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Areas of Expertise

- Toxicology
- Causation Analysis
- Product Safety
- Microplastics
- Chlorinated Solvents

Services

- Toxicology & Risk Sciences
- Occupational Health & Safety
- Product Safety Assessment

Education

- Ph.D., Environmental Toxicology, University of Washington
- B.S., Biology, Duke University
- Diplomat of the American Board of Toxicology

Andrew Yeh, Ph.D., DABT

Senior Toxicologist

Dr. Yeh is an expert in environmental toxicology and chemical risk assessment. He critically evaluates toxicological, epidemiological, and mechanistic data in support of causation analyses in a variety of litigation matters and human health and ecological risk assessment projects. He also conducts chemical risk assessments as part of safety evaluations of consumer products and medical devices. Before joining Gradient, Dr. Yeh was a senior fellow in the Department of Radiology at the University of Washington (UW) School of Medicine. He earned a Ph.D. in environmental toxicology at UW, where he examined metabolic effects associated with exposure to contaminants of emerging concern (e.g., in pharmaceuticals and personal care products) in the contexts of both ecotoxicity and seafood safety. He is secretary-treasurer of the Pacific Northwest Association of Toxicologists, a member of the Chemical and Petroleum Planning Committee of the Washington Governor's Industrial Safety and Health Advisory Board, and a member of the Microplastics Consumer Messaging Workgroup of the California Water Quality Monitoring Council Microplastics Subcommittee.

Selected Projects

Human and Environmental Risk Assessment: Conducted a literature review to evaluate the state of science on microplastics generated by paints and coatings.

Causation Analysis: Evaluated the association of occupational exposures to heptane, methanol, propanol, butanol, silica, formaldehyde, and other substances, with risk of a health outcome.

Causation Analysis: Evaluated the risk of cancer and non-cancer effects associated with occupational exposure to perchloroethylene and trichloroethylene.

Environmental Risk Assessment: Generated a database of over 1,000 chemicals present in vehicle fluids or tires along with acute toxicity data in Puget Sound salmon in an assessment to identify chemicals that may be associated with urban runoff mortality syndrome in Pacific salmon.

Product Stewardship: Conducted a quantitative risk assessment that concluded that a mandated safety test of a children's toy altered the product's chemical structure, which led to unrealistic estimates of health risks to children from exposure to boron.

Toxicology Support: Provided litigation support in a suite of toxic tort cases of former railroad workers alleging cancers due to occupational exposures to diesel exhaust, benzene, silica dust, asbestos, creosote, herbicides, and other substances.

Chemical Product Evaluation: Provides ongoing support to a city chemical reduction program by evaluating the hazard to human and ecological receptors, and exposure potential (e.g., persistence and bioaccumulation properties), of numerous pesticide and herbicide products.

Selected Publications

Yeh, A; Bamgbose, I. 2022. "Potential impacts of microplastics on humans and wildlife." *Gradient Trends - Risk Science & Application* 83:5,8, Winter.

Yeh, A; Meador, JP; Lunsman, TD; Mayfield, DB; Verslycke, TA. 2021. "Metabolic effects of pharmaceuticals in fish." In *Pharmaceuticals in Marine and Coastal Environments: Occurrence, Effects and Challenges in a Changing World, Volume 1 of the Estuarine and Coastal Sciences Series* (Eds.: Durán-Álvarez JC; Jiménez-Cisneros B), Elsevier Ltd., Kidlington, UK.

Meador, JP; **Yeh, A;** Gallagher, EP. 2018. "Adverse metabolic effects in fish exposed to contaminants of emerging concern in the field and laboratory." *Env. Pollut.* 236:850-861.

Yeh, A; Marcinek, DJ; Meador, JP; Gallagher, EP. 2017. "Effect of contaminants of emerging concern on liver mitochondrial function in Chinook salmon." *Aquat. Tox.* 190:21-31.

Meador, JP; **Yeh, A;** Young, G; Gallagher, EP. 2016. "Contaminants of emerging concern in a large temperate estuary." *Env. Pollut.* 213:254-267.