

# **NEW Flow chemistry for the production of furfural from paper waste industry NEW**

**Type of offer:** Master II Internship for 6 months

**Financing:** Industrial support; **Salary level:** nd

**Host Institution:** Chimie ParisTech, France (100%)

**Place of work:** Paris - France (100%)

**Speciality:** Chemistry - Organic, mineral, industrial chemistry – Engineering sciences

**Start of publication:** 01/02/2024 **Deadline for application:** 31/07/2024

## **Position**

The chemical industries generate a large variety of products including (i) basic chemicals i.e. polymers, petrochemicals and basic inorganics, (ii) specialty chemicals for pharmaceutical domain, crop protection, paints, inks, colorants, textiles, paper and engineering and (iii) consumer chemicals including detergents, soaps, scents and flavours etc... Globally, the need for basic compounds, fine chemicals and pharmaceuticals continues to grow day by day. Academic and industrial chemists are investigating innovative protocols for the preparation of target materials (e.g. fine chemicals, pharmaceuticals, etc) by implementing the green chemistry principles into real-world cases intensified processes. One approach to new chemical reactions consists in the adoption of effective activation. Among them, continuous flow and continuous processing offer significant processing advantages compared to the traditional batch chemistry.

## **Description of the mission**

The joint objectives of Chimie ParisTech and industries (see above) are multidisciplinary and concern a new optimization of the production of furfural from waste of the paper industries.

The main tasks will be, within the framework of a research study in green chemistry, to carry out the synthesis and analysis of furfural and derivatives with a new continuous flow reactor, including:

- Participation in the literature review;
- Study of the parameters of the continuous flow device and their influence on the results in organic synthesis and catalysis;
- Synthesis of furfural and other molecules with high added value or industrial interest;
- Physico-chemical analysis of the target molecules obtained;
- Performance evaluation of the continuous flow device.

## **Candidate profile:**

Candidate with a deep profile in a relevant discipline such as chemistry and engineering with a high knowledge of conventional analytical methods

High level written and oral communication skills

## **To respond to this offer:**

Full CV, covering letter of recommendation to be send by e-mail to: [christophe.len@chimieparistech.psl.eu](mailto:christophe.len@chimieparistech.psl.eu)