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LUXEMBOURG
INSTITUTE OF SCIENCE
AND TECHNOLOGY



POSTDOCTORAL RESEARCHER SPECIALIZED IN HYDROGEN TECHNOLOGY (M/F)

Fixed term contract | 24 months | Fulltime/40h | Belvaux

Your work environment

The Luxembourg Institute of Science and Technology (LIST) is a Research and Technology Organization (RTO) active in the fields of materials, environment and IT. By transforming scientific knowledge into technologies, smart data and tools, LIST empowers citizens in their choices, public authorities in their decisions and businesses in their strategies.

<https://www.list.lu/>

You will be part of the LIST Materials Research and Technology department

Through its research into advanced materials and processes, the department, with over 190 researchers and engineers, contributes to the emergence of enabling technologies that underpin the innovation processes of local and international industry. The department's activities hinge on four thematic pillars supported by dedicated platform specialists as below:

- nanomaterials and nanotechnology
- scientific instrumentation and process technology
- structural composite materials and manufacturing
- and functional polymer unit

Photocatalysis is one of the most important approaches to achieve hydrogen production by water splitting. It mainly relies on rare metal (e.g. platinum, ruthenium) oxide catalysts, limiting large-scale applications owing to their cost/scarcity. The need for new materials with photocatalytic performances for water splitting is the framework of the FNR-funded HEPHOTO project (High Efficient Water Splitting over Fe:NaTaO₃ Photocatalysts). The success of the project will help to widen the use of Hydrogen as clean energy vector.

The position described in the present post will contribute to HEPHOTO project, which is part of a collaboration between the MRT department of LIST and the French company 3D-Oxides.

A two years post-doctoral position is available in the Nanomaterials and Nanotechnology Unit at the MRT (Material Research and Technology) department of LIST.

Job reference: MRT-2020-037

Application file:

- A CV
- A motivation letter
- References names of two or three referees

Apply online:

<https://www.list.lu/en/jobs/>

Your working environment

The research department

<https://www.list.lu/en/mrt/>

<https://www.list.lu/en/jobs/researchers/>

The Luxembourg Institute of Science and Technology (LIST) is a mission-driven Research and Technology Organisation (RTO) that develops advanced technologies and delivers innovative products and services to industry and society. Located at the heart of Luxembourg's vibrant Research and Innovation Campus in Esch-Belval, LIST can ideally connect its over 500 specialists in materials, the environment and IT with virtually all of Luxembourg's other main research players such as the University of Luxembourg, LIH, LISER, Technoport, Luxinnovation and the National Research Fund. **LIST.lu**

The LIST is committed with equality of opportunities and gender balance

What you will be doing

We are looking for a highly motivated researcher that holds a PhD degree to perform a key-role in the HEPHOTO project, developed in collaboration with the French industrial partner 3D-Oxides. The project is applicative-oriented. The challenge of this job is to provide photocatalysts with tuneable properties and reduced bandgap, which could be efficient under the whole solar spectrum.

The Postdoc researcher has to design and perform experimental procedures and analyse and explain experimental data. He/she could rely on the wide range of instruments (XPS, ToF-SIMS, FT-IR, XRD, SEM, EDX, etc.) available at the Instrumental Platform Unit. Nevertheless, he/she has to prove a degree of knowledge of the most of them.

The Postdoc researcher will benefit of an international research organization with a very friendly working environment.

Essential duties and responsibilities

- Key responsibilities of the position include, but are not limited to, conducting the research activity in effective and professional way by keeping prompt and accurate records of experiments and analyses performed.
- This position also involves significant interaction with the other professional figures as students, permanent staff and external partners involved in the present research work, when needed to accomplish our goals.
- Dissemination of the knowledge generated during the research, through publications on peer-reviewed international journals, presentations at scientific conference, attendance at professional events and meetings with partners will be expected.
- To contribute to the editing of new project proposals, funding by national and international agencies, as well as by private partners (in the framework of collaborative business) may be required.
- Conduct him/herself professionally to the LIST standard is mandatory.

Which profile we are looking for

- PhD in Material Science, Chemistry, Physics or similar fields
- Not more than 2 years of research experience after her/his PhD
- Proven track record (papers, patents, conference proceedings)
- Team player, rigorous, autonomous, excellent organizational and collaborative skills, results-oriented
- Hands-on experience with materials deposition by evaporation processes
- Water splitting topic (synthesis, characterization, performance)
- Strong analysis skills
- Work experience in cleanroom environment is an asset
- Proficiency in electrochemistry is a plus
- English is mandatory, French and/or Italian is a plus

Interested ? Please apply online

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