



Postdoc Offer: Bis-acridinium Electroswitchable Sensors

Laboratoire de Synthèse des Assemblages Moléculaires Multifonctionnels, Institut de Chimie de Strasbourg, CNRS UMR 7177, 4, rue Blaise Pascal, 67000 Strasbourg, France.

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Brief Description of the Project. New sensors for the rapid and reliable detection of residual pollutants in water will be designed and prepared. The challenging detection of electron rich polycyclic aromatic hydrocarbons (PAHs) pollutants present in low concentration in the environment will be more specifically addressed. In this context, electrochemical sensors coupled to optical detection giving direct and instantaneous reading are promising candidates. Recently, host-guest complexes have provided an efficient way for monitoring organic pollutants. Although these devices have succeeded for the detection of organic pollutants, their in-situ application has proven to be more challenging because they require a competitive redox probe, such as ferrocene, in solution. For the realization of an efficient sensing platform, grafting a receptor incorporating redox active 9-phenyl-N-acridinium units on electrode surface provides several advantages, in particular (i) direct electrochemical detection of the pollutant without the need of redox probe, and (ii) high capability for *in-situ* and continuous monitoring of pollutants, as the sensor can be regenerated easily by applying a reduction potential.

Profile. The candidate will have to hold a doctorate in organic synthesis. The postdoctoral fellow will be hired to synthesize the targeted molecules and to perform the preliminary electrochemical experiments. Consequently, the candidate will need to have a background in organic, supramolecular chemistry and knowledge in all analytical methods routinely used in organic chemistry. Knowledge in electrochemistry will be appreciated but will not be necessary since he/she will be able to learn basic electrochemical experiments in Strasbourg.

Duration. 12 months

Gross Salary. 2700 €/month (net salary ~ 1900 €/month).

Hiring Date. Before March 1, 2021

Location. Institut de chimie de Strasbourg (UMR CNRS 7177), Laboratoire de Synthèse des Assemblages Moléculaires Multifonctionnels (LSAMM, <http://lsamm.fr>)

Applications. Please send us a CV, a cover letter describing research accomplishments, a list of publications, one letter of recommendation to be sent directly to the email below. For additional information on the project and the working environment, feel free to contact us: Dr. H.-P. Jacquot de Rouville – hpjacquot@unistra.fr

Publications of the Research Group Related to Acridinium Chemistry.

- [1]. J. Hu, J. S. Ward, A. Chaumont, K. Rissanen, J.-M. Vincent,* V. Heitz,* H.-P. Jacquot de Rouville* *Angew. Chem. Int. Ed.*, **2020**, DOI : 10.1002/anie.202009212.
- [2]. H.-P. Jacquot de Rouville,* C. Gourlaouen, V. Heitz* *Dalton Trans.*, **2019**, *48*, 8725–8730.
- [3]. H.-P. Jacquot de Rouville,* N. Zorn, E. Leize-Wagner, V. Heitz* *Chem. Commun.*, **2018**, *54*, 10966–10969.
- [4]. A. Gosset, Z. Xu, F. Maurel,* L.-M. Chamoreau, S. Nowak, G. Vives, C. Perruchot, V. Heitz,* H.-P. Jacquot de Rouville* *New J. Chem.*, **2018**, *42*, 4728–4734.