Session 3b/4b: Emerging Contaminants
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ORD Research and Results Using Biological End Points to Detect Exposures to Contaminants of Emerging Concern.

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For the past nine years the Ecological Exposure Research Laboratory has been developing methods for the assessment of endocrine disrupting compounds and other contaminants of emerging concern (CECs). These methods include genomic techniques for detecting the presence of and potential exposure to human pharmaceutical estrogenic compounds such as ethynyl estradiol and androgenic veterinary pharmaceutical compounds used in beef feedlots such as trenbolone. We have also investigated the use of bacterial and algal endpoints to detect an antibiotic (tetracycline) and an antimicrobial personal care product (triclosan). In addition, EERD is working on methods for assessing the detection and exposure of invertebrates to nanomaterials such as nano-silver and zinc oxide using *Daphnia magna* and *Hyalella azteca* microarrays. This presentation will provide a brief overview of projects using semi-quantitiative single-gene expression techniques on male and female fathead minnows, global gene expression changes in *Daphnia* using microarrays, and some new approaches using bacteria and algae to detect the presence of CECs in the environment.

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