NATIONAL CENTER FOR ENVIRONMENTAL ASSESSMENT
U.S. ENVIRONMENTAL PROTECTION AGENCY
POSTDOCTORAL RESEARCH PROGRAM
Cincinnati, Ohio

Project # EPA-NCEA-2004-03
Examining Mode of Action for Health Risk Assessment

Project Description:

A research project is available through the Postdoctoral Research Program at the U.S. Environmental Protection Agency (EPA), National Center for Environmental Assessment (NCEA) in Cincinnati, Ohio. Under the direction of an NCEA staff toxicologist, the participant will gain educational benefits in identifying target organs of toxicity, describing dose-response relationships for toxicity, summarizing pertinent available findings on tissue exposure (pharmacokinetics), and developing descriptions of the mode of action for several organotin drinking water contaminants for application in mixtures risk assessment.

Specific Tasks:

The participant will assist with identifying and reviewing pertinent scientific literature and developing scientifically valid and soundly supported descriptions of the toxicities of several organotin water contaminants. That may include participating in the review of scientific literature to adequately describe the toxicities of these compounds to support single-chemical and mixtures risk assessment approaches. It may also include evaluating and documenting the dose-response relationship for toxicities associated with exposure to these compounds, identifying multiple health endpoints so that the most sensitive (critical) effect can be identified. Information on absorption, distribution, metabolism and elimination of these compounds will be summarized.

In addition, the participant will become familiar with EPA guidance on the conduct of cancer and non-cancer health risk assessment policies, guidance and practices, and will learn to apply that knowledge in the development and review of risk assessments conducted by NCEA. This may include provisional values, reference dose (RfD) and reference concentration (RfC) values and cancer risk estimates.

Expected Results:

The assessment of organotin toxicity is expected to be a component of an NCEA Risk Assessment document developed to characterize risks posed by organotins encountered in drinking waters. A goal is that the project will result in a peer-reviewed journal article or presentation(s) in scientific fora describing these toxicity assessments are expected.

The participant will become familiar with risk assessment guidelines and will contribute to the development of chemical risk assessments including provisional values, cancer and non-cancer risk estimates.

Qualifications and Skills: Applicants must have a doctorate degree in pharmacology, toxicology, biochemistry, physiology, risk analysis or in a related field discipline within the three years prior to the desired starting date; or completion of all requirements should be expected prior to the starting date. Strong preference will be given to candidates with coursework or demonstrated experience in examining mode or mechanism of toxic action of chemicals. Candidates need experience or training in evaluating dose-response relationships or in developing information describing mode or mechanism of toxicity. Candidates must have the ability to review bodies of literature and develop sound conclusions based on information from multiple sources. Experience in team environments, strong communication skills and mastery of toxicologic principles is preferred. U.S. citizenship or lawful permanent resident status is preferred. The program is open to all qualified individuals without regard to race, sex, religion, color, age, physical or mental disability, national origin, or status as a Vietnam era or disabled veteran.

Stipend and Tenure: The appointment will initially be full-time for a one-year period and may be renewed for up to two additional years depending on funding. The annual stipend will range from $53,000 - $65,000 depending on degree and experience. The appointee will not be considered an employee of EPA.

The EPA-NCEA contact person for this project is John C. Lipscomb, Lipscomb.John@epa.gov

The Postdoctoral Research Program for EPA-NCEA is administered by the Oak Ridge Institute for Science and Education. *Please reference Project # EPA-NCEA-2004-03 when calling or writing for information.* For additional information and application materials contact: Postdoctoral Research Program/EPA-NCEA, Attn: Betty Bowling, Science and Engineering Education, MS 36, Oak Ridge Institute for Science and Education, P.O. Box 117, Oak Ridge, TN 37831-0117, Phone: (865) 576-8503 FAX: (865) 241-5219 e-mail: bowlingb@orau.gov.

An application can be found at http://www.orau.gov/orise/edu/EPA/app-gugrgpd.pdf.