

# December 8, 2020 CE – Plastic Waste and Public Health

## Continuing Education – Evening Lecture Waste Plastics: Public Health Perspectives

**Presenter: Robert W. Peters, Ph.D., P.E.**

Professor of Environmental Engineering (Retired) Department of Civil, Construction, and Environmental Engineering  
University of Alabama at Birmingham

**Tuesday, December 8, 2020**

5:30pm-6:30pm – Presentation

6:30pm-6:45pm – Q&A Session & Closing Remarks

**PDH Credit:** 1 credit

**Location:** Due to COVID, this will be an online presentation only

**Price:**

\$10 each for attendees wanting PDH Credit and Certificate

Free for attendees wanting to monitor the session with no credit or certificate

**Abstract:**

Each stage of the plastic lifecycle poses major risks to human health. World-wide, most people are exposed to plastics at all stages of their lifecycle. Plastic pollution is pervasive worldwide infiltrating our environment, wildlife and marine animals, our food supply, and our human health. Health problems associated with waste plastics include: various forms of cancer; diabetes; several organ malfunctions; impacts on skin, eyes, and other sensory organs; birth defects, among other impacts. Additionally, there are harmful impacts associated with plastic additives, including bisphenol-A, heavy metals (e.g., cadmium and lead); flame retardants, phthalates, perfluorinated substances (PFAS), endocrine disrupting compounds, and other chemicals. Plastic production has increased from  $2 \times 10^6$  metric tons in 1950 to  $3.80 \times 10^8$  metric tons in 2015.

Direct environmental exposure to plastics is a result of extraction and transport, refining and manufacture, consumer products and packaging, waste management, fragmentation and micro-plastics formation, cascading exposure as plastics degrade, and ongoing environmental exposures. Humans are exposed to microplastics and associated toxic chemicals through inhalation, ingestion, and direct skin contact throughout the life cycle of plastics. Public health is exacerbated by the fact that more than 2/3 of all plastic produced

remains in the environment, as debris in the oceans and waterways, solid waste and litter on land, micro- or nano-particles in the air or agricultural soils, microfibers in water supplies, or microparticles in the human body, etc. As a result, plastics have permeated our air, our soil, our water, and our bodies.

This webinar presentation addresses public health perspectives associated with waste plastics, and offers approaches for minimizing waste plastic formation.

**Biography:**

Dr. Robert W. Peters joined the environmental engineering faculty as an Associate Professor of Environmental Engineering in the Department of Civil and Environmental Engineering at the University of Alabama at Birmingham (UAB) in fall 2001. He was promoted to full Professor in fall 2004. His research has focused on sustainable building design, building energy conservation, vertical gardening systems, food deserts, use of phytoremediation systems to remediate contaminated sites, physical/chemical treatment of hazardous wastes, particularly in the area of sonication (acoustic cavitation) and photocatalysts to treat organic contaminants. He also has research projects addressing energy conservation and treatment of diesel emissions from mobile sources.

He received his B.S.Ch.E. degree in chemical engineering from Northwestern University and his M.S. and Ph.D. degrees in chemical engineering from Iowa State University. He is a registered Professional Engineer (PE) in the States of Illinois and Indiana, and is currently pursuing his PE registration in the State of Alabama. He is a past-Chair of AIChE's Environmental Division, has twice served as Director of the Environmental Division, and currently is Secretary of the Division. He has more than 80 refereed publications and more than 220 total publications in the environmental remediation field. His recent research activities have focused on environmental sustainability, addressing topics such as condensate recovery in air handlers; improved lighting systems in campus buildings; use of green roofs combined with cistern collection and rain gardens for storm water mitigation on campus buildings; modeling of pollutants fate and transport in the Nile River tributaries, use of electrochemical sensors in storm drains to characterize storm water runoff in urban roadways; use of tower gardens and community gardens to address urban food deserts, and waste plastics in the marine environment.

**Registration:**

Please register no later than Tuesday, December 8 at 12 noon. Cancellation requests received by the registration deadline will be fully refunded.

Should you have any further questions, please do not hesitate to reach out to Cynthia Tarun at [cbtarun@gmail.com](mailto:cbtarun@gmail.com), [832-341-4960](tel:832-341-4960) (Mobile).

**Registration for PDH Credit and Certificate must be completed by submitting the PayPal information at the bottom of the Confirmation page. That page will appear when you submit this form.**