

Aquatic and Terrestrial Plant State-of-the-art Research linking ecotoxicology and exposure of chemicals

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This session proposal aims to present scientific contributions that highlight topics within the fields of aquatic and terrestrial plant testing linking ecology and exposure via, pulse dose and recovery methodologies, algae and macrophyte mesocosm /microcosms and landscape level test designs, used in the risk assessment of chemicals. Abstracts may cover algae, periphyton and aquatic and terrestrial vascular plants testing methodologies, laboratory chemical mixture assessments and higher tier test design. For quite a few years now experts in the field of aquatic and terrestrial plant ecotoxicology, have identified through scientific workshops i.e. SETAC NTTTP Workshops (April 2014 and September 2015) and conferences, the increasing need for quality and "test for purpose" higher tier plant testing. However, approved protocols for more realistic test designs i.e. including pulse dose or recovery tests, as well as terrestrial higher tier tests are not yet available from official bodies such as the OECD. Plants as key components in aquatic and terrestrial ecosystems with important structural and functional roles in ecosystem services have been thoroughly investigated and recent development of additional OECD tests with rooted aquatic plants (*Myriophyllum spicatum*; *Glyceria maxima* in development) have added more knowledge in standardized test design, but guidance for performing higher tier testing or for example exploring new higher tier risk assessment tools i.e. how to best use plant ecology data in ecological modelling as a higher tier tool, is still lacking. Overall, a better fundamental understanding of aquatic and terrestrial plant laboratory refined test designs and higher tier field / landscape studies are needed to improve risk assessments. Abstracts in this session cover the topics of: 1. Pulse dose exposure simulation testing of chemicals in plants (aquatic plants/ algae); 2. Using recovery in plant testing and risk assessment; 3. Lower tier (EPA and OECD) testing with focus on selecting species, endpoints and methods; 4. Sediment-exposure and effects on rooted, (aquatic) plants; 5. Higher-tier-testing with focus on plant Species Sensitivity Distributions and microcosm, mesocosm and field tests; 6. Ecological Modelling approaches as a higher tier tool in the risk assessment for plants; 7. Risk assessment schemes for plants under different regulations (PPPs, WFD, REACH, Biocides); 8. Plant ecology and trait based approaches in the context of the risk assessment of chemicals.