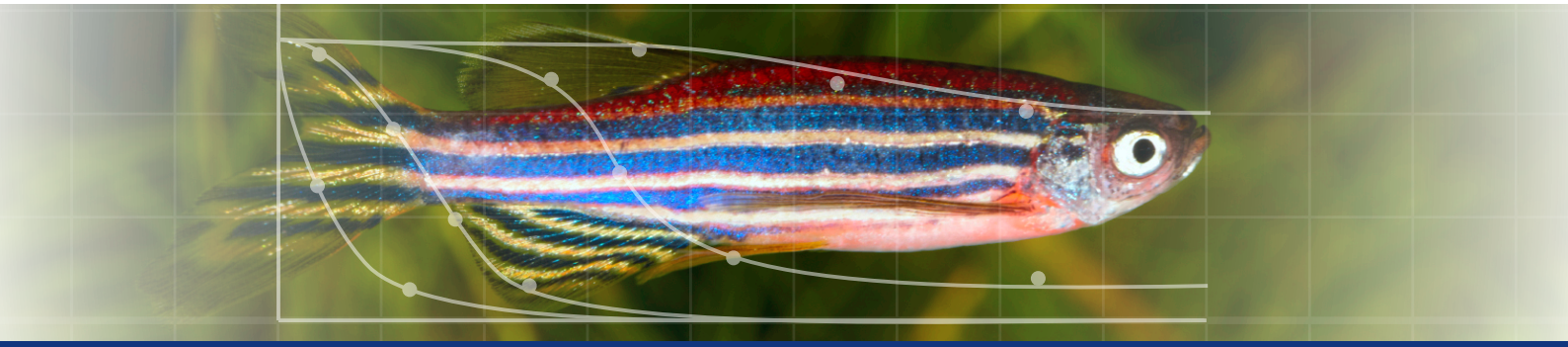

SETAC Europe Training Course

TC 02 - GUTS Modelling: From the Theory to the Practice

Abstract

As recently emphasised by EFSA, toxicokinetic-toxicodynamic (TKTD) models are of particular interest for regulatory risk assessment of pesticides for aquatic organisms. TKTD models can encompass a large set of mechanisms describing the compound kinetics inside organisms as well as their effects at the individual level. Compared to classical dose–response models, TKTD approaches have many advantages: Accounting for temporal aspects of exposure and toxicity, considering data points all along the experiments and not only at the end, and making predictions for untested situations such as realistic field exposure scenarios (e.g., time-variable pulsed exposure profiles).

The General Unified Threshold model of Survival (GUTS) is within the most recent and innovative TKTD framework to deal with survival toxicity test data but is still underused. This training course aims at presenting the theory of GUTS models and at introducing the participants with dedicated tools allowing the practical use of GUTS models. The course material will be a mixture of lectures and hands-on case studies with ecotoxicological data from recent publications.

Practical exercises will be performed under the R software for already R-user participants or with the web platform MOSAIC for the others. Participants need their own laptop to participate.

Objectives

- The course is intended for PhD students, researchers, and scientists in ecotoxicology and environmental sciences.
- A better understanding of TKTD models, especially GUTS models for survival data.
- An overview of ready-to-use and user-friendly tools to use GUTS models in practice from real case-studies.

Instructors

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Time

Full day: Sunday, 26 May 2019 | 8:15–17:00

Level: Advanced