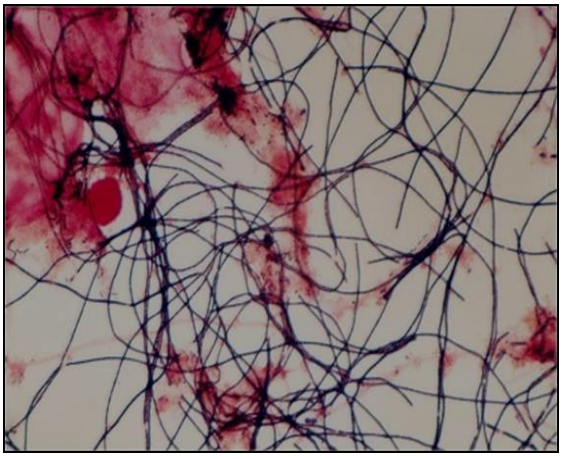
WOW! - Wider business Opportunities for raw materials from waste Water. Funding: INTERREG V – NWE.

Total budget: 6,4 Mio €; UL-share: 657.000 €

Marie-Louise UWIZEYE, Dr. Zuzana FRKOVA, Prof. Dr.-Ing. Joachim HANSEN

In the INTERREG-NWE funded project WOW!, 12 partners from 5 European countries are working together to recover valuable substances that could be used as raw materials for biobased products. The challenge that WOW! addresses is to create a transition in the URBAN WATER CYCLE: from a linear approach, in which drinking water is produced, consumed and ends its life as wastewater (WW), to a circular approach in which raw materials from WW are recycled and reused for biobased products.

In WOW!, the Chair for Urban Water Management has the goal to select the filamentous bacterium M. parvicella as a specialized lipid accumulator in specific selectors in municipal wastewater treatment plants and to study the potential for biodiesel production together with a German company. Some of the most important influencing factors for the growth of M. parvicella are known, such as temperature, sludge age or the availability of oxygen; for a lot of other factors, the influence on activity and growth is not clear yet.



Operational, environmental and high-resolution molecular data will be integrated to understand the factors driving the population's dynamics of M. parvicella in this particular system. Results of the investigations will serve to design and carry out experiments in specific (lab-scale) reactors that can be used for the targeted selection of M. parvicella. Influencing parameters such as substrate composition, wastewater temperature, sludge age etc. will be tested.

Afterwards, the most promising reactor setups will be used to carry out investigations (in a pilot-scale) on a full-scale WWTP in France with real wastewater. Furthermore, the effects of enrichment of M. parvicella on other wastewater processes (e.g. phosphorus elimination) will also be explored in detail.

PhD-student:

Marie-Louise Uwizeye

Telefon : (+352) 46 66 44 5591

E-Mail : marielouise.uwizeye@uni.lu

Project leader:

Joachim Hansen

Telefon : (+352) 46 66 44 5283

E-Mail: joachim.hansen@uni.lu