

## **Modelling biological responses induced by changes in environmental variables**

<b>Level:</b>	Bachelor/Master (internship/thesis)
<b>Field:</b>	Environmental sciences; Ecotoxicology; Biology; Ecological modelling
<b>Duration:</b>	5 months
<b>Starting date:</b>	Any time
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### **Project description**

The project aims to establish the relationship between responses of organisms (e.g. replication of parasites; respiration, osmoregulation, and growth of fish; photosynthesis of microphytobenthos; organic matter-degradation of invertebrates) and changes in environmental variables, especially the concentration of dissolved oxygen (DO), dissolved organic carbon (DOC), and electrical conductivity (EC).

### **Problem description**

The concentration of DO and DOC as well as EC control various physiological responses of organisms. Moreover, such effects might be affected by interactions between the environmental variables. For example, the growth of fish might be affected by both DO and EC, so interactions between these two factors might lead to various patterns of combined effects.

The research will focus on the following components:

- Which physiological responses of organisms (e.g. fish, invertebrates, parasites, microorganisms) are affected by DO, DOC, and EC?
- How DO, DOC, and EC interact with each other in affecting biological responses?
- How to predict biological responses of organisms to changes in DO, DOC, and EC?