

## “Post-doctoral researcher on advanced surface characterization of sustainable functional coatings”

**Position Description:** The Bio-inspired Materials BIM group of the IPREM Institute (UMR 5254 CNRS and University of Pau & Adour), is looking for a very good, highly motivated candidate for a postdoc position opening in September 2024. The BIM group has been developing bio-inspired materials with hierarchical or multi-scale structuration. Well advanced characterizations, i.e. chemical & structural, in relationship with the adhesion of the interface/coating have been developed since many years. As part of the PlasmaCoLa M-ERANET European project leaded by LIST (Luxembourg), the BIM group will in charge of the analysis and characterization of the adhesive bonding of the primers deposited by plasma polymerization and also on developing understanding of the on-demand debonding properties at the interface of the multi-material laminates (Batteries). The candidate will have to travel to European countries (Luxembourg and Spain).

**Location:** IPREM (Pau in South-Western of France).

**Missions:** The candidate will be in charge of on the analysis and characterization of the adhesive bonding of the primers deposited by plasma polymerization. He will have to develop understanding of the on-demand debonding properties at the interface of the multi-material laminates studied in the project.

### **Main responsibilities:**

Characterize the adhesion properties of primers and the impact of plasma polymerization process on structuration & chemical composition of substrates by surface characterization and wettability/adhesive properties.

- Proof of Concept of on demand debonding.
- Multi-scale characterization of the surface, interfaces & coating (chemical composition from extreme (XPS) to deep (ToF-SIMS) surface and surface structuration by SEM.
- Surface energy measurement by contact angle measurement and surface force by AFM.
- Macroscopic tack measurements (peel, probe, loop ...) and possible rheology

**Qualifications:** Prospective candidates should have a

- Strong background in Polymer science (PhD), specifically in surface characterization.
- Expertise in adhesion is also desirable.
- Preliminary experiences in polymer chemistry will be a plus.
- Strong written and verbal communication skills are required for this position, especially in the context of a highly multidisciplinary topic within the collaborative PlasmaCoLa project.

**Public information :** For information on the project and position, interested candidates are encouraged to contact Pr. Laurent BILLON, at [laurent.billon@univ-pau.fr](mailto:laurent.billon@univ-pau.fr). Please include a CV, brief description of research interests, and contact information for at least one professional reference.

The postdoc position is available for a twenty-four months postdoctoral fellowship (24 months) with a gross salary of ca. 2600-2800€/month, with a starting date on September 2024.