

Alternative Models in Environmental Health Research: Improving Science and Reducing, Refining, or Replacing Animal Testing

Date: January 23, 2014

Time: 1:00-2:00 p.m. ET

Please register at: http://bit.ly/Alt_Models
(registration required)

Description: Laboratory animals are used in toxicology research as a surrogate for human exposure. Traditionally, rodents and other small mammals were the models of choice, but new research methods using zebrafish, *C. elegans*, cell cultures, and other models less reliant on higher vertebrates are gaining regulatory acceptance and proving to be highly relevant and more cost-effective. NIEHS is an established leader in this endeavor. This webinar will highlight some examples of the use of these alternative models in environmental health research.

The National Toxicology Program and Alternatives to Traditional Toxicity Testing

Elizabeth Maull, Ph.D., NIEHS



The National Toxicology Program (NTP) was established in 1978 as a focal point to coordinate toxicology testing in the Federal government. Its mission is to evaluate agents of public health concern by developing and applying tools of modern toxicology and molecular biology. This short seminar will introduce the audience to the activities within the NTP that implement the 3Rs -

reduction, refinement, and replacement of animals used in testing and emerging methods to prioritize the large number of chemicals in commerce for which there are toxicological data gaps for further animal testing.

Zebrafish: A Model Organism for Human Disease

Kristie Willett, Ph.D., University of Mississippi



This part of the webinar will highlight briefly some of the ways fish—and especially zebrafish—are being used by researchers to study causes and cures for human diseases, including cancer and brain diseases. Dr. Willett will particularly emphasize zebrafish utility for addressing the fetal origins of adult disease and the potential for multigenerational toxicity following environmental

exposures. As a case study, the developmental impacts on multiple generations of offspring from parents exposed to dietary benzo(a)pyrene, a ubiquitous environmental contaminant, will be discussed. Zebrafish are a valuable model in environmental health research because there is extensive background information on their genomic, developmental, and reproductive biology, and in many ways, they have conserved physiology and pathophysiology with mammals, including humans. At the end of the webinar, participants will have a broader understanding of the many advantages of zebrafish as an animal model for the study of human diseases.



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PEPH Webinar Series

The Partnerships for Environmental Public Health (PEPH) program established the PEPH Webinar Series to promote interactions among PEPH grantees and to increase awareness of common issues and approaches. The webinars facilitate consideration of emerging issues. While the primary audience is grantees within the PEPH network, anyone interested in environmental public health is welcome to register.

If you have any questions about this webinar, please contact Liam O'Fallon (ofallon@niehs.nih.gov, 919-541-7733).

Individuals with disabilities who need accommodation to participate in this event should contact Liam O'Fallon (ofallon@niehs.nih.gov, 919-541-7733). TTY users should contact the Federal TTY Relay Service at 800-877-8339. Requests should be made at least 5 business days in advance of the event.

Upcoming Webinar

- Individual & Community Resilience (February)

