

Post-doc position in electrocatalysis

Duration: 1 year

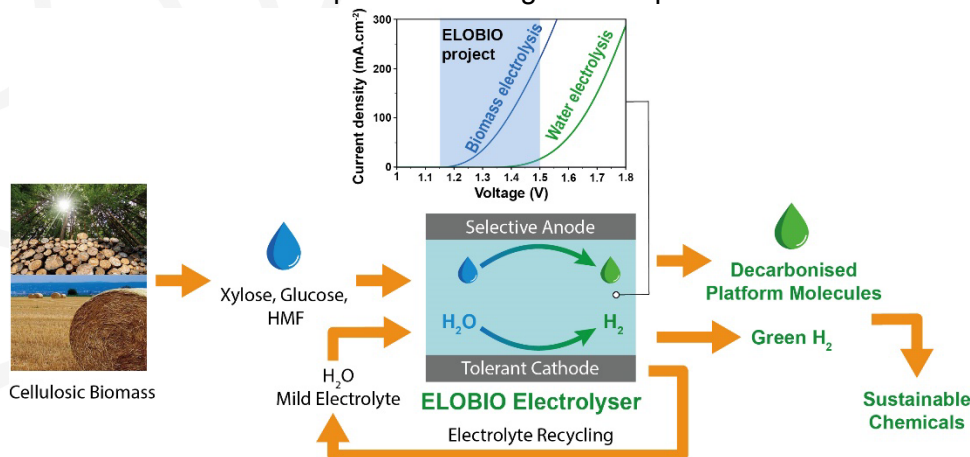
Location: IRCELYON/CNRS (Villeurbanne, France)

Starting date: 02/2023

Salary: between 2833 € and 4003 € gross monthly salary according to the experience

IRCELYON (*Institut de Recherches sur la Catalyse et l'Environnement de Lyon*, <http://www.ircelyon.univ-lyon1.fr/>) is the largest CNRS department devoted for fundamental and applied research in Catalysis. The work will be carried out in the framework of the European HORIZON EIC project ELOBIO (Electrolysis of Biomass), coordinated by IRCELYON (2023-2026).

Context: Green hydrogen will play a major role in the future decarbonized energy systems. The most promising technology for the green hydrogen production is the water electrolysis which consists to break water molecule into H_2 and O_2 using only renewable electricity in an electrochemical cell. However, the water electrolysis is energy demanding due thermodynamic and kinetic limitations. The **ELOBIO** project targets to develop electrolyzers capable of simultaneously producing **pure green H_2** and **value-added decarbonized chemicals** from renewable lignocellulosic biomass including lignocellulosic from wood/forestry and residues from agriculture, with low energy input. IRCELYON will develop non-critical anodes for the selective electrooxidation of biomass, such as 5 hydroxymethylfurfural (HMF), as well as efficient and stable cathode materials in presence of organic compounds.



Work description: The researcher will be in charge of the synthesis and characterisation (XRD, N_2 physisorption, electron microscopy, Raman spectroscopy...) of anode and cathode materials by different chemical routes (e.g. colloidal, hydrothermal, electrodeposition...) and of the measurement of their electrochemical performances in a 3-electrode electrochemical cell by combining electrochemical techniques (cyclic voltammetry, chronoamperometry, impedance spectroscopy...) and analytic tools (liquid chromatography, gas chromatography, mass spectrometry).



Profile required: PhD in catalysis or electrochemistry with strong skills in

- Physico-chemistry of materials
- Preparation of electrocatalysts
- Electrocatalysis
- Very high level of English (European project environment)
- Motivation and autonomy.

Application: Please apply via: <https://emploi.cnrs.fr/Offres/CDD/UMR5256-PHIVER-010/Default.aspx?lang=EN>. Send your CV, a motivation letter with two references.