



UFZ-Seminar „Water and Environment“



28. January 2019, 3 p.m.

Seminar Room 1, Brückstr. 3a, Magdeburg

PD Dr. Patrick Fink

UFZ, Department River Ecology and Department Aquatic Ecosystem Analysis

will give a talk on:

Impacts of biodiversity and nutritional quality for the plant-herbivore interface in aquatic food webs

A key process for ecosystem function is the trophic transfer of matter and energy from the primary producer to the consumer level. At the so-called 'plant-herbivore interface' in freshwater systems, pelagic and benthic algae are consumed by various herbivorous invertebrate animals. The degree to which these herbivores can utilize primary producer biomass is strongly determined by the nutritional quality of algae and cyanobacteria. As such, nutritional quality, which is typically mediated by the possession of essential dietary compounds, is a major selection factor for herbivore populations in nature. As taxon-specific traits of aquatic primary producers define their nutritional quality and the capacity of herbivores to utilize them as a resource, primary producer biodiversity is directly connected to nutritional diversity and nutritional value for herbivores. In this presentation, I highlight several ongoing lines of my research in aquatic ecology on 1) the link between biodiversity and herbivory, 2) the effects of food quality of primary producers on the transfer efficiency to higher trophic levels, and 3) adaptive strategies in herbivores such as active food choice based on the utilization of infochemicals. This demonstrates the tight links between relevant ecosystem functions with the physiology and adaptations of individual aquatic animals and their natural populations.