

Proposition de financement doctorale
Université de Paris
pour la rentrée 2021-2022

Titre de la thèse :

Electrochemical activation of carbon based materials and their applications in
electrocatalysis

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The PhD proposal concerns the expanding field of surface functionalization for building innovative interfaces with specific properties. The project combines electrochemistry and scanning electrochemical microscopy (SECM) for the fabrication and the investigation of functional carbon interfaces. The surface modification will be performed using the cathodic activation of various carbon materials at the micro and macro scale. In addition, the generated activated carbon materials will be used as a platform for the spontaneous growth of metallic nanoparticles. Finally, the electrocatalytic performances of the generated multifunctional materials towards the electrochemical activation of small molecules (HER, ORR and OER) will be investigated.

Mots clés : Electrochimie, Modification de surface, Liquide ionique, Microscopie électrochimique à balayage SECM, Electrocatalyse