

Advances in environmental and human risk assessment - a transatlantic perspective

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Abstract

Environmental and human health risk assessment (RA) plays a unique role in serving the needs of various international programs by incorporating, integrating, and coordinating the use of credible scientific information as a foundation for sound decision-making. RA is an evolving process that significantly benefits important decisions about human health, food safety, economics, ecological systems, and other social issues. This course, jointly organized by scientists from the United States Environmental Protection Agency's (EPA's) National Center for Environmental Assessment (NCEA) and the Swiss Centre for Applied Human Toxicology (SCAHT) will provide participants with an excellent foundation as well as advanced knowledge about selected, recent topics in environmental and human health RA. It will also give a unique transatlantic perspective on current and emerging methods for the integration of RA, such as the OECD "adverse outcome pathway" (AOP) concept, which promise better exploitation of existing data, more cost effective, predictive and rapid tests, and less animal use.

Course objectives

1. provide participants with a basic foundation in the concepts and principles of hazard and exposure assessments for human and environmental endpoints.
2. provide the participants with knowledge of how to conduct a well-considered environmental and human health risk assessment (RA).
3. give participants an overview of the factors that are important when assessing the fate of contaminants, starting from their point of release until they reach "receptors" (i.e., adults, children, sensitive populations, and other exposure receptors).
4. discuss common approaches and regional differences in the regulatory approach to environmental and human RA
5. provide participants with hands on training on how to apply RA to estimate the risks of a real-world challenges involving contaminated air, soil, water and food.
6. introduce current and emerging methods for the integration of human and environmental risk assessment with a focus on mode of action (MOA) and the OECD adverse outcome pathway (AOP) concept.

Course level

Intermediate