

PhD position in analytical chemistry (University of Rouen/Brown University)

Crystalline Lithiated Aggregates for Asymmetric Synthesis

Project description: This collaborative project, supported by [EUR XLChem](#), between [Prof. Paul WILLIARD](#) from **Brown University** in Providence, Rhode Island, USA, and [Dr. Julien LEGROS](#) / [Prof. Hassan OULYADI](#) from **University of Rouen**, France (COBRA laboratory), targets the synthesis, reactivity and understanding of the associated mechanisms of **chiral organometallic** reagents. The chemical species that are studied are extremely fleeting and it is important to understand their mode of operation in order to finely tune the conditions for their use in enantioselective synthesis.

The **CrystalLi** project aims at acquiring the know-how on the crystallization of **lithiated aggregates**, mainly lithium complexes of the zincate, magnesiate and aluminate type. The objective is to use the structural knowledge acquired in the solid state in the United States (**X-ray**) and in liquid state in France (**NMR**) to "judiciously" develop the use of these aggregates in enantioselective synthesis with a view to applications for further industrial purposes.

Application: We are looking for an outstanding and highly motivated candidate to pursue his/her PhD thesis in our groups in France and USA. The PhD will be split in **two periods**: 18 months at the University of Rouen, followed by 18 months in Brown University. He/She will have a strong background in **analytical chemistry mainly NMR and/or cristallography** with excellent theoretical and experimental skills. We are looking for dedicated, curious, and hard worker candidates. Moreover, the applicant should have good communication skills, a good team spirit and will take benefit from an international research environment.

Requirement for the position: a Master degree in Analytical chemistry.

Approximate salary: ~1500 €/month

Location : [UMR 6014 CNRS COBRA](#), Université de Rouen, 76821 Mont Saint Aignan, France & [Dept. of Chemistry](#), Brown University, Providence, Rhode Island 02912 USA

Applications should be sent by e-mail to Pr. Hassan Oulyadi (hassan.oulyadi@univ-rouen.fr) and Dr. Julien Legros (Julien.legros@univ-rouen.fr). It should include a **detailed CV**, Examination marks, one or two **references for recommendation**, and a **cover letter** with motivations.