

# UW EDGE Center

Interdisciplinary Center for Exposures,  
Diseases, Genomics & Environment



Pilot Projects, Year 31 (2026-2027)

**Integrating Mental Health into Urban Planning: Heat-Related Behavioral and Psychological Responses Across Zoning**, Tzu-Hsin Karen Chen, PI, Urban Design and Planning and DEOHS, School of Public Health

**Plastic-Associated Toxin Exposure via Enteral Gavage Feeds in the NICU**, Sheela Sathyanarayana and Rachel LaFontaine, Co-PIs, Department of Pediatrics and DEOHS, School of Public Health and Seattle Children's Hospital

**Assessing the Enterotoxicity of Benzalkonium Chlorides in an In Vitro Model of the Human Intestine**, Libin Xu and Ed Kelly, Co-PIs, Department of Medical Chemistry and Department of Pharmaceutics

**Identifying mechanistic drivers of environmental antibiotic resistance dissemination from small-scale biodigesters using hybrid metagenomics and machine learning**, Karen Levy and Caitlin Hemlock, Co-PIs, DEOHS, School of Public Health

**Airborne environmental exposures and gene expression in reproductive aged men**, Tristan Nicholson and Ashleigh Theberge, Co-PIs, Department of Urology, DEOHS, School of Public Health and Department of Chemistry

Pilot Projects, Year 30 (2025-2026)

**Defining novel gene X environment interactions that lead to embryonic heart defects**, Lisa Maves, PI, School of Medicine, Seattle Children's Research Institute

**Development of a phthalate-disrupted placental multi-omic network**, Alison Paquette and Samantha Lapehn, Co-PIs, 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, Co-PIs, DEOHS, School of Public Health

**Collectively addressing lead contamination of drinking water in Washington State schools**, Katya Cherukumilli, PI, Department of Human Centered Design & Engineering

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## ADDRESS

Roosevelt One Building  
4225 Roosevelt Way NE, Suite 100  
Seattle, WA 98105-7234

## CONTACT

(206) 685-5333  
[edgectr@uw.edu](mailto:edgectr@uw.edu)  
deohs.washington.edu

The University of Washington EDGE Center is supported by the National Institutes of Health under award number: P30ES007033

**A zebrafish platform for assessing whole-body epigenetic toxicity of environmental toxicants at single cell resolution**, [Yijie Geng](#), PI, DEOHS, School of Public Health

**Development and Validation of a Spatial Model of Insecticide Exposure in the Yakima Valley to Support Translational Epidemiologic Research**, [Catherine Karr and Allison Sherris](#), Co-PIs, DEOHS, School of Public Health

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

**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

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**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**

**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**

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**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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