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OVERVIEW OF GENOMIC TECHNIQUES CURRENTLY BEING INVESTIGATED BY U.S. EPA TO ASSESS SOURCE, EXPOSURE AND EFFECTS OF PHARMACEUTICALS IN THE ENVIRONMENT

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ABSTRACT: This presentation will overview the use of genomic approaches to assess exposure to and causal outcomes from emerging chemicals, such as endocrine disrupting chemicals (EDCs) and pharmaceuticals, on aquatic biota. Many of the genomic technologies, such as 'real time' PCR, microarrays platforms, multiple approaches to differential global protein expression, and metabolic fingerprinting, have become analytical standards in clinical diagnostics. The same approaches have been embraced in the area of ecotoxicogenomics, and are being used to characterize and predict the impacts of xenobiotics on aquatic environments. The purpose of this talk will be to present an overview of the tools and consider several studies where they have been used to demonstrate environmentally relevant, adverse exposures.

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