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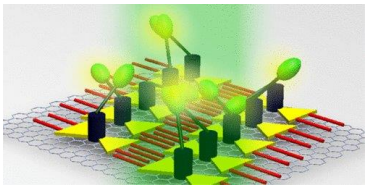
Postdoc position:

Photonics in organic 2D-materials and metamaterials



A 1-year post-doctoral position is open in the framework of the projects STACSAMGRAPH and LESOMMETA funded by the French National Research Agency. The objective of these multidisciplinary projects is to develop innovative organic light-emitting materials based on 2D or 3D self-assembly. The goal of the postdoctoral project is to characterize the photonic properties of the materials and analyze the various photophysical mecanisms involved in light emission. The emphasis will be placed on the metamaterial optical characteristics of these systems.The postdoctoral fellow will be hired by CEA/SPEC located on the site of Orme-des-Merisiers, in the heart of the Paris-Saclay Campus. The projects also involve chemistry partners from ILV (Versailles), IPCM (Paris-Sorbonne) and 2B-Fuel (Korea).

Main duties and responsibilities:

• Processing of self-assembled molecular material as 2D monolayers on graphene or as thin films.
• Structural molecular-scale characterization by local-probe techniques (STM, AFM) in ambient conditions.
• Measurement of photonic properties by laser micro-spectroscopy techniques (absorption, fluorescence, Raman, NLO,…).
• Analysis of the photonic processes in conjunction with projects' partners.

Required Knowledge, Skills, and Abilities:

The applicant should have completed a PhD in photophysics or photochemistry involving organic materials and should have acquired a general expertise in the following domains:
• Optical spectroscopy and microscopy.
• Scanning probe microscopy (AFM, STM).
• Practice in handling organic materials, thin films formation, …
• Excellent communication skills to coordinate regularly with projects' partners.

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