Dr. Belén Fernández
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Expertise

Belén Fernández received her PhD degree in Chemical Engineering at University of Santiago de Compostela (USC, Spain), under the supervision of Prof. Juan Lema (USC, Spain) and Prof. Rolando Chamy (PUCV, Chile), within the work titled "Development and study of a two-phases anaerobic system to treat biosolids". She was researcher in the spin-off of the Chemical Engineering group of USC (Spain) for 2 years (2002-04) and coordinator-researcher of the anaerobic digestion team of Fundació GIRO CT (Barcelona) for 7 years (2005-11). Since 2012, she is researcher of the OWIM team of IRTA. She participates in several master and specialist courses in the area of Renewable Energy and Biological Treatment Processes.

Her main expertise is related to the organic waste characterization (treatability, biodegradability, kinetic parameters determination) and the treatment of solid wastes and wastewater, generated in agro-industrial, farming and food processing activities, at pilot and industrial scale plants by combining anaerobic digestion with other processes (composting, NDN, drying, phase separation technologies), besides the selection of the most appropriate pretreatments. This activity is developed through demonstration projects (national or European public funding) or private contracts with different stakeholders (end-users, engineering companies, administrative entities, universities). She is working actually in two demonstration projects, ORION (http://www.project-orion.eu/cms/) and ADAW (http://adawproject.eu/), dealing with the production of biogas from OFMSW and animal by-products (meat and fish wastes). Besides this, she assesses industrial scale plants for the treatment of animal manure in codigestion with agro-industrial wastes and collaborates within the modelling and microbiology (identification and quantification) team of OWIM in order to optimize efficiency and yields.

Publications

Silvestre G., Illa J., Fernández B., Bonmatí A. (2014). Thermophilic anaerobic co-digestion of sewage sludge with grease waste: Effect of long chain fatty acids in the methane yield and its dewatering properties. Applied Energy 117:87-94. doi:10.1016/j.apenergy.2013.11.075.

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