

**Faculty and/or Postgraduate Research  
Participation Program  
U.S. Environmental Protection Agency  
National Center for Environmental Assessment  
Arlington, Virginia**

**Project #: EPA-NCEA 2008-03**

*Application of Pharmacokinetic Modeling  
in EPA IRIS Risk Assessments*

A research training opportunity is currently available at the U.S. Environmental Protection Agency (EPA), National Center for Environmental Assessment (NCEA) in Arlington, Virginia. The project is in the Quantitative Risk Methods Group (QRMG), Washington Division. The appointee should have experience in application of pharmacokinetic modeling in human health assessment.

**Project Description:** QRMG is a multi-disciplinary science group focused on improving methods for and applications of quantitative assessments in environmental and human health risk assessment. The group provides a central focus with NCEA for application, guidance, and research on state of the art approaches for quantitative assessment of risks to human health. QRMG plays a leadership role in addressing how to perform and evaluate complex quantitative assessments.

The participant will have the opportunity to be part of a team of EPA scientists looking at current and concretely foreseeable technologies to strengthen practice in application of pharmacokinetic data and models in the field quantitative human health risk assessment. The principal focus will be on the particular needs for modeling and model evaluation and uncertainty analysis to support cancer or noncancer risk assessments of the EPA IRIS risk assessment program. Analysis of data from laboratory studies of pharmacokinetics as well as data for humans will be used. This scientific endeavor includes expert evaluation of PBPK model structure and sensitivity analysis of factors that may significantly change model predictions. Key to this effort is training in the scientific and information needs of EPA IRIS assessments with respect to PBPK model applications. During this training appointment, the selectee will have substantial experience outside EPA in the development and application of pharmacokinetic models to human health concerns and will learn and contribute to how EPA approaches in these fields in the development of IRIS assessments.

The central emphasis of this training opportunity is that the participant will have an opportunity to study how qualitative risk assessment process functions within EPA in developing IRIS assessments and to contribute approaches and knowledge drawn from experiences in other organizations and applications and thus facilitate efforts to advance the assessment field. After this training the participant should be well equipped to engage in further assessment activities and recognize factors considered important by EPA and other governmental and international bodies active in human health risk assessment.

**Qualifications and Skills:** Applicants for this project can include the following: individuals seeking post graduate training after completing an advanced scientific degree in a relevant field, and individuals holding university faculty appointments. Other applicants, including established scientists interested in new training activities, will be considered on a case-by-case basis. In each case importance of training of the applicant in approaches for chemical risk assessment is a key consideration. Applicants should have advanced training and experience in a science field directly applicable to pharmacokinetic modeling. This appointment may be performed either at an EPA facility or at an appropriate off-site location approved by EPA.

The program is open to all qualified individuals without regard to race, sex, religion, color, age, physical or mental disability, national origin, or U.S. veteran status. The participant will be selected on the basis of academic records, recommendations, research interests, compatibility of background and interests with research programs and projects at NCEA-ORMG, Washington Division, and the availability of funds, staff, programs, and equipment.

The appointment may be on a part time basis for one year and may be renewed upon recommendation of EPA and subject to availability of funds. The participant will receive a monthly stipend commensurate with experience and training. The participant must show proof of health and medical insurance. This can be obtained through ORISE. **The participant does not become an EPA employee.**

The Research Participation Program for NCEA is administered by the Oak Ridge Institute for Science and Education (ORISE). ***Please reference Project #EPA-NCEA 2008-03 when calling or writing for information.*** For additional information and application materials contact: Research Participation Program/NCEA-RTP, Attn: Betty Bowling, Oak Ridge Institute for Science and Education, P.O. Box 117, Oak Ridge, Tennessee 37831-0117, Phone: (865) 576-8503 FAX: (865) 241-5219 e-mail: [betty.bowling@ornl.gov](mailto:betty.bowling@ornl.gov).

An application can be found at [www.ornl.gov/orise/edu/EPA/app-gugrgpd.pdf](http://www.ornl.gov/orise/edu/EPA/app-gugrgpd.pdf)