

## **Post-doctoral researcher M/F**

Workplace : VILLEURBANNE

Publication date : Monday 23 August 2021

Duration of the contract : 12 months

Hiring date : November 1, 2021

Salary : Between 2690 € and 3821 € before tax /month according to experience

Level of education: PhD

Experience : 1 to 4 years max after the thesis

### **Missions**

In collaboration with the company Dielix (Sarpi-Veolia), the candidate will study the partial hydrogenation and catalytic isomerization of biodiesels obtained by transesterification of used cooking oils in a batch reactor. He or she will develop heterogeneous catalysts for both reactions and optimize them to obtain quality biodiesels. The catalytic reactions will be monitored by NMR, GCXGC-MS and GC-FID. The S content in the biodiesels and the feedstock obtained after the reaction will also be measured by GC equipped with an FPD+ detector and by ANTEK analysis. You will have to establish a handling plan in agreement with the project leaders, report weekly on your experimental results and present your results every 3 months during the meetings with the industrial and academic partners of the project.

### **Activities**

- Preparation and optimization of heterogeneous catalysts
- Characterization of catalysts by XRD, textural analysis, ICP, XPS, TEM...
- Implementation of catalytic reactions in batch reactor under H<sub>2</sub> pressure
- Characterization of feedstocks (GC, GCXGC, GPC, NMR, FTIR-ATR....)
- Writing of reports and presentation of results

### **Competences**

- Heterogeneous catalysis
- Physico-chemical analysis
- Characterization of complex charges

### **Contact**

The researcher will be recruited in the CATREN team of IRCELYON under the direction of Dorothée Laurenti (dorothee.laurenti@ircelyon.univ-lyon1.fr) and Christophe Geantet.