



CEG member **Mary Beth Genter, Ph.D., DABT, Fellow, ATS,** and Professor of Toxicology in the UC Department of Environmental Health, and **Richard L. Doty, PhD,** Professor of Psychology in Otorhinolaryngology: Head and Neck Surgery, at the University of Pennsylvania Perelman School of Medicine, are co-authors of a chapter on “Toxic exposures and the senses of taste and smell” in the **Handbook of Clinical Neurology**, 2019 (chapter 22).

This review addresses the impact of neurotoxic exposures on the ability to smell and taste. These vital chemical senses largely determine one’s experience of the flavor of foods and beverages, influence food intake and ultimately nutrition, and alert us to hazards such as spoiled or poisonous food, smoke or leaking natural gas, airborne pollutants, and other potential risks to life and health. Accordingly, toxicants that damage these senses have a significant impact on day-to-day functioning. As examined in this review, a large number of toxicants that individuals and populations encounter in urban and industrial air pollution – including smoke, solvents, metals, and particulate matter – can alter the ability to smell. Toxicants’ influence on taste, i.e., sweet, sour, bitter, salty, and savory (umami) sensations, is not well documented. Given the relatively direct exposure of olfactory receptors to the outside environment, olfaction is particularly vulnerable to damage from toxicants. Some toxicants, such as nanoparticles, have the potential to damage not only the olfactory receptor cells, but also the central nervous system structures by their entrance into the brain through the olfactory mucosa. This chapter thus offers an important source of information for students and researchers interested in neurology, environmental exposures and human health.

Genter MB, Doty RL. Toxic exposures and the senses of taste and smell. *Handb Clin Neurol*. 2019;164:389-408. [PMID:31604559](#)

Neighborhood Soil Study

The CEG Community Engagement Core recently discussed findings from its community-based metals in soil study with community participants (Nov 14) and with leaders of the Cincinnati Health Department (Commissioner Melba Moore and Lead Poisoning Prevention Program Director, Rashmi Aparajit, Oct 17). The CEG has been invited present before the Hamilton County Lead and Healthy Homes Collaborative on January 16, with a view toward further policy and planning impact.

Recently Published

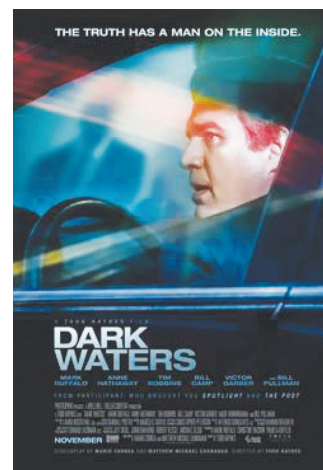
Zimmermann N, Gibbons WJ Jr, Homan SM, **Prows DR.** Heart disease in a mutant mouse model of spontaneous eosinophilic myocarditis maps to three loci. *BMC Genomics*. 2019 Oct 11;20(1):727. [PMID: 31601172](#). [PMCID: PMC6788080](#). Co-author and

CEG member Daniel R. Prows, PhD, Associate Professor, CCHMC Division of Human Genetics, received a \$15,000 **CEG Pilot award** in 2015 for the project, “Multigene-environment interactions lead to dilated cardiomyopathy and death.”

Stathias V, Turner J, Koleti A, Vidovic D, Cooper D, Fazel-Najafabadi M, Pilarczyk M, ...**Medvedovic M,** Schürer SC. LINC Data Portal 2.0: Next generation access point for perturbation-response signatures. *Nucleic Acids Res*. 2019 Nov 8. pii: gkz1023. [PMID:31701147](#).

PFAS and Dark Waters

A new film based on the true story of the discovery of industrial release of per- and polyfluoralkyl compounds (PFAS) into the Ohio River has premiered locally and nationwide. The star-studded cast of “**Dark Waters**” includes actors Mark Ruffalo, Anne Hathaway, and Tim Robbins. Media coverage has allowed CEG members to equip the public with balanced scientific understanding of per- and poly-fluoroalkyl substance exposure, based on their years of research. CEG members are making themselves available after selected showings at local theaters to answer viewer questions. Cf. [PMID 28505513](#), [PMCID: PMC5540235](#); [PMID: 31271921](#); [PMID: 24095703](#), [PMCID: PMC3846284](#); [Dayton Daily News](#), [Spectrum News](#), and [WOUB-FM](#)



Funding News

CEG pilot research funding opportunity! Applications due by 5:00 PM Friday January 31. Click [here](#) for RFA and instructions.

Two CEG members have been honored in the UC COM Gallery of Awardees, which features faculty members who have received external grants of \$100,000/year or more: **Sergey Grinshpun, Ph.D.** (Development of decontamination techniques and test methods) and **Emily DeFranco, M.D.** (NIH, Impact of initial influenza exposure on the breadth, potency, and durability of immunity in infants).

CEG member **Katie Burns, Ph.D.**, has received a 5-year award from the National Institute of Child Health and Human Development for her study, The Role of the Matrisome in Endometriosis Development. (R01 HD097597), 09/13/19–05/31/2024; Total 2019 funding \$437,549.

