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LUXEMBOURG  
INSTITUTE OF SCIENCE  
AND TECHNOLOGY



## POSTDOCTORAL RESEARCHER IN THE DOMAIN OF 3D AND 4D PRINTING OF SHAPE MEMORY POLYMERS AND COMPOSITES (M/F)

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

### 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

The Functional Polymers (FP) unit addresses the synthesis, formulation and processing of polymers to achieve specific properties enhancements and multi-functionality through both physics-based experimental and numerical approaches, including molecular modelling.

The unit pursues funding and carries out research through industrial contracts and competitive projects sponsored at the Luxembourgish and European levels and is organized into two research groups focused on :

- 1) the realization of sustainable polymeric materials
- 2) the chemistry and physics of smart / responsive polymers.

Job reference: MRT-2020-053

Application file:

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

Apply online:

[https://www.list.lu/en/jobs/materials-job-opportunities/job-offer/mrt-2020-053/?no\\_cache=1&cHash=f8569ffdebde901976b3bc6c3e51b1d1](https://www.list.lu/en/jobs/materials-job-opportunities/job-offer/mrt-2020-053/?no_cache=1&cHash=f8569ffdebde901976b3bc6c3e51b1d1)

### 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

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## What you will be doing

We are looking for a Post-doctoral researcher able to strongly contribute to an ambition project focus on 3D and 4D printing of shape memory polymers and composites with a special focus on the research and development involving existing and new additive manufacturing and processing capabilities for the generation of new responsive polymeric materials with applicative perspectives.

Your main missions will aim at further improving and developing the existing tools and capabilities of 3D printing of polymeric materials towards 4D printing of shape memory polymers and composites. Starting from available base polymers the research ambition is to develop new processes and capabilities for additive manufacturing of internally sourced bio-based thermosets, thermoplastics and related composites.

## Which profile we are looking for

- PhD in Polymer, materials, chemical or mechanical engineering or a related field
- Two years of professional experience after PhD completion
- Expertise in the 3D/4D printing of thermosets and / or thermoplastics is essential, to be supported by the relevant underlying knowledge of polymer and composite science and engineering. Demonstrable initiative and innovative thinking in the subject is sought after.
- Experience working with shape memory polymers is considered a strong asset.
- Experience with 3D printing of composite materials is highly valued.
- A team player with the ability to work with a diverse range of colleagues in an international environment is needed.
- Excellent written and oral communication skills are essential (e.g. in publications, patents, reports and / or presentations)
- Ability to effectively coordinate with multiple collaborators
- Strong spoken and written English is mandatory.
- Knowledge of French, German and / or Luxembourgish is considered an asset.

## Interested ? Please apply online

[https://www.list.lu/en/jobs/materials-job-opportunities/job-offer/mrt-2020-053/?no\\_cache=1&cHash=f8569ffdebde901976b3bc6c3e51b1d1](https://www.list.lu/en/jobs/materials-job-opportunities/job-offer/mrt-2020-053/?no_cache=1&cHash=f8569ffdebde901976b3bc6c3e51b1d1)

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