

The Institut Laue-Langevin (ILL), situated in Grenoble, France, is Europe's leading research facility for fundamental research using neutrons. The ILL operates the brightest neutron source in the world, reliably delivering intense neutron beams to 40 unique scientific instruments. The Institute welcomes 1700 visiting scientists per year to carry out world-class research in solid-state physics, crystallography, soft matter, biology, chemistry and fundamental physics. Funded primarily by its three founder members: France, Germany and the United Kingdom, the ILL has also signed scientific collaboration agreements with 10 other European countries. The Science Division currently has a vacancy for a:

## Post-Doctoral Research Assistant (m/f) ELECTROCHEMISTRY

### Duties:

Working within the Large Scale Structures (LSS) group and funded by the European grant FILL2030, you will be involved in the development of methods for the study of a range of systems at planar liquid/liquid interfaces with neutrons and complementary techniques with a focus on the investigation of phenomena related to electrochemistry.

Few experimental techniques exist that can be used to probe buried planar liquid/liquid interfaces, such as the phase boundary between hydrocarbon oils and aqueous solutions. Progress in the study of bulk liquid/liquid interfaces using neutron reflectometry has been slow so far due to challenging experimental difficulties and the weak neutron signal due to absorption from the liquids. We have demonstrated recently the unique characteristics of the FIGARO reflectometer at the ILL in allowing us, for the first time, to study bulk interfaces with neutrons. This is possible thanks to the high neutron flux of the instrument combined with the ability to reflect either up or down at the interface. Further developments are needed for the optimisation of a range of sample cells and measurement procedures as well as approaches for data analysis using neutrons on FIGARO and optical and x-rays techniques within the Partnership for Soft Condensed Matter.

The work will be done in collaboration with Dr. Ali Zorbakhsh from Queen Mary University in London. The PDRA will be based at the ILL with frequent visits to the collaborators' laboratories. He/she will be expected to contribute to publicising neutron scattering techniques and the unique capabilities of the FIGARO instrument with the electrochemistry and soft matter communities.



The LSS group comprises a range of instruments designed to carry out studies on the structure of matter on a scale of one to hundreds of nanometers. These include instruments for small-angle scattering, reflectometry, diffraction from single crystals or one or two-dimensionally ordered materials. The range of science covered is very broad, from polymer and colloid science through structural molecular biology to materials science, chemistry and magnetic phenomena.

### **Qualifications and Experience :**

Ph.D. in physics, chemistry or physical chemistry.

We are particularly interested in highly motivated candidates with experience in electrochemistry and/or reflectometry techniques.

Applications from candidates bringing their own research project in the field of electrochemistry or applications in soft matter of liquid/liquid interfaces will be considered.

The post represents an excellent opportunity for a young scientist to develop expertise, broaden experience and interact with leading scientists from around the world.

### **Language skills :**

As an international research centre, we are particularly keen to ensure that we also attract applicants from outside France. You must have a sound knowledge of English and be willing to learn French (a language course will be paid for by the ILL). Knowledge of German would be an advantage.

### **Notes :**

Post-Doctoral contract of 18 months, renewable for a further 6 to 18-month period.

Only candidates holding a PhD obtained less than 2 years ago are eligible for Post-doctoral positions.

Medical fitness for work under ionising radiation is required.

Further information can be obtained by contacting the head of the LSS Group: Dr. G. Fragneto, tel.:+33(0)4.76.20.70.62, e-mail: [fragneto@ill.fr](mailto:fragneto@ill.fr) or via <http://www.ill.fr/lss> (*please do not send your application to this address*).

The interviews will take place in the last 2 weeks of August 2017. The selected candidate is expected to start in Autumn 2017.



## Benefits :

Generous company benefits (expatriation allowance), relocation assistance and language courses may be offered (for more information, please consult our [employment conditions](#)).

## HOW TO APPLY:

Please submit your application on-line,  
with a list of publications and the names of 3 references, including one  
from your present work place,

no later than 03/07/2017, via our website:

<http://www.ill.eu/careers>  
(vacancy reference : 17/PostDoc04).

Remitir Copia de la candidatura a: [eures.franciasuizabeneLux@sepe.es](mailto:eures.franciasuizabeneLux@sepe.es)

indicando la referencia: **ILL 17/ PostDoc04**

*Ayudas a la movilidad*

