Title: Electro-mediated functionalization of aza-heterocycles

Position: Full Doctorate

Keywords: Green chemistry, radical chemistry, electrosynthesis, heterocycles

Radical chemistry has been neglected for decades due to the difficulty of controlling radical additions and/or couplings. The study of their stability and the development of new catalytic tools has enabled the resurgence of this field. While known for two centuries, electrochemistry has recently (re)-emerged as a powerful tool to perform selective and eco-efficient radical reactions.

Nitrogen-containing heterocyclic cores are of immense importance due to their high abundance in naturally-occurring or synthetic molecules. The functionalities introduced in an *N*-heterocyclic motif play an important role in regulating the physiochemical behavior of the particular aza-heterocycles to alter their chemical, agrochemical and biological reactivities. Thus, their functionalization under mild-conditions is an important process.

This PhD project aims at developing new eco-efficient and atom-economy methodologies using electrochemistry to functionalize aza-heterocycles, while discovering new reactivities in electrosynthesis.

To support this research program, we are looking for an outstanding, open-minded and highly motivated candidate to pursue his PhD within our group.

Jean-François Brière will be the director of the PhD and Hélène Beucher will co-supervise.

Requirement for the position: a Master degree in chemistry

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