



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

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

### **ESR10-CSIC: Implementation of metal modeling speciation in reactor operation. AMD1 approach**

#### **Job description**

We are looking for a motivated Early Stage Researcher (ESR) in the field of modeling and chemical 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 Università degli Studi di Napoli Federico II (UNINA) and Universidad Pablo de Olavide (UPO).

The M2ex European Joint Doctorate offers to the ESR10 an innovative series of Network-wide training events to ensure a high-quality, engaging and inspirational training environment including secondments in UNINA (Italy), RE-ENERGY SOCIETA COOPERATIVA SOCIALE (Italy) and Empresa Metropolitana de Abastecimiento y Saneamiento de Aguas de Sevilla S.A. (Spain).

#### **Objectives**

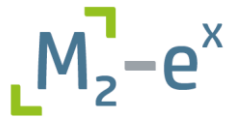
The effect of the trace metal over the microorganisms is deeply depended of the speciation of each metal. The speciation depends of lot of different factors such as operation conditions or chemical equilibrium. Therefore, it is complicate to predict the effect of the trace metal supplementation in a DA system. The objective of this research project is to propose a new mathematical approach to model the speciation of different trace metals in an anaerobic digestion System.

#### **Expected Results**

Determination of the main factors who affect the behaviour of the metal speciation and the obtaining of a mathematical correlation to predict its behaviour.

#### **Candidate´s profile**

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



### **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 / UNINA