PhD Candidate Profile

Name:
Silvia Escudero Curiel

Research Group (if relevant):
Bioengineering and Sustainable Processes Group (BiosUV)

Research Centre (if relevant):
N/A

Department/School(s) (if relevant):
Department of Chemical Engineering

College:
University of Vigo, Vigo

Supervisor(s):
Dr. Mª Ángeles Sanromán and Dr. Marta Mª Pazos Currás

Funding body:
N/A

Area (field) of study:
Chemical Engineering

Thesis Title:
Application of biomaterials in aquatic contaminated environments

Abstract:
In this thesis project, we intend to develop new bioadsorbants for the treatment of aquatic environments contaminated by emerging pollutants of diverse nature. For this, it is proposed, on the one hand, to evaluate several adsorbent biomaterials (such as agro-industrial waste) as well as the production of different carbonaceous materials obtained by thermal or hydrothermal treatments. The new adsorbents will be characterized and the elimination of representative compounds in polluted effluents will be investigated both individually and combined. On the other hand, based on the principles of zero waste, the exhausted bioadsorbants will be regenerated by testing different advanced oxidation techniques, using, mainly, oxidizing agents such as sulfate and hydroxyl radicals. The benignity of the proposed remediation strategies will be determined through toxicity analysis. The operating conditions will be optimized and the laboratory scale system will be studied both in discontinuous and continuous treatments, which will allow the simulation of the process through computer tools and facilitate its scaling.

Collaborations:
N/A

AOPs PhD School

PhD Candidate Profile

Publications:

Escudero-Curiel, S., Penelas, U., Sanromán, M.Á., Pazos, M., 2021. An approach towards Zero-Waste wastewater technology: Fluoxetine adsorption on biochar and removal by the sulfate radical. Chemosphere 268, 129318. https://doi.org/10.1016/j.chemosphere.2020.129318

Rosales, E., Escudero, S., Pazos, M., Sanromán, M.A., 2019. Sustainable removal of Cr(VI) by lime peel and pineapple core wastes. Appl. Sci. 9. https://doi.org/10.3390/app9101967

Presentations:

N/A