



D-MEX



PDP: PAUDROITPUBLIC

PostDoc position, 18 months

Work place: Arkema France Groupement de Recherches de Lacq, Lacq, France, Nouvelle Aquitaine Region

Keywords: all-solid-state battery, physico-chemistry of interfaces, polymers, surface analysis, electrochemistry, process.

Occupation: Research and teaching

Context

The position is part of the “**RAISE 2024**” (towaRd All solid State battery in 2024), a five years project funded by the E2S (Energy Environment Solutions) Initiative (<https://e2s-uppa.eu/en/index.html>). The RAISE2024 project aims at **developing polymer based solid-state batteries** up to a Technology Readiness Level 6 in close partnership with three academic laboratories, IPREM (Institute of Analytical Sciences and Physical Chemistry for the Environment and Materials - <https://iprem.univ-pau.fr/en/home.html>), IPRA-DMEX (Multidisciplinary Institute for Applied Research) and PDP (research center Pau Public Law) as well as two major international companies, Arkema and SAFT. The main objective of the project is to develop an advanced battery system based on solid electrolytes, which represents a *new field in the rechargeable battery domain. Electric vehicles and renewable energy storage are the applications targeted, with safety, high energy density, no self-discharge, a long stability/cycle life, easily scalable, low cost* as main requirements.

Objectives

The postdoc candidate will be in charge of the study of the degradation behaviour of formulations for solid-state batteries based on Lithium ion-conductive polymers. In close collaboration with IPREM in charge of the morphological, structural and physico-chemical characterization (SEM, Auger Electron Spectroscopy, XPS) of the different materials and the polymer interfaces, the candidate will also highly participate to the evaluation of material properties in terms of ionic conductivity, electrochemical stability, dendrite mitigation and mechanical properties. An attempt to develop a mechanism of degradation based on the components and to overcome the phenomenon is also asked.

Position and assignments

The Postdoc position also include teaching duty at UPPA (64 h per year).

-- 18 months, available from September 2022

-- Gross salary: 2970 €/month

Profile request

The candidate has the following skills and expertise:

- A PhD in electrochemistry and/or physical-chemistry or equivalent.
- Knowledge in electrochemistry and/or surface analysis techniques
- A strong experience in interfacial physico chemistry is welcome.
- Autonomy, dynamism, creativity, good communication skills.

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Have we piqued your interest? Then please submit your application including the following documents (as a single .pdf file) until 29/08/2022 by email to the contact advisors.

- Motivation letter
- Curriculum vitae of at most 3 pages.
- Transcripts and certifications from university:
 - Master degree (or equivalent), including class ranking if possible,
 - Phd degree.
- Names of at least two references who are willing to write a letter of recommendation on the candidate's behalf (they may be contacted by us).
- Any other relevant documents.