EUROPEAN JOINT DOCTORATE

Metal-Micro exploitation

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

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

ESR9-CSIC: Understanding factors affection metal speciation in bioreactors. Biology meets technology

Job description

We are looking for a motivated Early Stage Researcher (ESR) in the field of metal speciation. The research fellow will be hosted at the Consejo Superior de Investigaciones Científicas – Instituto de la Grasa (CSIC). This group has long expertise in research activities focus on metal influence over the anaerobic digestion systems, leading several projects in this area. He/she will be recruited by CSIC for a period of 36 months with the aim of obtaining a joint PhD degree between National University of Ireland Galway (NUIG) and Universidad Pablo de Olavide (UPO).

The M2ex European Joint Doctorate offers to the ESR9 an innovative series of Network-wide training events to ensure a high-quality, engaging and inspirational training environment including secondments in NUIG (Ireland), Blue Sky Bio Limited (United Kingdom) and Veolia Environnement Recherche et Innovation SNC (France).

Objectives

The effect of the trace metal over the anaerobic digestion depends on the chemical speciation of each metal. This speciation could vary in accordance with different factors which affect to the chemical equilibrium in the system. The understanding of the effect and relevance of these factors is crucial to predict the speciation and, therefore, effect of the trace metal over the anaerobic digestion process.

Expected Results

Establishment of the principal factors which affect to the trace metal speciation in a simplified AD pilot. Identification of simple biological responses to variations on the trace metal speciation by controlled changes in the ionic equilibrium. Study of trace metal effect over the microorganism activity by varying the ionic equilibrium in a continuous pilot-scale reactor.

Candidate´s profile

We are looking for a candidate with Chemistry, Chemical Engineering or Environmental Science Degree and a Bioprocess Engineering Master Degree. Candidates with a Master of Science Degree in another discipline but with a strong knowledge in bioprocesses may also be considered.

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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 Degrees:

UPO / NUIG