Genesee County Health Department keynote presentation, “Climate Change and Human Health,” Tenth
Annual Public Health Conference, Flint, MI, May 3, 2016

Preparation for Teaching

1. Participant, Graduate teaching certificate coursework, University of Michigan, Rackham Graduate School, Center for Research on Teaching and Learning, under mentorship of Dr. Phyllis Meadows, Health Management and Policy
 - Writing and Grading Exams virtual workshop, June 2015
 - Preparing Future Faculty Seminar, Spring Term 2015
 - Advanced Strategies for Inclusive Teaching workshop, March 2015
 - Graduate Student Instructor Orientation, January 2014
2. Syllabus design workshop. University of Michigan, Rackham Graduate School, Arts of Citizenship. Fall term 2014
3. Graduate Student Instructor Spring Board to Teaching seminar. University of Michigan, School of Public Health. Ann Arbor, MI. Fall 2013

Teaching, Training, and Instruction

1. Curriculum developer and trainer, “See for Yourself: What’s in Your Water” water quality and drinking water delivery system training for 700 community members and K-12 students in Flint, MI with funding from US Environmental Protection Agency. This project boosted participant competencies and increased acceptance of proper installation of water filters in homes, and importantly rebuilt trust with federal and state governments. Flint residents would not open their doors to the state program employing local residents to install point-of-use water filters; by using trusted messengers from the community, our training resulted in full rosters of willing participants and significant increase in proper filter installation, protecting residents from harmful lead exposures. Fall 2016 and Winter Term 2017
2. Instructor, University of Michigan, LSA Residential College, RCNSCI Climate Change and Health: Evidence and Solutions 3.0 credits. 2020. Developed and taught new science undergraduate course, pivoted to online during pandemic.
3. Assistant course instructor, University of Michigan, School of Public Health, PH600 Cross-disciplinary approaches to public health challenges, 4 credits.
4. Faculty research student team program manager for the Multidisciplinary Design Program recruited over 250 students per term for experiential learning program. Planned and oriented students to the research enterprise via annual Jumpstart and Research Apprentice programs. Organized end of term

Design Expo, including peer feedback system and my assessment. Created paid summer research fellowship for non-traditional students to succeed in STEM fields during the summer session, including developing the curriculum and leading a weekly seminar for the fellows, as well as coaching and assessing individual student progress over their 12-month research experiences (2017-2022).

5. Mentor and instructor for University of California at San Francisco (UCSF) Reach the Decision Makers fellowship. Trained, mentored and developed scientists, faculty, and community members nationwide to communicate scientific data in regulatory decisions; team recommendations to Agency executives have been accepted, resulting in new research priorities, discussion in *Federal Register* records of decisions of additional data, and new and deeper involvement of medical sector stakeholders in environmental issues
 - a. Guest lecture for webinar for 50 health professionals, "Strategies for Effective Communication with the U.S. Environmental Protection Agency," June 2015
 - b. Invited in-person trainer for 25 health professionals nationwide, "Making Your Case in Environmental Policy," Reach the Decision Maker Program, Washington, DC, May 2014
 - c. Guest lecture for webinar for 50 health professionals, "Effective Communication with the Environmental Protection Agency," June 2014
6. Co-investigator, Initiated and led first University of Michigan School of Public Health (SPH) multi-disciplinary community-engaged project with Michigan Engaging Community Through the Classroom (MECC); co-investigator on three grants including 5-year \$938,000 UM Third Century Transformative Learning grant for interdisciplinary engaged learning; awarded University of Michigan Provost Teaching Innovation Prize (2015); recognized by the U.S. Health Resources and Services Administration and Association of Schools and Programs of Public Health "Promising Practice" for teaching innovation for my experiential learning program for conducting Health Impact Assessments (2013) University of Michigan, School of Public Health, Associate Dean Phyllis Meadows. Winter Term 2016
7. Guest lecture for Population Health Seminar, University of Michigan, Medical School, Feb 8, 2018
8. Practitioner roundtable for Rackham's Institute for Social Change introduction to public scholarship, "Working for Social Justice Inside and Outside Academia," University of Michigan, Rackham Graduate School, Ann Arbor, MI August 22, 2017
9. Master Class instructor, "Transportation Affects Health," Movin'On Michelin World Summit on Sustainable Transportation, Montreal, Canada, June 14, 2017
10. Curriculum co-developer, "Environmental Justice Academy" community-based participatory research partnership. Winter Term 2017
11. Guest lecture for Future Public Health Leaders program, for 40-70 undergraduate Center for Disease Control and Prevention scholars. Taught two lessons annually: Introduction to Environmental Health Sciences and Health Impact Assessment. University of Michigan, School of Public Health, Ann Arbor, MI. Associate Dean Phyllis Meadows. 2013-2017

12. Koman, P.D. "Climate Change and Human Health," Keynote. University of Michigan School of Public Health and Michigan Association for Local Public Health Day, Ann Arbor, MI, March 9, 2015 Available as Michigan Public Health Training Center on-line training:
<http://miphtcdev.web.itd.umich.edu/trainings/climate-change-and-human-health>
13. Guest lecture for 25 urban planning masters students, "Building Healthy Communities: Children's Environmental Health and Hazardous Substance Clean Up Criteria in Michigan." University of Michigan, Urban Planning Department. Ann Arbor, MI. UP 502 Environmental Planning, Issues and Concepts. Assistant Professor Ana Paula Pimental Walker. Fall 2013
14. Guest lecture on air quality and marine ports for masters students. University of Michigan, School of Public Health, Environmental Health Sciences. Ann Arbor, MI. EHS 572/SNRE 514 Environmental Impact Assessment. Professor Stuart Batterman. Fall 2012
15. Guest lecture for graduate students, "Ship Air Emissions and Controls," University of Michigan, College of Engineering, Naval Architecture and Marine Engineering. Ann Arbor, MI. Professor Jing Sun. Winter 2007
16. Trainer and course developer, "EPA Mobile Source Emissions software MOVES2010b Pilot Training Course." International Emissions Inventory Conference. 8-hour training, Tampa, FL. August 13, 2012
17. Trainer, "MOVES 3-Day Training Course," EPA Mobile Source Emissions Modeling 3-day computer-based training, Lansing, MI. May 2012
18. Trainer, "Effectively Communicating Key Messages," EPA's National Clean Diesel Campaign Regional Office Partners meeting. Washington, DC. December 9, 2005