# PhD-position in X-ray microscopy of cellular membranes

Offered is a fully funded 4-year PhD-position in a joint research group between FU Berlin and the Helmholtz Center Berlin on X-ray microscopy of cellular membranes.

The aim of the project is to image the development of lipid droplets in cultured cells using x-ray and live-cell microscopy. We aim to develop quantitative image analysis routines for the analysis of cellular membraneous compartments in x-ray microscopy to understand the role of septins in lipid droplet biology. This challenging project will combine cell biology with technique development in a unique collaborative and interdisciplinary environment between laboratories HZB and FU Berlin.

We are looking for an ambitious, motivated student with a strong interest in physical imaging techniques and image processing who is keen on learning about biological processes. Strong support for all aspects of the project is available and the position is fully funded. A background in Physics or Biophysics is considered ideal, but ambitious Biochemists or Computer Scientists with interest and experience in image processing will have all the support to learn the interdisciplinary aspects of this project.

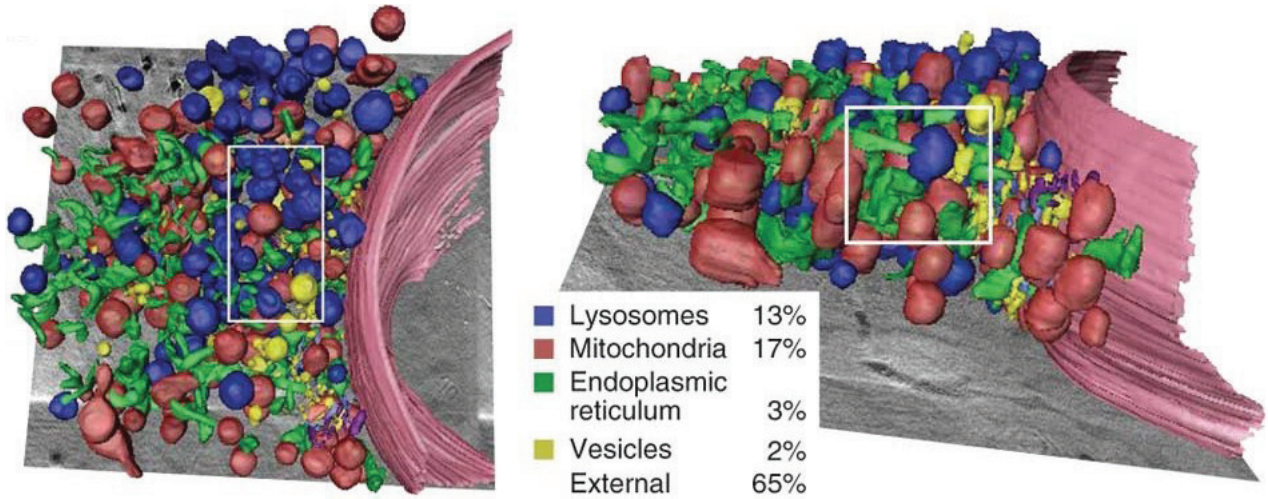


Figure 1: Quantitative analysis of cellular membrane compartments by X-ray microscopy

We offer an ambitious environment striving for excellence in technology, experiment and analysis. Substantial resources towards this project are available in terms of technical help and state-of-the art technology and assays. Our laboratory is firmly integrated in the international superresolution, septin and cell biology communities and strongly connected within the scientificenvironment in Berlin. We strive to support our alumni and former lab members have moved on to postdocs and group leader positions at prestigious institutions.
FU Berlin is one of 11 German universities of excellence and in the Top 100 of world universities across rankings. It has a strong international character and Berlin is one of the top locations for research in Europe with several universities and federal research institutions. Quality of life is high and the cost of living is low.

Please apply with a motivation letter, CV, university transcripts and the contact details of 2 references to:
helge.ewers@fu-berlin.de

References:

Ries, J., Kaplan, C., Platonova, E., Eghlidi, H. and Ewers, H. Nature Methods, 2012, A simple, versatile method for GFP-based single molecule localization microscopy via nanobodies.

Schneider, G., Guttmann, P., Heim, S., Rehbein, S., Mueller, S., Nagashima, N., Heymann, Müller W.G., & McNally, J.G. Nature Methods, 2010, Three-dimensional cellular ultrastructure resolved by X-ray microscopy

Ewers, H.*, Roemer, W.*, Smith, A.E., Bacia, K., Dmitrieff, S., Chai, W., Mancini, R., Kartenbeck, J., Chambon, V., Berland, L., Oppenheim, A., Schwarzmann, G., Feizi, T., Schwille, P., Sens, P., Helenius, A. and Johannes, L. Nature Cell Biology, 2010, SV40 binding to its receptor, GM1, induces membrane invagination, tubulation and infection.