

## **Behavioural ecotoxicology: Unravelling behavioural responses to aid environmental and regulatory toxicology**

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The field of behavioral ecotoxicology has provided important contributions for decades. Responses to contaminants vary in aquatic invertebrates and vertebrates, but common examples such as predatory-prey interaction, feeding, nest guarding, phototaxis, boldness and olfaction could have significant implications for aquatic populations, particularly in the case of threatened and endangered species. Recently, it has been suggested that personality might also play an important role in population-level adaptation to new or shifting environments. These behavioral responses of aquatic models routinely serve as early warning systems for accidental or intentional contamination events, and provide alternative animal model systems for neuroscientists, pharmacologists and other disciplines in the biomedical studies. Corresponding technological advances have allowed for unprecedented capacity to quantify such responses. Despite these contributions, applications and technological advances, behavioral perturbations elicited by contaminants are rarely employed during traditional environmental risk assessments, potentially because standardized methods and adverse outcome pathways have not been developed and validated across species and laboratories. The main objective of this session is to provide insights into the behavioural responses of animals to environmental stressors. The goal of this session is to critically examine the role of behavior within the context of mechanistic toxicology, environmental hazard and risk assessment. Questions such as: 1. What information is needed to advance the field?; 2. Which behaviors represent ecologically important adverse outcomes?; 3. Where are technological advances improving behavioral studies?; 4. How can laboratory variability be defined?; and 5. Should ecologically important behavioral responses contribute to regulatory toxicology and decision making? are targeted for this timely session.