

Postdoctoral Fellow at the Institute of Structural Biology of Grenoble.

Deciphering structure and function of ancestral enzymes

Project description. How do enzyme structure, function and regulation evolved is a fundamental question. The project is designed to decipher, at the molecular level, the evolutionary process that drives the birth of allosteric regulation in a large family of homologous dehydrogenases involved in the metabolism. We are seeking for a candidate who will carry out research on *in-laboratory resurrected* ancestral enzymes, which existed prior the functional divergence of the modern homologs within the studied family. He/she will combine enzymology, biophysics and X-rays crystallography studies. Comparison of modern and ancestral enzymes' properties will help to decipher how protein conformational flexibility and new capacity of enzymatic regulations trade off along the evolutionary history of biomolecules.

The project is a collaboration between four French laboratories and is funded by the French National Research agency (ANR). More details on <http://www.agence-nationale-recherche.fr/?Project=ANR-16-CE11-0011>

Location. The post-doctoral position will take place in the ELMA group at the Institute for Structural Biology (IBS), which is located within the European Synchrotron campus of Grenoble. The IBS performs interdisciplinary research at the interface of biology, physics and chemistry. The candidate will benefit of a privileged access to the High Throughput Crystallization (HTX) platform to explore crystallization conditions and to the Synchrotron Radiation sources ESRF (Grenoble) to collect diffraction data sets.

<http://www.ibs.fr/research/research-groups/extremophiles-and-large-molecular-assemblies-group/>

Qualification requirements. The applicant should have a doctoral degree in Molecular & Structural Biology or in Biophysics with a proven experience in protein crystallogenesi and structure determination. The degree should have been completed no more than three years before the deadline for applications. The working language is French or English.

Terms of employment. The position involves full-time employment for 18 months. Contract with the Commissariat à l'Energie Atomique (CEA). The gross salary is ≥ 2.850 €/month).

Contract start date: October -December 2017.

Contact. Further information about the position can be obtained from Dr Dominique Madern, telephone: +33 4 57 42 85 71, Dominique.madern@ibs.fr, or Dr Eric Girard, telephone: +33 4 57 42 86 45, Eric.girard@ibs.fr.

Please include the following information with your application: -Your contact details and personal data, your highest degree, your language skills, cover letter, CV – degrees and other completed courses, work experience and a list of publications. -Copy of PhD diploma, Letters of recommendation. -Publications in support of your application (no more than 3 files).