**Institute of Engineering and Management of Grenoble Alpes University**

Grenoble INP - UGA is a renowned public institution of higher education and research, and a major player in the Grenoble ecosystem. It is the engineering and management institute of Grenoble Alpes University, and plays a leading role in the scientific and industrial community.

**Researcher in Materials Science/Electrical Engineering**

<table>
<thead>
<tr>
<th>Job ad reference</th>
<th>2023-RESMATSCELECT-LMGP</th>
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</thead>
<tbody>
<tr>
<td>Research field</td>
<td>Materials Science / Electrical Engineering (Solar cells, Semiconductors)</td>
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| Host laboratory  | LMGP (UMR 5628 Grenoble-INP, UGA and CNRS)  
Website: [https://lmgp.grenoble-inp.fr/](https://lmgp.grenoble-inp.fr/) |
| Researcher profile | First stage researcher - doctorate (R1) / Recognised researcher (R2) |
| Location         | Grenoble, France |
| Date of recruitment / contract term | 08/01/2024 (12 months) |
| Contacts         | hanna.pazniak@grenoble-inp.fr; theirry.ouisse@grenoble-inp.fr |

Grenoble INP - UGA is an equal opportunity employer committed to sustainability. Grenoble INP-UGA celebrates diversity and equity and is committed to creating an inclusive environment for all employees. All qualified applications will be considered without discrimination of any kind.
**Research**

**LMGP** is a multidisciplinary joint CNRS/Grenoble-INP research unit located on the MINATEC site. Research is focused on the materials science of functional materials and is organized into the following three themes: (1) Functional Thin Films and Surface Nano-Engineering, (2) Interfaces between Materials and Biological Matter and (3) Nanomaterials and Advanced Heterostructures.

The activity and expertise of the Nanomaterials and Advanced Heterostructures research team are focused on the chemical synthesis and crystal growth of low-dimensional materials with the aim to elucidate the nucleation and growth mechanisms of these objects, as well as determining and controlling their morphological, structural, and physical properties at the nanoscale. Nanolamellar & 2D Materials team is specialized in study exfoliation kinetics of MAX and MAB phases to produce two-dimensional (2D) materials. Materials characterization is ensured through the use of TEM, AFM, SEM microscopies, Raman spectroscopy, X-ray diffraction techniques and an access to the large-scale instruments such as the ILL neutron facility and the ESRF synchrotron facility.

**Job description**:

A postdoctoral project “Integration of 2D MXenes into Single-Junction Perovskite Solar Cells” focuses on exploiting the work function potentiality of 2D MXenes, in particular of halogen-terminated MXenes, to tune band gap alignment in single junction perovskite solar cells and improve power conversion efficiency. The project will include the following tasks: study of dispersion and stability of halogen-terminated MXenes, their surface chemistry and work function; design, fabrication and optimization of device structures, testing their electro-optical parameters and stability.

**Specific requirements or conditions**

We are looking for a motivated and independent scientist with a PhD in Physics (or similar), with a strong background in electrical engineering/or solar cells/or semiconductors and good communication skills

**Specifics of the position**

Post-doc will work in the research teams of LMGP, Grenoble-INP (https://lmgp.grenoble-inp.fr/) and CEA INES (https://www.ines-solaire.org/), located in Bourget du Lac region.

**Position assigned to a restricted area**: NO

**How to apply**

Applications must be sent to: hanna.pazniak@grenoble-inp.fr ; thierry.ouisse@grenoble-inp.fr

Application deadline: 21/12/2023