



VABILO NA INŠTITUTSKO PREDAVANJE /
INVITATION TO THE INSTITUTE LECTURE

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Velika predavalnica Kemijskega inštituta / Lecture Hall at the
National Institute of Chemistry, Hajdrihova 19, Ljubljana

**Biofilm monitoring with flow cytometry
and visual clustering**

Biofilms serve essential ecosystem functions and form the basis of different technical applications. Studies from stream ecology and waste water treatment have shown that their functionality depends to a great extent on community structure.

We recently developed and tested a fast and easy-to-use method for individual-based analysis of stream biofilms, based on stain-free flow cytometry and visualization of the high-dimensional data by viSNE. The method is unique in the combined assessment of community structure, decay of phototrophic organisms and presence of abiotic particles.

In laboratory experiments, it allowed quantification of cellular decay and detection of survival of larger phenotypes after temperature stress, while in the field it enabled detection of community structure changes that correlated with known environmental drivers (flow conditions, dissolved organic carbon (DOC), calcium) and detection of cell-sized microplastic contamination.

Vljudno vabljeni! / Kindly invited!