

Bioelectrochemical Systems for energy and nutrient recovery

Within the resource recovery theme we work on the recovery of nutrients and energy from waste streams through bioelectrochemical systems (BESs). In BESs we make use of electrochemically active microorganisms that are able to oxidize organic material directly to electrons. These electrons can be used to produce electrical energy or chemicals depending on the cathodic reaction. At Wetsus this process applied to for example urine to recover phosphate, ammonia and energy, to recover metals from metallurgical waste, and to optimize the energy extraction from organic wastewater.

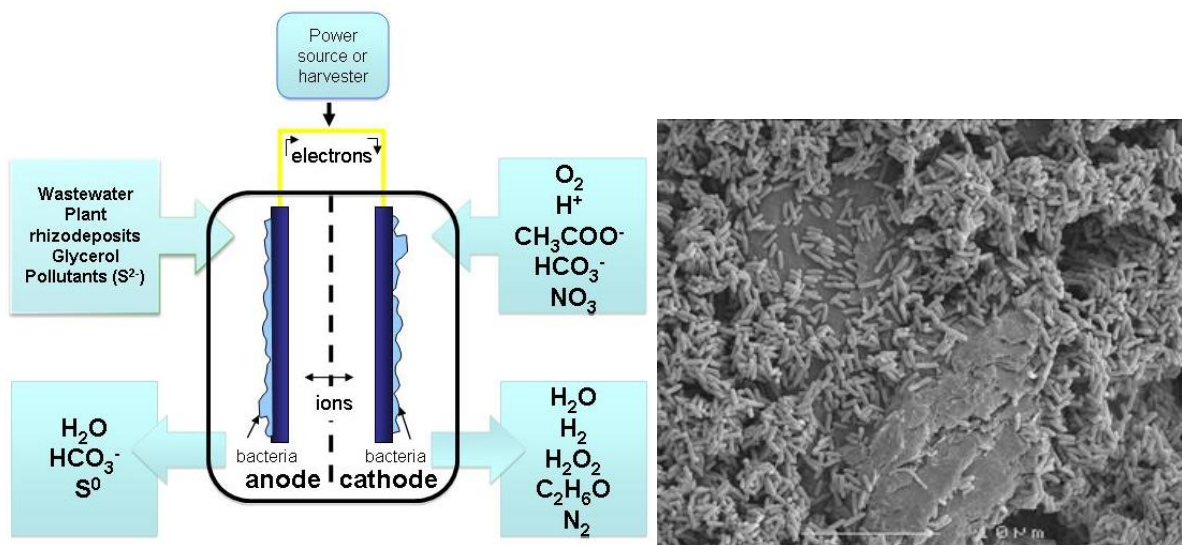


Figure 1 Possible application fields of BESs (left) and electrochemically active microorganisms growing on an electrode (right)

We are looking for students with a background in microbiology, process technology, biotechnology, electrochemistry or environmental engineering to join our team. The type of projects within this team evolves quickly and new possibilities are available continuously so do not hesitate to contact me for further information (tom.sleutels@wetsus.nl). The preferred duration is a period of 6 months