

UW EDGE Center

Interdisciplinary Center for Exposures,
Diseases, Genomics & Environment



Pilot Projects, Year 30 (2025-2026)

Defining novel gene X environment interactions that lead to embryonic heart defects, [Lisa Maves](#), University of Washington School of Medicine, Seattle Children's Research Institute

Development of a phthalate-disrupted placental multi-omic network, [Alison Paquette](#) and [Samantha Lapehn](#), Seattle Children's Research Institute, Center for Developmental Biology and Regenerative Medicine

Residential proximity to harmful algal blooms and risk of incident dementia in a Southern California electronic health record cohort, [Joan Casey](#) and [Marissa Childs](#), University of Washington Department of Environmental and Occupational Health Sciences

Collectively addressing lead contamination of drinking water in Washington State schools, [Katya Cherukumilli](#), University of Washington Department of Human Centered Design & Engineering

A zebrafish platform for assessing whole-body epigenetic toxicity of environmental toxicants at single cell resolution, [Yijie Geng](#), University of Washington Department of Environmental and Occupational Health Sciences

Development and Validation of a Spatial Model of Insecticide Exposure in the Yakima Valley to Support Translational Epidemiologic Research, [Catherine Karr](#) and [Allison Sherris](#), University of Washington Department of Environmental and Occupational Health Sciences

Pilot Projects, Year 29 (2024-2025)

Effects of Air Pollution on Traumatic Brain Injury, [Shelly Erickson](#), PI, VA Puget Sound Health Care System and Division of Gerontology and Geriatric Medicine, Department of Medicine

Engaging community to overcome barriers to wildfire smoke exposure protection in early life, [Catherine Karr](#) and [Christine Loftus](#), Co-PIs, DEOHS, School of Public Health

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Determining the health and environmental impacts of a neighborhood-wide sanitation intervention in Quelimane, Mozambique, [Karen Levy and Kelsey Jesser](#), Co-PIs, DEOHS, School of Public Health

Novel lung-on-a-chip microphysiological system for assessing adverse effects of diesel exhaust exposures, [Judit Marsillach and Ed Kelly](#), Co-PIs, DEOHS, School of Public Health and Department of Pharmaceutics, School of Pharmacy

Pilot Projects, Year 28 (2023-24)

Characterization of volatile organic compounds (VOCs) exposure and related protein adductomic signatures to evaluate a local public health intervention in safer degreasers, [Dr. Diana Ceballos/Dr. Judit Marsillach](#), Co-PIs, DEOHS, School of Public Health

Bioinformatic tools for assessing health risk of antimicrobial resistance within microbiomes, [Dr. Erica Fuhrmeister](#), PI, DEOHS, School of Public Health

A Pilot Study Characterizing Traffic-Related Air Pollution Exposure and Cellular Aging in a Sample of Marginalized Mother-Child Dyads, [Dr. Jonika Hash](#), PI, Child, Family, & Population Nursing, School of Nursing

Application Title: Spokane Extreme Heat Risk Intervention Stakeholder Synthesis Symposium, (SEHRI S3), [Dr. Tania Busch Isaksen](#), PI, DEOHS, School of Public Health

A zebrafish quantitative genetics platform for studying gene-environment interactions, [Dr. Yijie Geng](#), PI, DEOHS, School of Public Health

Pilot Projects, Year 27 (2022-23)

Metagenomic Approach to Decipher Mechanisms of Cadmium Neurotoxicity, [Dr. Julia Cui](#), PI, DEOHS, School of Public Health

Single-Cell Characterization of the Testes-Immune Axis for Improved Hazard Assessment of Chemical Mixtures, [Dr. Elaine Faustman](#), PI, DEOHS, School of Public Health

Studying individual variability in inflammatory gene expression response to wildfire exposures using a self-administered blood sampling device, [Dr. Ashleigh Theberge](#), PI, DEOHS, Department of Chemistry

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Elucidate the effects of increased usage of quaternary ammonium compound disinfectants on human microbiome during COVID-19, [Dr. Libin Xu](#), PI, DEOHS, Department of Medical Chemistry

Pilot Projects, Year 26 (2021-22)

Community Engagement to Identify Priorities, Policies, and Scenarios for Modeling the Health Benefits of a Just Transition, [Dr. Jeremy Hess](#), PI, DEOHS, School of Public Health

Unraveling Gut Microbiome-Mediated Alterations in Human CYP3A4 Expression and Activity, [Dr. Qingcheng Mao](#), PI, Department of Pharmaceutics

Spatiotemporal Refinement for Environmental Circadian Misalignment, [Dr. Trang VoPham](#), PI, Department of Epidemiology, School of Public Health

Pilot Projects, Year 25 (2020-21)

Characterization of Urban Nano-Particles, [Dr. Elena Austin](#), PI, DEOHS, School of Public Health

Airway Morphology as an Effect Modifier of Diesel Exhaust Inhalation in a Murine Model, [Dr. Robb Glenny](#), PI, Pathology, PI, Division of Pulmonary, Critical Care and Sleep Medicine

Characterizing perinatal neurotoxicant exposures in a dense urban informal settlement in Nairobi: A community-engaged approach to foster new Maternal Child Environmental Health research and interventions in Kenya, [Dr. Catherine Karr](#), PI, DEOHS, School of Public Health

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