



## PhD position (3 years)

### Deciphering the complex energy landscape of the human chaperone HSP90 at atomic resolution using advanced NMR methods.

A PhD position is available in the *NMR of Large Assemblies* group led by Dr. Boisbouvier, at the Structural Biology Institute (IBS) in Grenoble, France. The successful candidate will use advanced isotope labeling and NMR methods at variable temperature and pressure to identify and characterize the structure and dynamics of rare functional states of the human chaperone HSP90. The position is funded by the French Atomic Energy and Alternative Energies Commission (CEA). The successful candidate will work under the supervision of Dr. Boisbouvier (IBS, Grenoble) and in close collaboration with Dr. E. Lescop (ICSN, Gif sur Yvette).

**Facilities:** Successful candidates will have access to state-of-the-art NMR facilities including 950, 850, 700 and 600 MHz NMR spectrometers with liquid-state cryoprobes (IBS and ICSN) equipped for high-pressure NMR (ICSN), wet lab facilities dedicated expression, advanced isotope labeling and protein purification (IBS).

**Benefits:** Gross salary: €2,561/month, health insurance, partial reimbursement of local transport expenses, 50 days vacation a year. Expected starting date: 01/10/24.

**Applications:** Candidates should hold or prepare an Engineer diploma or a Master degree in physical chemistry, structural biology, biophysics or a related field. Interested candidates should send a CV, a covering letter and the names and e-mail addresses of two referees. These documents should be sent by e-mail to [jerome.boisbouvier@ibs.fr](mailto:jerome.boisbouvier@ibs.fr) and [ewen.lescop@cnrs.fr](mailto:ewen.lescop@cnrs.fr) by May 1<sup>st</sup> 2024.

#### Relevant Publications of the Teams:

- Henot et al. “*Visualizing the Transiently Populated Closed-State of Human HSP90 ATP Binding Domain*”. Nature Communications (2022). doi:10.1038/s41467-022-35399-8
- Pozza et al. “*Exploration of the dynamic interplay between lipids and membrane proteins by hydrostatic pressure*”. Nature Communications (2022). doi: 10.1038/s41467-022-29410-5
- Törner et al. “*Structural Basis for the Inhibition of IAPP Fibril Formation by the Co-Chaperonin Prefoldin*”. Nature Communications (2022). doi:10.1038/s41467-022-30042-y
- Gauto et al. “*Integrated NMR and cryo-EM atomic-resolution structure determination of a half-megadalton enzyme complex*”. Nature Communications (2019). doi:10.1038/s41467-019-10490-9
- Mas et al. “*Structural Investigation of a Chaperonin in Action Reveals How Nucleotide Binding Regulates the Functional Cycle*”. Science Advances (2018). doi: 10.1126/sciadv.aau4196.