NEUTRONS FOR SOCIETY

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VACANCY

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, and welcomes over 2000 visits of scientists per year to carry out world-class research in a wide variety of scientific fields. We currently have a vacancy:

Research Scientist M/F

The ILL Diffraction group operates a large suite of powder and single crystal diffractometers to carry out collaborative research programs in various areas of chemistry, physics, materials science, engineering, and protein structure. We are looking for highly motivated candidates to work on the development of crystallographic algorithms to develop the 'Crystallographic Fortran Modules Library' (CrysFML) and FullProf Suite's programs.

Duties and accountabilities:

- Analyse the structure of the library CrysFML and how to develop new programs based on the library.
- Improve your knowledge of Crystallography (e.g. representation group theory and general superspace groups).
- Develop appropriate algorithms to be implemented in FullProf modules for general restraints/constraints.
- Create a graphical user interface to generate the description of the restrains/constraints into files to be used by FullProf.
- Design modules for structure factor of:
  - calculations with form-factors and displacement parameters of any type (multipoles, combined electron/spin densities, anharmonic temperature factors...),
  - crystal and magnetic structures described in the superspace formalism.
- Develop, in the longer term, a new multi-dimensional Rietveld code, using computer algebra, allowing to refine simultaneously multiple patterns making analytical expressions for correlating parameters of any type.

This position represents an excellent opportunity for young scientists to develop expertise, broaden experience and interact with leading scientists from around the world.

Qualifications and experience:

- PhD in physics, chemistry, materials science, or equivalent qualification together with experience in neutron and/or X-ray scattering techniques.
- Deep knowledge of crystal diffraction, crystallography, magnetism and group theory would be appreciated.
- Strong abilities in scientific programming languages (Fortran, C/C++, Python...) is required for this post.

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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:
An 18-month minimum 'specified-purpose' fixed-term contract funded by the European grant FILL2030.
Medical fitness for work under ionising radiation is required**.**
Further information can be obtained by contacting the Head of the Diffraction Group: Dr Maria Teresa Fernandez Diaz, tel.: +33(0)4.76.20.76.06, e-mail: ferndiaz@ill.eu or via www.ill.fr/dif ***(please do not send your application to this address).***

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

closing date for submissions: **27/08/2017** Ref. #: **17/18**

We care about Equal Opportunity and Diversity; therefore we encourage both men and women with relevant qualifications to apply.

Further information on **www.ill.eu**