

PhD in physical-chemistry of biobased thermosets for high-tech composites

Location: Institut de Chimie de Nice (UMR 7272), Eco-friendly Materials Group, Université Côte d'Azur, Nice - <http://univ-cotedazur.fr/labs/icn/fr/equipes/materiaux-et-polymeres-eco-compatibles/>

Research in the frame of the Horizon Europe project SUSPENS.

Description of recruiting organization

The ICN (website: <http://univ-cotedazur.fr/labs/icn/fr>) is a joint research laboratory between CNRS (UMR 7272) and University Côte d'Azur. The ICN has an internationally recognized expertise in molecular chemistry, catalysis, green chemistry, analytical chemistry, molecular design, biomass derived materials and valorization of monomer/polymer from biomass into new commodity materials; kinetics of polymerization/phase transitions, thermo-mechanical characterization, polymerization mechanisms.

Project description

The SUSPENS project has been selected for EU funding under Horizon Europe programme. The aim of this ambitious international project is to accelerate the transition to sustainable structural sandwiches and hollow composites parts for automotive, boat and aerospace markets. The recruited PhD fellow will develop approaches to monitor the structure/property relations in biobased thermoset resins (e.g. biobased epoxy resins and unsaturated polyester resins) with special emphasis on the curing process and the curing kinetics. For this purpose, correlation of different techniques such as spectroscopy (NMR, real-time FT-IR), rheometry and calorimetry (e.g. DSC) will be undertaken. Internal communication (with other partners) and external dissemination with the different stakeholders will be an important part of this project.

Scientific and soft skills: Polymer chemistry, Physical-chemistry of polymers, thermal and mechanical properties of polymers, structural characterization of polymer. Knowledge on thermal curing would be a plus. He/She should be fluent in English (written and oral) and should have good communication and project management skills. He/She should be attracted by academic research and by technological/industrial up-scaling.

Duration: 36 months; the recruitment date is 1st of September 2023

Application: please provide a CV with list and the name/contact details of two reference persons (e.g. internship supervisors, etc.).

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