



## **Hydrologic drivers and controls of stream biofilm-grazer interactions**

S. Ceola (1), E. Bertuzzo (1), L. Mari (2), G. Botter (3), I. Hödl (4), T. Battin (4), A. Rinaldo (1,3)

(1) EPFL, Switzerland (serena.ceola@epfl.ch), (2) Dipartimento di Elettronica e Informazione, Politecnico di Milano, Milan, Italy., (3) Dipartimento IMAGE, Università di Padova, Padua, Italy., (4) Department of Limnology, University of Vienna, Vienna, Austria.

Understanding the dynamics of fluvial ecosystems linked to hydrology is one of the most important challenges of ecohydrology. In fact, streamflow, which chiefly relies on rainfall, climate, land use and geomorphologic properties, plays a fundamental role in sustaining and regulating fluvial ecosystem integrity. To analyze possible implications of hydrological fluctuations on the biofilm-grazer interaction, an experimental campaign has been conducted between June and September 2011 at the Wasser Cluster Lunz, in Lunz am See (AU). 36 flumes have been used to perform biofilm growth and grazing activity under two distinct discharge conditions (i.e. constant and stochastic discharge regimes) and four different light regimes (from natural light conditions to nearly 70% attenuation). Experimental results concerning (i) dynamics of biofilm growth, (ii) grazing effect, and (iii) grazing rate will be presented. Results of performed statistical analysis for testing the effects of discharge treatment and light regime on the grazing rate will be also discussed.