

## **Training Course II**

***Title:*** Introduction to Ecological Risk Assessment

***Instructors:*** Ihor Hlohowskyj, Ph.D., John W. Hayse, Ph.D., Environmental Assessment Division, Argonne National Laboratory

***Time:*** Monday May 14, 2001 9:30-noon

***Course objectives:***

To provide an introduction to ecological risk assessment, including problem formulation, development of the conceptual site model and risk hypotheses, risk characterization methods, and field and laboratory methods for evaluating exposure and effects.

***Target audience:***

The target audience for this course is intended to be scientists, students, and project managers interested in ecological risk assessment but with little or no experience in designing and conducting such assessments.

***Course description:***

This short course will provide a basic overview of ecological risk assessment. The course will define ecological risk assessment and present a process for designing and conducting ecological risk assessments. Specific topics to be discussed will include problem formulation, development of a conceptual site model and associated risk hypotheses, identification of assessment and measurement endpoints, development of a study design using the data quality objectives process, and methods for risk characterization. An overview of methods for assessing exposure and effects will also be provided.

***Course Outline:***

1. Ecological Risk Assessment – definition and comparison to human health assessment
2. Screening and Baseline Ecological Risk Assessments
3. Problem Formulation – scoping, conceptual site model, and risk hypotheses
4. Use of Data Quality Objectives for Study Design
5. Exposure and Effects Assessments
6. Risk Characterization

***Biographical Sketches of Instructors:***

Ihor Hlohowskyj holds a Ph.D. in Zoology and is the Section Manager of the Ecological and Geographical Sciences Section of the Environmental Assessment Division at Argonne National Laboratory. Dr. Hlohowskyj has over 25 years experience in environmental biology, ecological risk assessment, and aquatic and terrestrial ecology. In addition to designing and conducting ecological field studies in support of risk assessments, his work has included development of fisheries methods for assessing climate change impacts to African fisheries, contaminant uptake modeling, resource partitioning in fish communities, and ecological risk assessment training.

John W. Hayse holds a Ph.D. in Zoology, and currently serves as an environmental biologist in the Ecological and Geographical Sciences Section of the Environmental Assessment Division at Argonne National Laboratory. Dr. Hayse has over 20 years experience in aquatic ecology, environmental biology, and ecological risk assessment. His work includes conduct of integrated watershed assessments, designing and conducting ecological risk assessments, fish bioenergetics modeling, contaminant uptake modeling, and the use of Monte Carlo analyses for probabilistic ecological risk assessments.