

**Postdoctoral Fellow in polymer-based electroactive materials**  
**Laboratoire de Chimie des Polymères Organiques**  
**University of Bordeaux - France**

**Project Summary:**

In the framework of the industrial chair **SMILE “Smart Polymer Ferrotronic Materials for Environmental Monitoring and Energy Conversion”** in collaboration with ARKEMA, ISORG, IMRIMERIE DE FRANCE and VALEO companies, a postdoctoral fellow is sought to work on an interdisciplinary project targeting **the development of applicative demonstrators (energy transducers, flexible sensors, electromechanical actuators) based on the formulation, processing *via* printing methodologies and optimization of PVDF-based polymers**. Indeed, as multifunctional electroactive materials, PVDF-based polymers are unique owing to their exceptionally efficient conversion from mechanical, sound, or thermal energy into electrical power (and vice-versa). In addition to high output performance, another outstanding feature of PVDF-based polymers is their ability to be integrated via printing methods for flexible and stretchable electronics, broadening the range of applications such as in wearable electronics or bendable displays. Nevertheless, their application in flexible, highly mobile and compact devices still needs to be leveraged both in terms of performance optimization and integration capability.

Consequently, the postdoctoral fellow will **develop photolithographic resins and optimize their performance as regards to the physical/chemical properties of the PVDF-based materials (chemical composition, crystallinity versus dielectric performance, rheological behavior)**. A particular interest will be devoted to the lithographic capabilities (dimensional control, resin sensitivity, etc.) of the formulated resins. The expertise gained in the design of the photo-responsive formulations will be then used to fabricate electroactive demonstrators. The postdoctoral fellow will highly benefit from the ELORPrintTec facility (<https://elorprinttec.u-bordeaux.fr/en/>) dedicated to printed organic electronics in order to perform her/his work.

Location: LCPO, Bordeaux, France

Duration: 12 months

**Required Skills:**

Applicants should hold a PhD in materials science with a solid expertise in polymer materials and structural characterization of complex systems. Scientific expertise in the study of the electroactive materials is highly desired. Team capability and good skills in English are required.

**Contact:**

Applications will comprise the names of two references and a CV with a publication list.

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