PhD position (36 months) in Polymer Physico-chemistry

Block Copolymer Self-Assembly Driven by 3D Printing, Toward Advanced Hierarchical Materials

IPREM, Institute of Analytical Sciences and Physico-Chemistry for Environment and Materials
https://iprem.univ-pau.fr/fr/index.html

Project description/Duties: The PhD task will be dedicated to the 3D printing of nano-structured polymer materials by photo-Polymerization Induced Microphase Separation (PIMS), from the synthesis of reactive polymers to the morphological characterisation by microscopy and scattering methods (AFM, SEM, SAXS); with the essential task of implementing the formulated resins on 3D printers at IPREM and also in collaboration with the project partners. The ultimate ambition is to produce tailor-made multiphasic 3D hierarchical structures. Such a global control on polymer ordering, from nanometer to millimeter, would be a major milestone towards complex and advanced materials fabrication.

General tasks:

- To undertake research, e.g., by planning, preparing, setting up, conducting and recording the outcome of experiments, performing data analysis, desktop research etc.
- To maintain and update area of specialist knowledge, researching and critically appraising relevant literature within the area.
- To actively participate within the research group, communicating and presenting research at meetings.
- To contribute to research publications and presentations as required.

Starting date: October 2026 or as otherwise agreed.

Host Lab: IPREM is a CNRS/UPPA (UMR 5254) joint Research Unit partly located in Pau, France. IPREM has an extensive and highly competitive research program that encompasses fundamental research in multidisciplinary fields. In addition, the IPREM polymer platform (PolyCats) offers a pool of cutting-edge instruments for polymer materials characterization. The position will be located at IPREM/Pau, with punctual mobilities within the project consortium.

Requirements:

- A Master's degree (or equivalent) in polymer physico-chemistry, chemistry or physics, or equivalent relevant research experience. The degree must be obtained before the beginning of the contract but you can apply before.
- Expertise in polymer physico-chemistry characterization with a specific interest in polymerization, block copolymer self-assembly and structural characterization.
- Knowledge of research methods and techniques within specialist field. Experience in 3D printing, microscopy (*e.g.* SEM & AFM) and scattering methods (*e.g.* SAXS) would be strongly appreciated.
- Proven ability to analyse complex information and summaries appropriately.
- Proven communication skills, including presentation to various audiences.
- Excellent organisational and team-working skills.
- Proven ability to demonstrate creativity, innovation and accuracy within work.
- Excellent written and oral communication skills in English

The application should include:

- CV
- Copy of the master diploma with ranking and marks
- A motivation letter describing the applicant's previous research experience and how it is related to the present position (maximum one page) is also required
- Two letters of recommendation

The application should be submitted via the CNRS platform:

https://emploi.cnrs.fr/Offres/Doctorant/UMR5254-SOPPUY-145/Default.aspx?lang=EN

The application will be evaluated based on the following criteria: Appropriate education and work/research in related fields. Candidate motivation, knowledge, scientific maturity and curiosity. Emphasis will also be placed on personal skills. Selected candidates will be interviewed.

Contacts:

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