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Webinars

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Efficient removal of per- and poly-fluoroalkyl substances (PFAS) and pharmaceuticals from aqueous matrices using activated carbon

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Per- and polyfluoroalkyl substances (PFAS) are long-lasting chemicals. Their presence is harmful due to their toxicity and bioaccumulation. High exposure to these compounds increases the risk of dangerous health issues for humans and environmental contamination. Besides, pharmaceutical compounds are contaminants of emerging concern since they are continuously discharged into the environment, becoming a long-term problem also. Activated carbons (ACs), prepared from different biomass sources, are efficient and versatile biomaterials for pollutants removal. This work involves the selection of 3 PFAS (perfluorooctanoic acid (PFOA), perfluoropentanoic acid (PFPeA) and perfluorobutanesulfonic acid (PFBS)) and 3 pharmaceuticals (diclofenac (DCF), valsartan (VAL) and iopromide (IOP)) to evaluate the adsorption performance using activated carbon synthesised from biomass in complex matrices such as wastewater effluent.

Short Bio

María Camila Naranjo is a PhD student in Sustainable Chemistry at FCT NOVA, her work is focused on the synthesis and characterization of activated carbons and ionic liquids, extraction, adsorption, absorption, thermodynamics and process optimisation for the removal of Contaminants of Emerging Concern (CECs) such as PFAS and pharmaceuticals from water for the development of sustainable processes that reduce the impact of these substances in the environment.

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