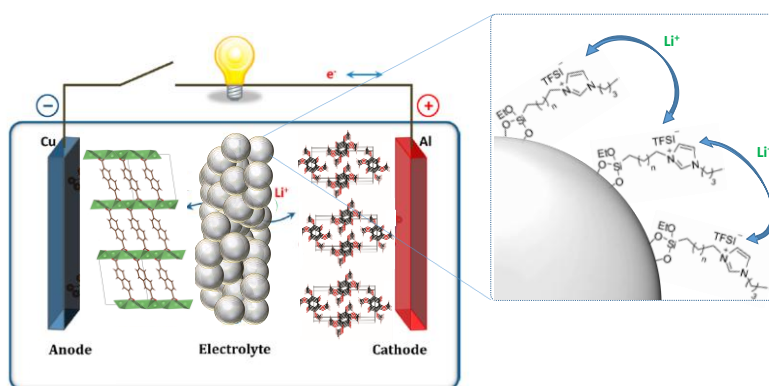


Supported Ionic Liquid for new hybrid electrolytes

In recent years, increased attention has been paid to Ionic Liquids. The gain in interest for such a class of compounds stems from the combination of these unique characteristics among, low vapor pressure, non-flammability and excellent chemical and thermal properties. Their high electrochemical stability has made them as good candidates as electrolyte for lithium ion batteries to improve the energy density by integrating more oxidizing electrode materials (> 4.5 V vs Li^+ / Li) and to inhibit the growth of the lithium dendrite to the lithium negative electrode during recharging of the battery.

The thesis project is based on the results obtained on the grafting of small imidazolium ion molecules on silica nanoparticles. The work will consist in a first step to validate the use of this type of compounds as a multi-technological monolithic electrolyte by their integration in model systems. In a second step, these results will be used in order to (i) develop novel silica-based hybrid electrolytes incorporating lithium complexing / chelating fragments and (ii) to understand the mobility of ions in such compounds.



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Job Profile:

The candidate must have a master degree (M2) and have a chemistry training. The project will be carried out at the interface of organic chemistry and materials chemistry. Competencies in both approaches are strongly recommended. A good level of English is recommended.

Application deadline 15 April 2017

To answer this offer:

- A complete curriculum vitae describing the nature of the university studies as well as the classification obtained each year.
- A letter of recommendation from the head of the host team and / or the researcher (lecturer) who supervised the student during his / her Master 2 internship.
- A cover letter.

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