



## PhD Position available in Structural Biology in Grenoble (France)

### Structural Investigation of Large Protein Machineries by combination of NMR and EM approaches

The structural study of biomolecular nanomachines remains a considerable practical challenge, requiring a multifaceted approach. In this project we propose to investigate the structure of different functional states of a 1 MDa chaperonin machinery by combining innovative methods in Nuclear Magnetic Resonance and cryo-Electron Microscopy. [Institut de Biologie Structurale](#) (IBS) has long history in development and application of innovative methods for integrated structural biology studies. The successful candidate will be part of a collaborative project involving [Biomolecular NMR Spectroscopy](#) and [Methods and Electron Microscopy](#) groups from IBS, with strong financial support from European Research Council. The PhD student will be integrated in a dynamic and interdisciplinary team, composed by experts in Biochemistry, Isotopic Labelling, Electron Microscopy, Molecular modelling, solution and solid-state NMR spectroscopy. The student will collaborate daily with NMR spectroscopists and microscopists to extract structural data. He/She will develop innovative structure calculation approaches integrating the EM and NMR restraints for the high-resolution structure determination of large protein assemblies. Host groups have expertises in production, NMR and EM analysis of the biological particles and have model systems to develop and validate new approaches. The PhD student will have access to state of the art equipments for cryo-electron microscopy and tomography and six high field NMR spectrometers (950 MHz, 850 MHz, 700 MHz, 3x600 MHz) equipped with latest solid-state NMR and cryogenic probes.

The host institute relocated in fall 2013 in a new 9500 m<sup>2</sup> building, and is part of the Grenoble Partnership for Structural Biology (PSB), a vibrant European hub for structural biology, which comprises the European Synchrotron Radiation Facility (ESRF), the Laue Langevin Institute (ILL), the Institute of Structural Biology (IBS), and the EMBL Grenoble Out-Station. Grenoble is a former Olympic city situated in the heart of the French Alps with convenient access to several local ski resorts. Grenoble is well connected to international airports by regular shuttle buses (Lyon or Geneva) or high-speed trains (Paris).

Applicants should be registered in Master or equivalent degree in Structural Biology, Biophysics or Physical Chemistry. Successful candidate will get a 3-year CEA fellowship starting in October or November 2014. He/She will benefit from a gross yearly salary of 25 k€ including, health & retirement insurances. Interested candidates should send by March 12<sup>th</sup> 2014, a *Curriculum Vitae*, a cover letter and 2 reference letters, via e-mail to: [jerome\(dot\)boisbouvier\(at\)ibs\(dot\)fr](mailto:jerome(dot)boisbouvier(at)ibs(dot)fr)

