

POST-DOCTORAL POSITION IN POLYMER PROCESSING AND BLEND COMPATIBILITY IMPROVEMENT THROUGH CONTROLLED INTERFACES (M/F)

Fixed term contract | 18 months | Fulltime/40h | Hautcharage

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.

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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

What you will be doing

Topic

The 18 months post-doctoral project will focus on the processing of elastomer/thermoplastic blends having high differences in viscosity through innovative extrusion process. A special focus will be put on interfacial compatibility and structure-property in-depth characterization.

Details

The multi-disciplinary project will aim at improving thermoplastic-elastomer blends by adapting **process conditions and formulations**. With this view, a good knowledge of industrially available thermoplastic properties would be appreciated. Improvement of elastomer / thermoplastic **compatibility** will also be studied by **reactive** melt-processing. The obtained blend will then be compounded with fillers and vulcanization additives in order to evaluate final properties.

Characterization will include **thermo-mechanical properties**: heat deflection temperature, stiffness, ductility, fatigue resistance, glass transition, crystallinity and also **adhesion**, morphology, rheology and ageing.

Job reference: MRT-2020-030

Application file:

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

Apply online:

https://www.list.lu/en/jobs/researchers/job-offer/mrt-2020-030/?no_cache=1&cHash=3279e27e64870f8c17a1994bae5a0988

Your working environment

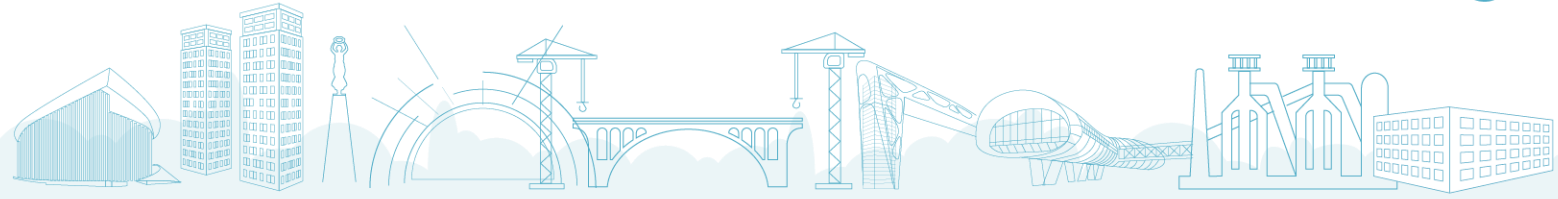
The research department

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AND TECHNOLOGY



Which profile we are looking for

Educational background

- PhD in polymer processing, chemistry or Materials Science, Polymer processing or a related field

Required seniority

- A previous Post Doctoral experience in the same domain would be an asset

Technical skills

- Experience in rubber formulation and compounding, polymer processing, melt reactions and rheology
- Experience in handling roll mill
- The following additional competencies would be considered assets:
 - Experience with industrial-oriented research
 - Excellent written and oral communication skills e.g. in publications, patents, reports, presentations and/or proposals

Language skills

- Strong spoken and written English is mandatory
- French, German and / or Luxembourgish are considered assets

Interested ? Please apply online

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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