

## PhD Offer: Developing Advanced Catalytic Solutions for Recycling Synthetic Polymers

**Syntetica** is pioneering an ecological and cost-effective process for the *chemical recycling of post-consumer synthetic textiles*. This initiative aims to support the fashion industry in achieving *circularity and reduce the carbon emission* of textile production. Meanwhile, the Chemistry Team at **URD Agro-Biotechnologies Industrielles (ABI) – AgroParisTech** explores innovative solutions for *polymer sustainability*, integrating green chemistry, biotechnology, and catalysis from *material design to waste management*.

This collaborative PhD project aims to develop novel approaches in *chemical recycling through catalyst development, efficiency testing in depolymerization and repolymerization processes, and sustainability assessments*. By leveraging expertise from **Syntetica** and **URD ABI**, the project seeks to advance sustainable practices in the polymer industry.

### Profile of the Candidate:

We seek a highly motivated candidate with a strong background in *organic chemistry*. The ideal candidate will hold a Master's degree or equivalent, with expertise in *synthetic chemistry* techniques, including the synthesis and handling of *organometallic complexes*. Proficiency in *analytical techniques* such as NMR, HPLC, MS, GPC, DSC, and IR is required. A solid understanding of *polymerization processes*, along with a deep interest in *sustainable chemistry* and a commitment to reducing environmental impact, is highly desirable.

### Host Laboratory:

The research will be conducted at **URD ABI – AgroParisTech**, situated within the Pomacle-Bazancourt biorefinery. **URD ABI** specializes in the valorization of agrosources and biorefinery byproducts, focusing on white biotechnologies, green chemistry, and process engineering. Their research spans multi-disciplinary projects aimed at developing new industrial processes, including the transformation of agricultural byproducts into high-value chemicals, polymers, materials, fine chemicals, additives, and cosmetics.

### Application Process:

Interested candidates should submit a comprehensive CV, including academic qualifications and any publications, a cover letter detailing motivation and relevant experience, contact information for at least two referees, and copies of academic transcripts.

A driving license and a car are not required, as the **CEBB is accessible by carpooling** (17 km from Reims) and **public transportation** (TER + bus shuttle).

**Deadline:** Applications will be accepted until the position is filled, before mid-September 2024.

**Starting Date:** November 2024

**Contact Information:** For inquiries and application submissions, please contact:

- **URD ABI:** Dr. Sami Fadlallah (PhD Director and Supervisor): [sami.fadlallah@agroparistech.fr](mailto:sami.fadlallah@agroparistech.fr)
- **Syntetica:** Dr. Louis Monsigny (PhD Supervisor): [louis.monsigny@syntetica.fr](mailto:louis.monsigny@syntetica.fr)