CiTEM Research Interests

Research interests of investigators affiliated with CiTEM include most areas of toxicology, with particular emphasis on understanding the links between the environment and health risks and the mode of action of toxicants and disease pathogenesis. Underlying goals of these research programs include translating this knowledge into prevention strategies, new therapeutic interventions and an improved scientific basis for risk assessment. The focus of our program reflects traditional disease- and/or organ-centric research areas, but also overarching themes, such as computational toxicology.

Cancer, Genetic Toxicology, & Mutagenesis
DNA/chromosome damage and repair, chromatin remodeling, molecular carcinogenesis, & cancer therapeutics

Metabolism, Liver Toxicology, & Drug Toxicity
Hepatotoxicity, drug & xenobiotic metabolism, metabolism-environment interactions, & metabolomics

Genetic Models, Systems Toxicology, & Computational Toxicology
Toxicogenomics, high-throughput screening, gene x environment interactions, genetic models of disease & susceptibility, & integration of multi-dimensional “omics” data

Organ-Centric Toxicology

Cardiopulmonary Toxicology
Inhalation toxicity, cardiovascular toxicity and drug delivery, environmental impacts on cardiopulmonary diseases, & pulmonary immune dysfunction

Developmental Toxicology
Endocrine disruption, reproductive toxicology, environmental impacts on embryogenesis and reproduction, & epigenetic mechanisms

Immunotoxicology
Immunological determinants of toxicant induced diseases & mechanisms of contaminant-induced immune dysfunction

Neurotoxicology
Microglia dysfunction & impact of environmental exposures on neurodevelopmental diseases