



PhD position at the Institute for Structural Biology, Grenoble, France.

DEVELOPMENT OF ULTRASTABLE FLUORESCENT PROTEINS MARKERS FOR QUANTITATIVE SUPER RESOLUTION MICROSCOPY AT CRYOGENIC TEMPERATURE.

The recruited student will investigate the photophysics of fluorescent proteins at cryogenic temperature and seek to engineer a variant that efficiently photoactivates at such low temperature.

A major development in the super-resolution microscopy field is « cryo-nanoscopia », which will offer several key advantages, notably optimal preservation of biological samples and perspectives for correlative studies with cryo-EM. To do so, it is necessary to engineer a fluorescent marker being « photoactivatable » at liquid-nitrogen temperature. The project will concentrate on developing such a marker, based on fluorescent proteins of the GFP family. The work will notably involve advanced X-ray crystallography, spectroscopy and single-molecule cryo-imaging to investigate the complex photophysics of fluorescent proteins at cryo temperatures. The project will be carried out in collaboration with the group of J. Enderlein (Göttingen, Germany), expert in optics, and with a local team (I. Gutsche, IBS), expert in cryo-electron tomography.

Grenoble is situated in the middle of the beautiful French Alps, and the IBS provides a unique environment for state-of-the-art integrated cellular and structural biology (<http://www.ibs.fr/>).

Candidates should have a strong background in biophysics and/or biochemistry. Preliminary experience in advanced optical microscopy, protein crystallography and molecular biology will be key advantages.

The project is financed by the French “CEA”: see <http://www-instn.cea.fr/en/education-and-training/research-training/phd-programs/list-of-thesis-subjects/development-of-ultrastable-fluorescent-proteins-markers-for-quantitative-super-resolution,18-0511.html>

Applications are open until May 31, 2018. Please send a CV and 2 reference letters to Dominique Bourgeois (dominique.bourgeois@ibs.fr).

