**Fixed term contract | 14 + 22 + 12 months extension | Fulltime/40h | Belvaux**

**Your work environment**

As a key player in research and innovation in Luxembourg, the Luxembourg Institute of Science and Technology (LIST), with its employees, is active in the domains of materials, the environment and IT. As an RTO (Research and Technology Organisation) and with its interdisciplinary impact-driven approach, LIST contributes to the development of Luxembourg’s economy and society.

**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 a dedicated platform as:

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

The Plasma Process and Engineering (PPE) group within the MRT department focuses its research on prototyping, upscaling and process developments for efficient surface modifications of materials using dry chemical and physical techniques. The PPE group has become one of the world leading groups in the field of “Atmospheric Plasma Deposition”. In particular, by finding the synergies between “plasma” and “wet chemistry” the Group is pushing forward plasma chemistry allowing the development of a wide range of functional polymer thin films.

In this context, COATIH2N project aims at providing a novel, cost effective and flexible approach for the preparation of functional and more resistant hydrogels by combining two LIST proprietary atmospheric-pressure plasma polymerization technologies. The synergy between the coating deposition technology and the new functional hydrogels that will be produced is expected to bring to the market innovative healthcare and consumer care products that are required for the rapidly aging population and global healthcare challenges.

**What you will be doing**

The PhD candidate will face the challenge of developing a new plasma polymerization approach taking advantage of the state-of-the-art plasma equipment and prototyping capabilities available at LIST. She/he will work with a multinational and multidisciplinary Team of highly skilled scientists and engineers in a dynamic environment. The candidate will acquire highly valued skills in the application of macromolecular engineering to produce functional thin films and their characterization by multiple advanced techniques for chemical and surface analyses. In consultation with the project leader, the PhD student will design and perform relevant experiments, analyse and interpret the results. The PPE group actively promotes active
dissemination of research results and the PhD candidate is expected to publish at least three first author papers in Q1 journals and give oral presentations to international conferences.

The PhD thesis will be conducted at LIST in the frame of the Doctoral School in Science and Engineering at the University of Luxembourg (Uni.Lu). The PhD candidate will benefit from the strong network of academic and industrial collaborators all around the world, which will give the opportunity for her/him to obtain secondments during the project.

Which profile we are looking for

- Master degree in polymer chemistry, chemical engineering or materials (polymers) with excellent grades
- Excellent academic track record and experimental skills
- Ability for both individual and collaborative team work
- Basic knowledge on plasma and surface characterization will be an asset
- Fluency in English is mandatory

Interested ? Please apply online

https://www.list.lu/en/jobs/materials-job-opportunities/job-offer/?tx_listjob_listjobdisplay%5BlistJob%5D=4010&cHash=f7af9582c2bf96ad7c29d9a2ae451835