27/11/2018

Researcher in Polymer Chemistry (M/F)

Where to apply

Application Deadline: 18/12/2018 23:59 - Europe/Brussels

Contact Details

Where to send your application.

COMPANY CNRS

WEBSITE
https://emploi.cnrs.fr/Candidat/Offre/UMR5629-FREPER-001/Candidater.aspx

Hiring/Funding Organisation/Institute

ORGANISATION/COMPANY
CNRS

COUNTRY
France

DEPARTMENT
LABORATOIRE DE CHIMIE DES POLYMERES ORGANIQUES

CITY
PESSAC

ORGANISATION TYPE
Public Research Institution

WEBSITE
http://www.lcpo.fr

ORGANISATION/COMPANY
CNRS

LOCATION
France › PESSAC

RESEARCH FIELD

TYPE OF CONTRACT

Chemistry › Physical chemistry
Physics › Biophysics
Physics › Chemical physics

RESEARCHER PROFILE
First Stage Researcher (R1)

APPLICATION DEADLINE
18/12/2018 23:59 - Europe/Brussels

Temporary

JOB STATUS
Full-time

HOURS PER WEEK
35

OFFER STARTING DATE
01/03/2019

- Carry out enzymatic epoxidation of fatty chains
- Optimize this synthesis (in-situ peroxide generation, high yield, obtaining pure products)
- Synthesize polymers from epoxidized oils
- Analyze the molecular properties of oils and polymers using standard characterization techniques (SEC, NMR, UV, IR, mass spectrometry)
-Evaluate the thermomechanical properties of polymers (DSC, DMA, rheology, etc.)
- Establish the correlation between the structure and properties of compounds
- Write progress reports

The role of the recruited agent will be to develop the enzymatic epoxidation of vegetable oils, to study the synthesis of new polymers from these compounds and to study their properties by various characterization techniques.

The "Laboratoire de Chimie des Polymères Organiques" (LCPO) is a joint research unit attached to the CNRS, the University of Bordeaux and Bordeaux INP Aquitaine. The LCPO is composed of 4 research teams and includes nearly 150 people, including about 50 staff. permanent.

With more than 30 years of experience in chemistry
of polymers, LCPO's research aims to:
- develop innovative methodologies for the precision synthesis of polymers, in particular using biomimetic and/or green chemistry approaches
- develop functional polymer materials by macromolecular engineering and self-assembly.

The work of the recruited agent will be carried out between teams 1 and 2 of the LCPO and in collaboration with an academic partner and an industrial partner.

Team 1 is entitled "Polymerization Catalyses and Engineering" and is led by Daniel Taton: http://www.lcpo.fr/team-1-polymerization-catalyses-engineering/
The team develops alternative strategies for the synthesis of "tailor-made" polymers with the following main orientations:
- the design of activation or catalytic systems for highly selective polymerization reactions
- the development of recyclable and bio-inspired catalytic nano-reactors operating in an aqueous medium

- the synthesis of polymers, nanoparticles or functional nanostructures for targeted applications (aeronautics, detergents, cosmetics, repairable materials, etc.)

Team 2 is entitled "Biopolymers and Bio-sourced Polymers" and is led by Henri Cramail http://www.lcpo.fr/team-2-biopolymers-bio-sourced-polymers/.
The team is developing the use of bio-resources for polymer synthesis with the following main orientations:
- the use of (modified) vegetable oils as monomers
- obtaining polymerizable synthons from ligno-cellulosic biomass

ADDITIONAL INFORMATION

Eligibility criteria

- Essential skills in molecular chemistry and macromolecular synthesis
- Required knowledge of common polymer characterization techniques
- Required knowledge in enzymatic catalysis

Web site for additional job details

https://emploi.cnrs.fr/Offres/CDD/UMR5629-FREPER-001/Default.aspx
REQUIREMENTS

Required Research Experiences

RESEARCH FIELD
Chemistry › Physical chemistry

YEARS OF RESEARCH EXPERIENCE
None

RESEARCH FIELD
Physics › Chemical physics

YEARS OF RESEARCH EXPERIENCE
None

RESEARCH FIELD
Physics › Biophysics

YEARS OF RESEARCH EXPERIENCE
None