



M2ex – Exploiting metal-microbe applications to expand the circular economy

Marie Skłodowska-Curie Action H2020-MSCA-ITN-EJD-2019

ESR6-NUIG: Effect of TE on microbial community structure and activity in anaerobic sludge granules

Job description

We are looking for a motivated Early Stage Researcher (ESR) in the field of the field of microbial ecology, microbial physiology and biofilm microbiology to study the effects of trace elements on the microbial community structure and activity in anaerobic sludge granules. The research fellow will be hosted at the National University of Ireland Galway (NUIG). This group has long expertise in microbial ecology and environmental microbiology, leading several projects in this area. He/she will be recruited by NUIG for a period of 36 months with the aim of obtaining a joint PhD degree between NUIG and Université de Limoges (UNILIM).

The M2ex European Joint Doctorate offers to the ESR6 an innovative series of Network-wide training events to ensure a high-quality, engaging and inspirational training environment including secondments secondments in UNILIM (France), COGEI S.r.l. (Italy) and ODESSOL (France).

Objectives

The objectives are to 1) comprehensively study the ecophysiology of sludge granules as distinct, single ecosystems – novel, miniaturised, micro-sequencing batch reactors (SBRs) are proposed; 2) to achieve targeted metabolomics from single granules; to investigate the impact of TE concentrations and availability on granules. Stable isotope probing will be incorporated with TE dosing.

Expected Results

Obtain community-level information from single, intact ecosystems under high-throughput conditions of differential TE availabilities. The impact on the biofilm structure (including based on EPS as determined at UNILIM), community structure and the structure of the active fraction of the community, along with rates of activities will all be explored.

Candidate's profile

We are looking for a candidate with a Biology, Microbiology, Biochemistry or equivalent degree and a master's degree in a similar area. Candidates with primary/master's degrees from another discipline but with a strong knowledge of microbial ecology may also be considered. Additionally, some knowledge of analytical chemistry would be advantageous.



Our Offer

You will receive an employment contract for 3 years according to the EU contribution for ITN recruitments and general conditions at the host institution. It includes full social security coverage and will start in September 2020.

Enrolment in Doctoral degree(s): NUIG / UNILIM