



Institut de Biologie Structurale

Postdoctoral positions in cryo electron microscopy

Two postdoctoral positions are available at IBS Grenoble to work on the structure of ESCRT-III polymers employing state of the art electron microscopy methods. The endosomal sorting complex required for transport (ESCRT) machinery catalyzes many membrane-remodeling processes. Common to all ESCRT-catalyzed processes in eukaryotes and archaea is the recruitment of ESCRT-III proteins that polymerize on membranes in order to constrict and cleave membranes during vesicle and enveloped virus budding or cytokinesis.

Major questions are how the different ESCRT-III members (11 in eukaryotes) co-polymerize and constrict membranes and how this is linked to ESCRT-III function on DNA/chromatin. The candidates will employ cryo electron microscopy, single particle analyses and tomography, to understand the molecular details of ESCRT-III filament assembly, alone, on membranes and on DNA. Furthermore, they will analyze VPS4-driven remodeling of single and multi-stranded polymers in order to understand the structural basis of membrane constriction leading to membrane fission. Many of the experimental systems required for the structural analyses are in place.

The successful candidates will join the EBEV group at IBS and will work closely with staff developing *in vitro* ESCRT-III model systems as well as with the electron microscopy group MEM (<https://www.ibs.fr/fr/recherche/>). The IBS is equipped with T12, F20 and Glacios (equipped with a Falcon 2 and K2 summit direct electron detectors) microscopes. Furthermore, Krios microscopes can be accessed locally (ESRF CM01 and ESRF CRG FRISBI CM02 platforms).

The candidate should hold a PhD in structural biology, preferentially in electron microscopy. He/she should be familiar with cryo electron microscopy techniques. Experience in electron tomography would be a plus. The positions are available for two and three years. The gross monthly salary varies between 3767€ and 4851€ depending on experience.

Please send your application to winfried.weissenhorn@ibs.fr and/or contact winfried.weissenhorn@ibs.fr or guy.schoehn@ibs.fr for further information.