

DEPARTMENT OF CHEMISTRY AND ENVIRONMENTAL SCIENCE
SEMINAR SERIES
SPRING 2022

DATE: WEDNESDAY, FEBRUARY 2, 2022

WEBEX:

<https://njit.webex.com/njit/j.php?MTID=mac60e65a05d9f87200c4c8aff88fb2bc>

Meeting number (access code): 2622 118 6331

Meeting password: CES

TIME: 1:00PM-2:20PM

GUEST SPEAKER

Dr. Chris Kassotis

Assistant Professor

Institute of Environmental Health Sciences &

Department of Pharmacology

Wayne State University

Detroit, MI

TOPIC

Novel Environmental Endocrine Disrupting Chemical Mixtures and Metabolic Health Disruption

ABSTRACT

Dr. Kassotis will speak on the impacts of environmentally relevant chemical mixtures on metabolic health outcomes. Obesity and metabolic disorders are a large societal concern and generate significant human health care costs. Recently, attention has focused on the potential for environmental contaminants to act as metabolic disruptors through disruption of various nuclear hormone receptor pathways. His research has sought to evaluate the potential for diverse environmental contaminants to promote fat cell development, using an *in vitro* model of adipogenesis. He has reported that numerous indoor semi-volatile organic contaminants can promote fat cell development, and that mixtures of chemicals isolated from household dust are sufficient to drive fat cell development at low, environmentally relevant levels. Moreover, he has reported an association between the extent of house dust extract-induced fat cell development and the body mass index of people living in these homes, and his current research seeks to better understand causal contaminants and mixtures mediating these effects (and novel sources of metabolic and/or endocrine disruptors) as well as identifying underlying molecular mechanisms.

BIO

Chris Kassotis, PhD, is an Assistant Professor in the Institute of Environmental Health Sciences and Department of Pharmacology at Wayne State University in Detroit. He completed his PhD at the University of Missouri working with Susan Nagel and Fred vom Saal to assess unconventional oil and gas operations as a novel source of endocrine disrupting chemicals, and the potential for adverse human and animal health outcomes from exposure. He then worked with Heather Stapleton's group at Duke and Seth Kullman's lab at North Carolina State to assess the

adipogenic/obesogenic activity of complex chemical mixtures (e.g. indoor house dust) via a combination of cell and zebrafish models. Now in his independent laboratory, he is pursuing novel environmental sources of endocrine disruptors and/or metabolic disruptors, examining mixture effects from combinations of these chemicals, and determining underlying molecular mechanisms. His laboratory is currently funded by an R00 through NIEHS to better understand metabolic disruption potential of ethoxylated surfactants used widely in household cleaning products and detergents, and pilot funding to assess synergistic effects from complex mixtures of pollutants in cell and zebrafish models.

Seminar Coordinator:
Dr. Genoa Warner – grw4@njit.edu

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