Erasmus+ Traineeship

EMPLOYER INFORMATION	
Name of Organization	University of Murcia
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ENTERPRISE JOB DESCRIPTION	
Name of enterprise	Analysis and simulation of chemical, biochemical and membrane processes / Grupo de Análisis y simulación de procesos químicos, bioquímicos y de membrana
Duration	3-6 months
Working Hours	20-30 h/week
Project Description	The present project addresses the development of sustainable processes for the synthesis of branched-chain esters (BCEs) of wide application in diverse industrial fields. The importance of these compounds lies in the fact that due to their special behavior at low temperatures (low melting, boiling, cloud and pour points), they are especially useful as liquid lubricants, cosmetic ingredients and biodiesel additives. Currently, most of these BCEs are synthesized chemically, which involves a high environmental impact due to high energy consumption and waste production. As an alternative to these traditional procedures, the use of biocatalysts (immobilized lipases) is proposed to carry out the synthesis of BCEs under mild operating conditions, which is an

	environmentally friendly alternative that also minimizes the presence of by-products.
Tasks of the Erasmus intern	The student will use some previously selected BCEs to carry out a research study in order to determine the optimal enzymatic reaction conditions and also to develop the corresponding kinetic studies that allow the subsequent design of the most suitable reactors for each synthesis process.
Requirements	- Good level of spoken and written English and/or Spanish - Biocatalysis and enzymatic kinetics basic knowledge - Laboratory instrumental and analytical skills
What do we offer	The students will improve their practical and theoretical knowledge in enzymatic processes, bioreactors, biosynthesis and optimization studies, and will also have the opportunity to develop different kinetic studies and processes simulation. In addition, they will be trained in different analytical techniques mainly gas chromatography.
Website	https://curie.um.es/curie/catalogo-ficha.du?seof_codigo=1&perf_codigo=10&cods=E034*05 Contact: Dr. María Gómez Gómez (maria.gomez@um.es)