

Postdoc topic in:

Organic materials for sustainable energy storage

Background and objective of the project

The field of organic ion-batteries (OIBs) capitalizes today more than ten years of research to open up many opportunities, essentially focused on the reduction of their weight, of their cost and especially of the environmental footprint they induce, from the production to the recycling of electrode materials and organic batteries. The structural richness of organic compounds endows them with a great capacity of adaptation, making them suitable for the conception of positive and/or negative electrode materials. The interest toward this family is constantly growing and important progresses were achieved these last five years by the scientific community. However, there is still some challenges to be overcome to make the organic alternative come true like the solubility in the liquid electrolyte of the most efficient molecular compounds and insulating properties of organic materials, both limiting drastically energy density and lifetime of electrode made of such compounds.



Description of the project

The research project aims at investigating new approaches to solve solubility and conductivity issues of organic molecular materials. Different options will be investigated like formulation and electrolyte engineering, development of new solid-state electrolytes and/or efficient conductive additive.

Skills of the applicant

For this project you should have a strong experience in organic/polymer synthesis and electrochemistry. Prior experience in electrolyte engineering, electrode formulation and cell assembly would be highly beneficial. Ability to communicate results clearly and succinctly. Work as team member and independently. Excellent level in English (written and spoken).

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List of documents to provide: Detailed CV, motivation letter specific to this project, names and contact details of 2 references persons (from 2 different institutions).

Deadline for application Offer: open until position filled.

Date of start of the Project: As soon as possible. Position is for 1 year

For more information about the hosting laboratory: <https://www.lrcs.u-picardie.fr/>