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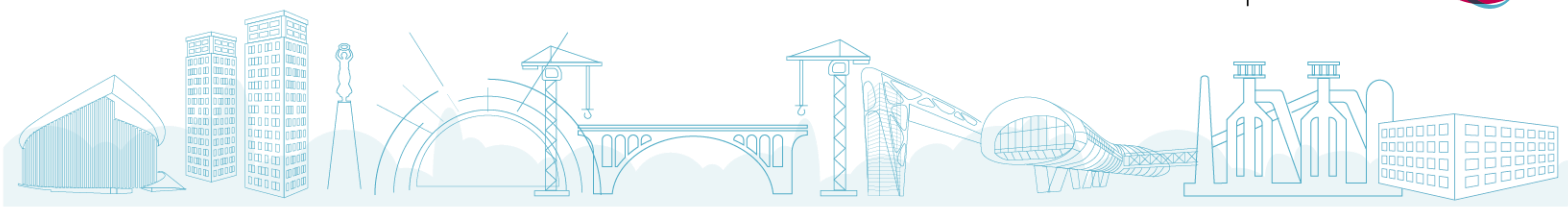
LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY | LIST



M-2052-POST-DOTORAL IN SECONDARY ION MASS SPECTROMETER DEVELOPMENT

Temporary contract | 24 months | Fulltime/40h | Belvaux

Are you passionate about research? So are we! Come and join us

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 'd like to contribute as a researcher? Join our Materials Research and Technology department

Through its research into advanced materials and processes, the "Materials Research and Technology" (MRT) department, with its 200 researchers and engineers, contributes to the emergence of enabling technologies that underpin the innovation processes of local and international industry. MRT's activities hinge on four thematic pillars: nanomaterials and nanotechnology, scientific instrumentation and process technology, structural composites, and functional polymers.

The department also includes four high-tech platforms, focusing on composites, prototyping, characterization and testing. These platforms serve both LIST research staff, and other stakeholders in Luxembourg.

How will you contribute?

The Advanced Instrumentation for Nano-Analytics (AINA) group within the Scientific Instrumentation and Process Technology (SIPT) unit of MRT is renowned for developing innovative nano-analytical techniques for materials characterization and life science applications. During the past few years we have been developing in particular Secondary Ion Mass Spectrometry (SIMS) add-on systems for analytical instrument such as the Helium Ion Microscope (HIM), Focussed Ion Beam (FIB) instruments and Transmission Electron Microscope (TEM), allowing correlative high spatial resolution imaging and high sensitivity chemical information for nano-analytics.

In this context, we are developing a next generation SIMS instrument for nano-analytics in collaboration with zeroK NanoTech, USA. The main objective is to develop a highest-sensitivity, high-speed, ultimate resolution SIMS instrument using zeroK's LoTIS Cs ion source. In this framework, we are looking for a well-motivated post-doctoral researcher for the development of a high mass resolution, high transmission, and parallel acquisition magnetic sector mass spectrometer for this next generation SIMS system.

The post-doc researcher will work with highly skilled scientists and engineers in the dynamic environments of the AINA group and zeroK NanoTech. The successful candidate will:

- be mainly in charge of the ion optical design and development of the complete ion optics for the SIMS system, including the extraction and transfer optics, and the magnetic sector mass analyzer.
- contribute to the prototyping of the instrument.
- acquire highly valued skills in charged particle optics simulation and design, mass spectrometry instrumentation, and scientific instrument development.
- contribute to securing novel intellectual property originating from the project, as well as disseminate the results in international conferences and write scientific papers.

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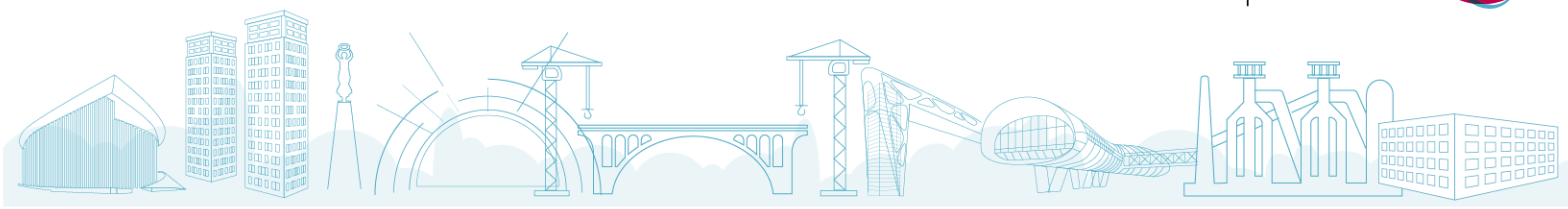

Is Your profile described below? Are you our future colleague? Apply now!

You hold a PhD in Physics, Materials Science or Electrical Engineering. You also have experience in charged particle optics simulation, instrumentation, and prototyping. You have good knowledge in charged particle optics simulation software (e.g SIMION, LORENTZ) and programming languages (e.g Python). You also have interests in mass spectrometry instrumentation and applications.

Finally, you're highly motivated and strong team worker. You are fluent in English. You're the one we're looking for!

Your LIST benefits

An organization with a passion for impact and strong RDI partnerships in Luxembourg and Europe that works on responsible and independent research projects;

Sustainable by design, empowering our belief that we play an essential role in paving the way to a green society;

Innovative infrastructures and exceptional labs occupying more than 5,000 square metres, including innovations such as our Viswall, high-scale incubators and top of the range 3D/4D printings that are part of our toolkit for excelling in all we do;

Multicultural and international work environment with more than 45 nationalities represented in our workforce;

Diverse and inclusive work environment empowering our people to fulfil their personal and professional ambitions;

Gender-friendly environment with multiple actions to attract, develop and retain women in science;

32 days paid annual leave, 11 public holidays, flexible working hours, 13-month salary, statutory health insurance and access to lunch vouchers;

Personalized learning programme to foster our staff's soft and technical skills;

An environment encouraging curiosity, innovation and entrepreneurship in all areas.

Apply online

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

Your application must include:

- A motivation letter oriented towards the position and detailing your experience;
- A scientific CV with contact details;
- List of publications (and patents, if applicable);
- Contact details of 2 references.

Application procedure and conditions:

- LIST is an equal opportunity employer and is committed to hiring and retaining diverse personnel. We value all applicants and will consider all competent candidates for employment without regard to national origin, race, colour, gender, sexual orientation, gender identity, marital status, religion, age or disability;
- Applications will be reviewed on an ongoing basis until the position is filled;
- An assessment committee will review the applications and select candidates based on guidelines that aim to ensure equal opportunities;
- The main criteria for selection will be the correspondence of the existing skills and expertise of the applicant with the requirements mentioned above.