POST-DOCTORAL POSITION
PFAS removal by adsorption on biobased activated carbon

Position to be filled: Post-Doc, 24 months from january 2027
Research field: PFAS adsorption using biobased material.
Key words: LC-MS/MS Quantification, batch adsorption studies, kinetic studies, isothermal studies, PFAS Capture and Release, Recycling of the biobased activated carbon
Financial support: 2250 euros/month, net salary
Candidat's references needs: CV, cover letter, 2 references' mail addresses

Objectives
Our ambition is to develop activated carbon to capture PFAS. The activated carbon will be prepared from different biomasses using an innovative thermochemical process based on ionic liquid chemistry. The project focuses on the short-chain PFAS, which are difficult to eliminate from contaminated water. The project aims to optimize the thermochemical process using ionic liquid and compare it with the adsorption performance of the conventional process. The adsorption kinetics, the isotherms, and the influence of the water composition will be evaluated to determine the best adsorption capacities and the optimal experimental conditions. To be relevant, the recycling of the material will also be evaluated. Then, the adsorption test will be evaluated and optimized in dynamic mode using doped water and real water samples. The sample preparation and the quantification of the PFAS will be optimized and evaluated by HPLC-MS, and an original electrochemical detection of PFAS using a molecular imprinted polymer will be investigated.

Context
The host laboratory will be the UMR 6064 CNRS (CARMeN institute) based in Rouen and Evreux (Normandy). The research developed within the Institute of analytical chemistry and molecular reactivity in Normandy is oriented towards organic and analytical chemistry. In terms of excellence in scientific research and training, the CARMeN institute is one of the biggest organic synthesis laboratories in France with a unique analytical platform. The project is supported by the ANR and is in partnership with the Institute Charles Gerhardt (Montpellier), the UAR Chimie Balard and the BioWooEb team of CIRAD.

Candidate profile
The candidate (PhD in analytical chemistry) should have a strong background in analytical chemistry, be creative, and highly motivated to join a multidisciplinary research team. A first experience in LC/MS-MS analysis, electrochemical detection, and/or adsorption experiments is required. Working with PFAS will be considered an asset. In the laboratory, only two languages are available: English or French.
The candidate will work at Evreux, but some tasks will require going to Rouen.

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