**BACKGROUND**

*FPS COST Action FP1306*
Valorisation of lignocellulosic biomass side streams for sustainable production of chemicals, materials & fuels using low environmental impact technologies

And

*IF/01643/2013*
Advanced fluids in tailor-made biofuel and biobased product processing

**OBJECTIVES**

*Within*
*FPS COST Action FP1306*
Valorisation of lignocellulosic biomass side streams for sustainable production of chemicals, materials & fuels using low environmental impact technologies

And

*IF/01643/2013*
Advanced fluids in tailor-made biofuel and biobased product processing
MSc in Biochemistry  
Dissertation Project – 2nd Cycle

PROJECT DESCRIPTION

Nowadays, alternative methodologies for the production of materials, fuels and chemicals using low environmental impact technologies and greener methodologies are highly desired. Biomass feedstock has been utilized as starting materials for sustainable production of high added value compounds, materials and fuels. This work aims to valorise biomass for sustainable production of chemicals and fuels. One goal of this study is to design of specific catalysts in depolymerisation of lignin under microwave irradiation with hydrogen-donating solvents. Selectivity of the process towards high value-added products or fuels will be investigated. The work is going to fulfil scope of the two projects: COST Action “Valorisation of lignocellulosic biomass side streams for sustainable production of chemicals, materials & fuels using low environmental impact technologies FP1306 and Advanced fluids in tailor-made biofuel and biobased product processing. The work will be performed within an international collaboration. The first selected fellow will do a 6-month up laboratory work at Universidad de Cordoba under the supervision of Prof. Rafael Luque.

The master thesis work will be offered within a Short Term Scientific mission offered with a FINANCIAL SUPPORT provided. The successful candidate has to fulfil the below stated criteria of evaluation:

1. Excellent English spoken and written
2. Excellent grades during study
3. Interest in the biomass transformation, green technologies and catalysis
4. Strong willingness to work in an international team and participate in international meetings
5. Strong willingness to do a PhD in an international environment after a master study
6. Strong commitment to submit application for a PhD proposal within a call for a PhD from FCT or from other sources with a proposal being continuation of the proposed work

The work will be supervised by Dr Ewa Bogel (UNL), and Prof. Juan Carlos (Polish Academy of Science)

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<td>Literature provided to start experiments</td>
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