



## Research Engineer in Materials Science and Strain Measurements using Neutron Diffraction

### Your mission

SALSA is an instrument dedicated to non-destructive strain measurements within small and large objects. ILL scientists and the Industry Liaison Office teamed up with partners in Europe to build the EASISTRESS (H2020 funded) project –led by the Danish Technological Institute. EASISTRESS overall aims to strengthen industrial access and uptake of non-destructive synchrotron x-ray and neutron diffraction-based residual stress characterisation tools by validation against accepted destructive techniques and development of protocols, in collaboration with industry.

### Your tasks

As a member of our Diffraction Group, your aim is to design methods and algorithms capable of handling and processing complex set of data extracted from the SALSA instrument and additional synchrotron and neutron diffraction-based stress measurement techniques, in order to make them easily exploitable for industrial researchers (e.g. data that can be merged with simulated data). Your main duties will be:

- Definition of a common framework (in terms of algorithms for signal and data processing, including calibration steps) for the various neutron and synchrotron based techniques that provide stress measurements,
- Design and development of efficient algorithms capable to process data (from raw data to results including errors analysis) for the techniques involved and cases relevant for EASISTRESS. This work will be based on former work achieved for neutron diffraction (VAMAS-TS165, ISO 21432:2019, Sine2020 and Brightness2) and aim to extend the framework to the various synchrotron and laboratory-x-ray set-ups. The interoperability of protocols and algorithms will be demonstrated using round-robin tests.

### Your profile

- PhD in Physics or Material science with strong computing skills using Python and C++. A minimum of 1 year experience after the PhD is desirable
- Knowledge and experience in neutron instrumentation and experimentation is essential. Experience in other neutron sources or analytical research infrastructure is desirable
- Deep knowledge of mechanical properties characterisation techniques
- Teamwork spirit and autonomy will ensure success. Adequate communication skills to coordinate with project partners across Europe.

### What we offer



**Quality of life** – the Alpine metropolis of Grenoble, the home of research and technology, inspires with its ideal location (3 hours from Paris/Provence by train, 1 hour from the international airport in Lyon, and 1-1/2 hr from Geneva). Because it is important for us that you should achieve a balance between your professional and personal life, we offer homeworking (under certain conditions), numerous paid leave days per year and a number of other benefits you will discover upon arrival!



**Prospects** - We guarantee you a secure, fixed-term contract until 31 December 2023 in the heart of a multicultural scientific environment.

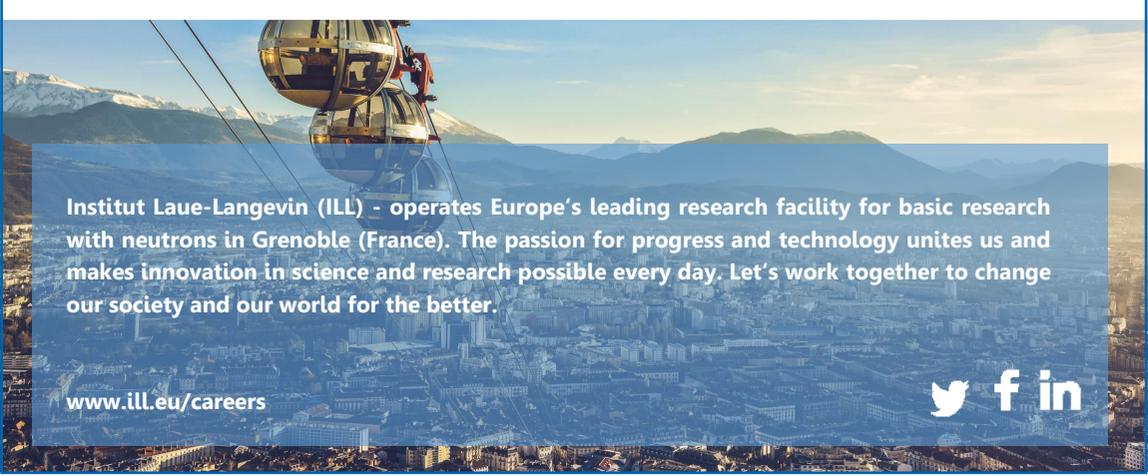


**Benefits** - We offer you generous social benefits (expatriation allowance, advantageous health cover), moving and relocation assistance (under certain conditions) and an annual productivity bonus. The other benefits we offer are language courses for you and your partner, subsidies for public transport, for holidays, for the canteen and for the social activities.

### Does this sound interesting to you?

Then go ahead and apply online via our applicant portal by **13.02.2022** - preferably in English - quoting the reference number **22/02** with a list of publications and the names of 3 referees, including one from your present work place. Please note that this job is subject to administrative screening. Medical fitness for work under ionising radiation is required.

We believe in equal opportunities and diversity, so the position is equally accessible to all qualified applicants.



Institut Laue-Langevin (ILL) - operates Europe's leading research facility for basic research with neutrons in Grenoble (France). The passion for progress and technology unites us and makes innovation in science and research possible every day. Let's work together to change our society and our world for the better.