Open Post-Doc position in metamaterials modelling and design

An open post-doctoral position is available at the Centre de Recherche Paul Pascal (CRPP) at the University of Bordeaux in modeling and design of optical self-assembled metamaterials. The person hired will be a part of a local consortium devoted to the modelling, fabrication and characterization of self-assembled optical metamaterials in the frame of the AMADEus (Advanced MAterials by DEsign) Labex.

Recent progress in bottom-up physical chemistry has permitted separating the fabrication of meta-atoms that consist of composite nanomaterials and are synthesized using nanochemistry and colloidal sciences, from the large ensemble assemblies into metamaterials and metasurfaces. It has been shown that meta-atoms with tailored magnetic and electric multipolar resonances could be produced at optical frequencies and their assembly into truly bulk magnetic metamaterials at visible frequencies. In contrast to top-down fabrication, these fabrication techniques enable the production of vast amounts of meta-atoms and as a result, large volumes and surfaces may be produced.

The post-doctoral candidate will be integrated in a multidisciplinary team that is part of AMADEus, involving researchers in nanochemistry, self-assembly, soft matter and optics of metamaterials. He or she will assist the team in the design and modelling of optical metamaterials and metasurfaces with applications in high 3D optical magnetism, perfect absorption as well as develop numerical methods mixing electromagnetic and heat transfer calculations for a specific heat management project.

Work environment and insertion

The post-doctoral fellow will work hand-in-hand with experimentalists that will attempt to develop nanostructured materials designed by the post-doc. The post-doc will be located at the Centre de Recherche Paul Pascal (CRPP) and collaborate with researchers from the Laboratoire de Photonique Numériques de Nanosciences (LP2N), the Laboratory of the Future (LOF), the Institut de la Matière Condensée de Bordeaux (ICMCB) and the Institut de Mécanique et d'Ingénierie (I2M).

Candidate Profile

The project requires a scientist with excellent skills in numerical modelling and a solid background in optics and heat science. Furthermore, the candidate should have excellent written and oral skills in English and be able to work in a team.

Contact

Interested candidates should send their CV, application letter as well as at the contact information of at least two academic references to:

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