

## **Linking Exposure and Effects in Assessing Risk of Aquatic Contaminants to Fish**

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Contaminant exposure often results in a series of biological changes that begin with molecular initiating events. The aim of our research is to use these events as a key to gaining predictive power required to accurately assess contaminant risk. Our research group uses both in vivo and in vitro assays to understand mechanisms underlying higher level contaminant impacts on development, endocrine physiology and immune function in fish. Identifying conserved pathways using transcript- or genomics-based tools also facilitates the use of ecologically relevant species as toxicological models. In an applied context, we use these methods to develop tiered screening strategies to assess biological impacts of complex effluents in aquatic systems. I will provide examples where this approach has helped us understand the constituents in various industrial effluents and wastewaters responsible for effects in fish.