



Training in Environmental and Health Risk Assessment and Management of Toxic Chemicals

Background:

The Chulabhorn Research Institute (CRI) is aware of the importance of providing a training program to assist developing countries with human resource development in the field of environmental toxicology and risk assessment. Through the years, courses on risk assessment have been organized to train personnel to be capable of carrying out risk assessments of toxic chemicals for the protection of human health and the environment, and therefore serve the needs of the governmental, academic, and industrial sectors. In November-December 2022, CRI is organizing a comprehensive training programme on risk assessment, comprising two courses on risk assessment, to be taught (in English) primarily by international experts from the United States and Europe, with a wealth of experience in conducting risk assessments, as well as conducting training courses in developing countries. These courses have been designed to be complementary, with the first course focusing on the fundamentals of risk assessment, including hazard assessment, exposure assessment, risk characterization and issues for special consideration, and the second course focusing on RISK21, dietary risk assessment and the public health management of chemical incidents, with many practical examples of how the risk assessment paradigm is used to solve real-world problems.

| Dates | Course |
|-----------------------------------|---|
| November 28 – December 3, 2022 | Environmental and Health Risk Assessment and Management of Toxic Chemicals: Fundamentals of Risk Assessment |
| December 6 – 10, 2022 | Applications of the Risk Assessment Paradigm for Solving Real World Problems: Risk Assessment in the 21 st Century (RISK21), Dietary Risk Assessment, and Chemical Incident Management |

Course Coordinator: Professor Mathuros Ruchirawat, Ph.D.

Training objectives:

This series of two back-to-back training courses is designed to:

- Provide information on basic and advanced principles and concepts of risk assessment and the processes involved, including the well-established risk assessment paradigm and specific issues like chemical-specific adjustment factors, PBPK modeling, mode of action and the human relevance framework.
- Illustrate by using practical examples, i.e. case studies, how risk assessments are conducted and what different and unique issues are involved.

It is expected that participants who go through both courses will receive training sufficient to allow them to conduct environmental and human health risk assessments in their own countries. Participants who complete the course(s) will receive a Certificate of Completion for their professional portfolio.

Course Content:

Course 1: Environmental and Health Risk Assessment and Management of Toxic Chemicals

The fundamentals course is an integration of science and policy and covers the principals of human health and environmental risk assessment. Topics include:

- Problem Formulation
- Hazard Identification
- Hazard Characterization
- Risk Characterization
- Ecological Risk Assessment
- Mode of Action
- Human Relevance Framework
- Physiologically-based Pharmacokinetics Modeling
- Chemical-specific Adjustment Factors
- Complex Mixtures
- Integrated Health Impact Assessment
- Risk Perception, Reduction and Management

Teaching Faculty:

1. Herman Autrup, Ph.D.

Professor, Institute of Public Health, University of Aarhus, Denmark

2. Leonard Ritter, Ph.D.

Professor, School of Environmental Sciences, University of Guelph, Canada

3. Martin van den Berg, Ph.D.

Professor, Institute for Risk Assessment Sciences, University of Utrecht, The Netherlands

4. Bette Meek, Ph.D.

Associate Director, Chemical Risk Assessment, McLaughlin Institute, University of Ottawa, Canada

5. Mathuros Ruchirawat, Ph.D.

Vice President for Research and Academic Affairs, Chulabhorn Research Institute, Bangkok, Thailand

6. Daam Settachan, Ph.D.

Research Scientist, Chulabhorn Research Institute, Bangkok, Thailand

Course 2: Applications of the Risk Assessment Paradigm for Solving Real World Problems

The practical applications of risk assessment course will utilize practical exercises with guidance from the lecturers so that participants can put their knowledge to use. Topics include:

- Risk Assessment in the 21st Century (RISK21)
- Public Health Management of Chemical Incidents
- Dietary Risk Assessment
- Food Safety

Teaching Faculty:

1. David Russell, Ph.D.

Co-director, WHO Collaborating Centre for the Public Health Management of Chemical Exposures, UK Health Security Agency, UK

2. Maged Younes, Ph.D.

Chair, Food Additives and Nutrient Supplements Panel, European Food Safety Agency (EFSA), Italy

3. Michelle Embry, Ph.D.

Associate Director of Environmental Science, Health and Environmental Sciences Institute (HESI), USA

Applicant qualifications:

Applicants must fulfill the following requirements:

- 1) At least two (2) years work experiences related to the use of basic knowledge in chemistry, biological sciences or medicine.
- 2) Hold a bachelor's degree from a university/technical college.

- 3) Demonstrate proficiency in English (speaking, reading and writing).
- 4) Be in good health, both physically and mentally, and have a health certificate provided by an authorized physician. This form is also attached together with the Nomination Form. Pregnancy is regarded as a disqualifying condition for participation in the course.

Applicants are encouraged to attend both training courses to maximize the usefulness of the training they receive. It is expected that the theoretical aspects of risk assessment from the fundamentals course and the practical aspects of risk assessment in the practical applications course will provide them with well-rounded training and the ability to conduct risk assessments back in their home institutions. While applications to one of the two courses will be considered, applicants who apply to attend both courses will receive special consideration.

Closing Date for Applications: October 15, 2022

Fellowship coverage: The fellowship will cover course fees, round trip airfare, accommodation allowance, daily stipend, training material, and health insurance.

Training Venue:

Chulabhorn Research Institute (CRI)
54 Kamphaeng Phet 6 Rd., Talad Bang Khen
Lak Si, Bangkok 10210, THAILAND
Tel: (662) 553 8535
Fax: (662) 553 8536
E-mail: envtox@cri.or.th