



The role of trace elements in rheology dynamics, foaming potential, and microbial response for efficient biogas production

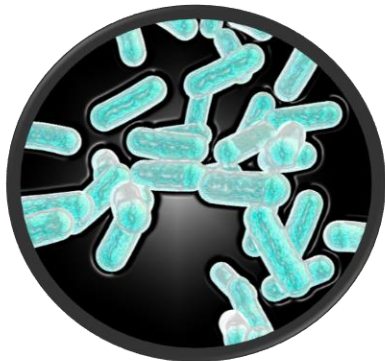
Luka Šafarič



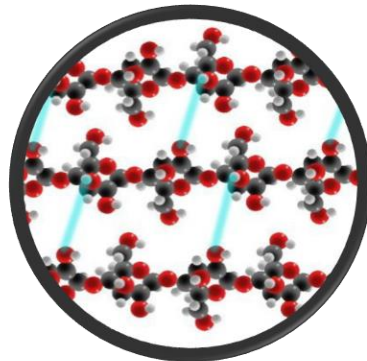
Funded by  
the European Union

# Main objectives

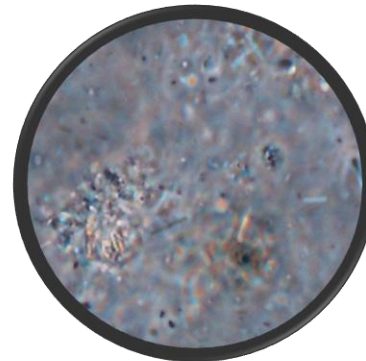
- Identifying major sludge components, affecting viscosity in biogas reactors
- Identifying ways of actively controlling sludge viscosity during AD processes



Microbial cells



Polymers

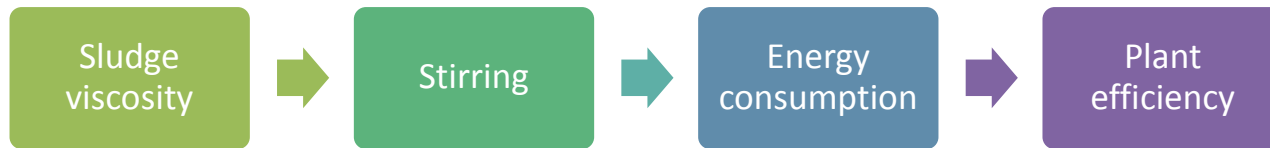


Suspended particles

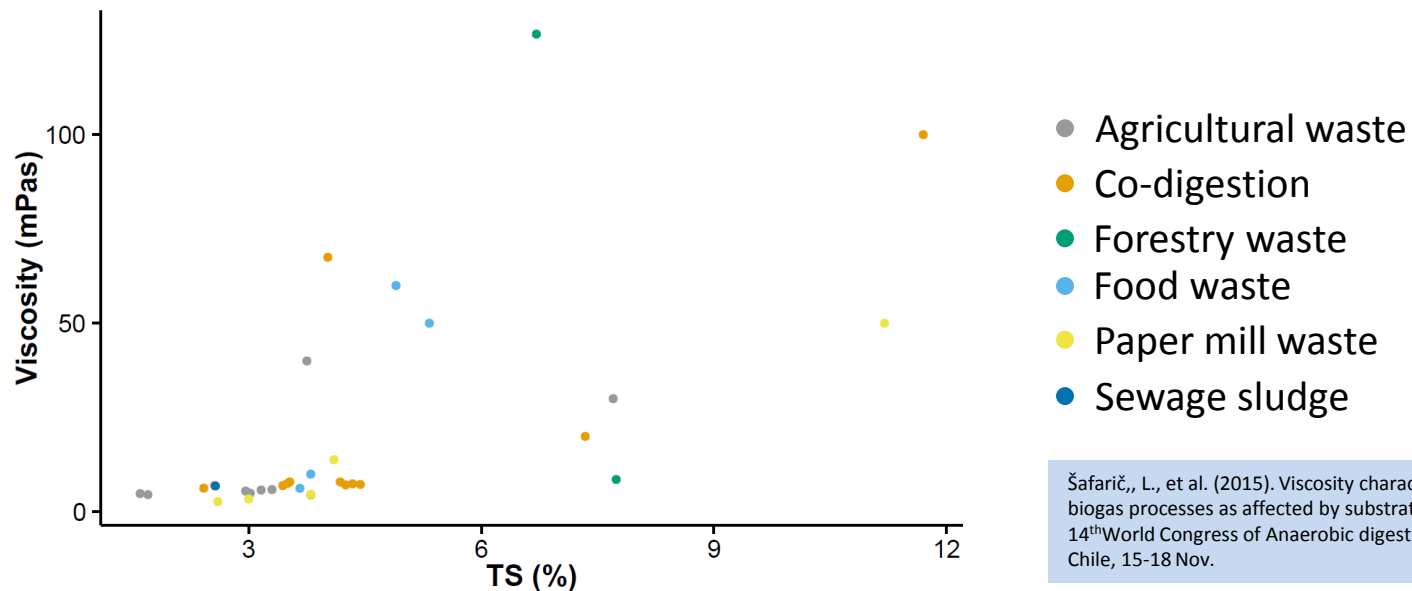


Extracellular polymeric substances (EPS)

# Importance of studying sludge viscosity



- Current prediction methods potentially unsuitable



# Experimental plan

## 1.) Identification of increased viscosity inducers

- Classification based on importance
- Identification of their interactions



## 2.) Viscosity shift induction in CSTR systems

- Provocations, leading to changes in components from first stage
- Identification of ways to control viscosity

# Expected outcomes





Thanks for listening



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Project coordinated by the QUESTOR Centre  
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