6-Month Internship Opportunity in Experimental Study of Hybridly nanoreinforced PVDF-based nanocomposites with carbon nanomaterials

Laboratory Description:

The Roberval Laboratory at the University of Technology of Compiègne offers an internship opportunity in materials science research. The laboratory is recognized for its commitment to innovative projects and excellence in training future researchers.

Internship Mission:

The intern will contribute to an experimental study to analyze the effect of hydbrid reinforcement of PVDF polymer by graphene nanoplatelets and carbon nanotubes. The focus will be on materials processing and the mechanical, electrical and thermal induced properties. Separate graphene and carbon nanotube will be explored first and then compared with carbon nanotube grown on graphene nanoplatelet. In this case, carbon nanotube will be grown on graphene nanoplatelets. As such they will remain attached and then embedded in the polymeric matrix. This latter case will be supplied by a collaborator from Paris-Saclay University. The aim is to understand how the interface between nanoreinforcement (CNT GNP and CNT-GNP) and polymer will may vary depending on the nanoparticles' size and interaction when in hybrid combination.

Key Tasks:

- ✓ Preparation of nanocomposites samples by electrospinning.
- ✓ Conducting tensile tests on the nanocomposites.
- ✓ Conduction DMA testing
- ✓ Analysis of results using techniques such as DSC, TGA, and SEM, with interpretation of obtained data.

Profile:

- ✓ Student in materials science, chemistry, or a related field.
- ✓ Basic knowledge of nanotechnology and materials characterization.
- ✓ Independence and precision in conducting experiments.
- ✓ Good communication skills and a team player.
- ✓ Bac+4 or Master's Bac+5 degree

Internship Conditions:

- ✓ Duration: 5 to 6 months
- ✓ Location: Roberval Laboratory, University of Technology of Compiègne
- ✓ Compensation provided

Application Procedure:

Send your CV and cover letter to [fahmi.bedoui@utc.fr] and [stiliyana.stoyonova@utc.fr] before 31/12/2023.