



Biological effects of emerging micro pollutants at realistic environmental concentrations

Track Session: Emerging contaminants: fate, effects and environmental risks

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What are the biological effects of emerging micro pollutants in realistic conditions? This is a question difficult to address experimentally due to the complexity layers imposed by realism. Realistic complexity can be understood from two sides: from the side of the *exposure* and the side of the *biological receptor*. Realism in exposure to emerging micro pollutants implies to deal with factors such as exposure to low doses, temporal aspects of exposure (toxicodynamics), combined exposure (mixtures of emerging micro pollutants as well as with other natural and anthropogenic pollutants). Complexity also includes the interactions of the effect of emerging micro pollutants with biotic and abiotic factors, such as natural or anthropogenic stressors, inter and intra specific competition, predation, etc. In the side of the receptor, complexity includes the propagation of effects along biological complexity scales and the relationships among biodiversity, ecosystem structure and ecosystem functioning. Relevant questions for ecotoxicology from the receptor side of complexity is whether biological effects and mechanisms of action of emerging micropollutans observed at low biological complexity (organismal or sub organismal level) are consistent and predictable at higher complexity scales.

The present session is devoted to the experimental study of the biological effects of emerging micro pollutants in realistic conditions. The key word of the session is *realistic environmental concentrations*. Presentations are welcomed addressing any single or combine piece of complexity relevant for realistic exposures to emerging micro pollutants: low, environmentally realistic doses, mixtures (of emerging micro pollutants, or any realistic mixtures of emerging micro pollutants and other natural or anthropogenic pollutants such as nanoparticles, heavy metals, pesticides or biocides). Similarly, welcome is any study dealing with the the interaction of emerging micro pollutants with any other natural or anthropogenic stressor such as toxins, viruses, parasites, alterations in the nutrient cycle, climate change, competition, predation, etc.). In addition, studies specifically addressing the effects of emerging micro pollutants at higher biological complexity scales are welcome (such as micro and mesocosms studies or landscape ecotoxicological studies). Similarly studies dealing with the cross validation of findings along biological complexity scales are welcomed.