



## **The interaction between sediment, hydraulics and mussels in a river**

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Bottom structures in rivers are not only depending on the current profile, turbulence in the flow and other hydraulic conditions, but also on the biota living in the river like e.g. mussels. There is also some influence of the sediment on the biota and their decision where they settle and so on. The interaction between the current, the mussels and the sediment is actually not very well known, especially in fresh waters. \\

Therefore experiments were conducted in a flume in the lab in Oberrach to gain more information about these interactions. The mussels used for these experiments are painters mussels (*Unio pictorum*). These mussels are widely spreaded in European fresh waters, but their behaviour is also comparable to mussels which are more sensitive and therefore rare like the pearl mussel (*Margaritifera margaritifera*). \\

In the experiments 15 individuals are monitored how they move and spread in the flume. Then the hydraulic conditions and the sediment around the mussels are measured with laser scanning and PIV (particle image velocimetry). with the help of these measurement techniques it is possible to do contactless measurements even of the small eddies around and caused by the mussels which exist only for a very short time but have an enormous effect on the sediment.