

Postdoctoral contract with at IMDEA Nanociencia - Madrid, Spain

Fabrication of Perovskite Solar Cells (PSCs) and other devices involving these materials

One-year postdoctoral contract with likely extension of second year is offered at IMDEA Nanoscience (Madrid, Spain). Research studies - under the guidance of Prof. Nazario Martín - will focus on the study of new materials for the fabrication of perovskite solar cells (PSCs). In this regard, the group has the laboratories and facilities at the Institute to synthesize new materials (perovskites, HTMs, ETMs, etc) as well as the photovoltaic lab for the fabrication of devices. The selected candidate must have a strong background in both lines and necessarily a good competence in the fabrication of devices.

Project description

The project PERSOLAR fulfills the requirements of the call “Convocatoria 2021 «Proyectos Transición Ecológica y Transición Digital»” within the scope of the so-called “ecological transition” and, specifically, in the area devoted to “renewable energies”.

The contribution of this project to solve some of the problems related with the search of green energy and prevention of environmental degradation relays in on the working hypothesis of creation of innovative materials for the fabrication of perovskite-based solar cells (PSCs) with competitive efficiencies and, most important, improved stability and/or flexibility. The envisaged materials involve both a structural and compositional engineering for a better control on the of 2D and/or 3D perovskite materials, as well as the synthesis of disruptive hole and electron transporting materials, namely based in the presence of less-studied carbon-nanostructures (carbon nanotubes and graphene) and small organic molecules, which, eventually, allow the fabrication of perovskite-based photovoltaic devices with competitive efficiencies and improved stability and/or flexibility. Both features are essential to address the further commercialization step, thus contributing to solve the current energy problem by complementing the existing photovoltaic (PV) technologies.

Further information

This project is to be carried out at the Madrid Institute for Advanced Studies in Nanoscience (IMDEA Nanoscience) placed at Cantoblanco Campus in Madrid (Spain).

Interested candidates holding a PhD degree in physics or chemistry, please send your CV, a cover letter and 2 references via email to Dr. Javier Urieta (j.urieta@ucm.es) with copy to Prof. Nazario Martín (nazmar@ucm.es).