

Novel approaches to incorporate in vitro bioassays in risk assessment

CHAIRS: Merijn Schriks, Frederic Leusch



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Due to the ever increasing number of micropollutants detected in the water cycle, there is an urgent need for screening techniques such as in vitro bioassays. In vitro bioassays can provide an integrated response for specific biological pathways. The added value of in vitro bioassays has been shown in numerous studies published in the last decades ranging from research in environmental pollution to the discovery of new pharmaceuticals. In vitro bioassays are often applied as research tools providing a means for hazard identification, however, more routine use and (regulatory) implementation of in vitro bioassays has been significantly hampered because of (i) uncertainties around bioassay selection and validation, (ii) lack of cost-benefit analyses, and (iii) the absence of harmonized bioassay trigger or guideline values. With the latest insights in molecular toxicology and pharmacology from projects such as the Tox21 programme, there is a renewed push to incorporate in vitro bioassays in decision schemes enabling their use for innovative risk assessment purposes. In the present session we aim to invite researchers from academia, government, (drinking) water utilities and industry to present novel approaches to incorporate in vitro bioassays in risk assessment of chemicals. The focus will be on the establishment of bioassay based trigger values, cost-benefit analyses and application within risk assessment frameworks. The ultimate aim is to provide the audience with an overview of success stories in the field of in vitro bioassays and ideas to move forward in this field.

SESSION TYPE: Platform, Poster Spotlight and Poster