



UFZ-Seminar

Research Unit



Water Resources and Environment



6 May 2019, 3 p.m.

Seminar Room 1, Brückstr. 3a, Magdeburg

Christian Noß

Uni Koblenz-Landau, Inst. für Umweltwissenschaften, Arbeitsgruppe Umweltphysik

will give a talk on:

Hydromorphology as a Control on Biogeochemical Cycling in Streams?

– New Methods for New Insights –

by Christian Noß, Pascal Bodmer, Kaan Koca, Christine Anlanger & Andreas Lorke

Studies on flow-biota-interactions in running waters are highly challenging: They are multidisciplinary, involve a large variety of mechanisms (including hydrodynamic, biomechanical and biogeochemical processes), and ideally cover wide ranges of temporal and spatial scales. Simultaneously, ecohydraulic studies are of particular importance for further insights concerning nature conservation and ecosystem services – taking into account that streams and rivers are hotspots for ecological and biogeochemical processes. New promising devices and methods to survey the hydromorphology, i.e., the riverbed-flow-interplay, provide detailed physical habitat characteristics and enable to evaluate the hydromorphology as a control on biogeochemical cycling in streams.

In my talk, I will present recently developed methods for in-situ measurements of riverbed structures, flow and turbulence, and water surface roughness, in patches and along stream reaches. Two studies exemplify the applicability of these new tools, one on the transfer velocity across the air-water interface, e.g., relevant for estimations of greenhouse gas emissions, and one on riverbed roughness scales responsible for the flow resistance and dispersion in streams.