Postdoc Topic at LRCS, Amiens, FRANCE https://www.lrcs.u-picardie.fr/	
Topic Title	*Li-S batteries : polysulfides - sulfur chemical and electrochemical activities*
Principal Advisor	GUERY Claude, claude.guery@u-picardie.fr, (33)3 22 82 53 33
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Collaborations	
Funding Source, Name of project	European Project, HELIS
Web Site of Advisor (if applicable)	**https://www.lrcs.u-picardie.fr/**
Date of publication of the offer	May 16th, 2017
Deadline for application	June 15th, 2017
Date of start of the Project	June 15th, 2017
Description of the Topic	**The present project is dedicated to the Li/S electrochemical system which is integrated and funded by the European program Helis.** **The Li/S batteries are actually good candidate for the electrical vehicles, thanks to their high specific capacity. Actually, they are limited in term of cyclability, due to soluble polysulfides formed along the first discharge. Indead, their solublility properties lead to diffusion phenomena, and consequently redox shuttle, autodischarge phenomena may be then observed, decreasing the capacity of the system. Besides, the activity of the polysulfides may depend on the cyling rate. Up to now, lots of studies are devoted to the control of electrochemical/chemical activities of polysulfides (electrolyte and electrode composition).** **The goal of this project is to pay attention to interactions electrode/electrolyte/separator. The candidate will study model cells in order to understand the role of specific separators in front of known polysulfides, and consequently their influence under cycling.**
Techniques to be used	✓ Analytical electrochemistry, Impedance spectroscopy ✓ Crystal Quartz microbalance ✓ Working under controlled atmosphere ✓ Electronic microscopy
Skills of the Applicant	The applicant must be holder of a Ph-D degree in chemistry/electrochemistry and/or materials sciences The applicant may have skills in analytical electrochemistry. He has to speak and write in English. The applicant may have skills in analytical electrochemistry. He has to speak and write in English.
Contact (s)	Mail of The advisors: claude.guery@u-picardie.fr mathieu.morcrette@u-picardie.fr
List of documents to provide	CV + motivation letter + list of references