

## POST-DOC POSITION IN EXTRACTION AND PURIFICATION OF BIOMOLECULES FROM SPENT COFFEE GROUNDS

(18 months)

### Hosting laboratory

URD ABI, located at the heart of the Pomacle-Bazancourt biorefinery, is a research and development unit dedicated to valorization of agrosources and biorefinery by-products. With expertise in white biotechnologies, green chemistry, and process engineering, the team works on multi-disciplinary research projects aiming at the development of new industrial processes allowing integrating the transformation of by-products of agriculture into high value-added chemicals such as polymers, fine chemicals, functional additives or cosmetics.

### Context and objectives:

The proposed 18-month post-doctoral research project aims to explore the extraction and purification of valuable biomolecules from spent coffee grounds, with a focus on sustainability and potential applications in the cosmetics and pharmaceutical industries, as well as the plastics and/or materials industries. This collaborative effort between URD ABI and the start-up VERA Biotech seeks to contribute to the development of innovative, eco-friendly processes for utilizing coffee waste to extract bioactive compounds with potential industrial applications. The project aligns with the goals of both academia and industry to advance green technologies and promote sustainable practices.

### **Objectives:**

- Investigate the composition of biomolecules present in spent coffee grounds through comprehensive analysis.
- Develop and optimize extraction methods to efficiently recover target biomolecules while minimizing resource consumption.
- Evaluate different purification strategies to obtain high-purity biomolecules suitable for industrial applications.
- Characterize the extracted and purified biomolecules using advanced analytical techniques.
- Analyze the bioactivities and assess the potential applications of extracted biomolecules, with a focus on the pharmaceutical, cosmetics and nutraceutical fields.

### **Candidate profile:**

The candidate should hold a PhD in process engineering and demonstrate expertise in various extraction techniques (solid/liquid extraction, ultrasonic extraction, SC-CO<sub>2</sub> extraction...), as well as experience in purification processes (membrane filtration, liquid-liquid extraction, adsorption). A good command of analytical chemistry and experience of experimental design are essential. In addition, the candidate needs to demonstrate a strong affinity for laboratory work and an ability to integrate harmoniously into a dynamic, multidisciplinary team.

**Location:** European Center for Biotechnology and Bioeconomy, 3 Rue des Rouges-Terres, Pomacle (51110), France. The position is available as soon as possible.

To apply, please send a CV and a cover letter to [morad.chadni@agroparistech.fr](mailto:morad.chadni@agroparistech.fr)