

## SwissFEL Workshop 2: Scattering and diffraction experiments



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### **Femtosecond analysis of protein nanocrystals and supramolecular complexes.**

*Monday, 21 November 2011 10:50 (5 minutes)*

Membrane proteins (MPs) represent key components of cell membranes, about one fourth of the human proteome and 60% of the drug targets. We are interested in learning about the different conformations a MP can adopt in response to interacting molecules. The best way to analyse this at the atomic level is to determine their 3D-structure by crystal X-ray diffraction. We aim at producing nanocrystals of MPs and of supramolecular complexes, especially those related to tubulin, for analysis with FELs. A range of techniques will have to be employed for nanocrystal detection. Nanocrystals may exhibit fewer lattice imperfections compared to larger crystals. The x-ray beam parameters needed to analyse nanocrystals by “diffract-and-destroy” serial crystallography will be discussed as well as the way to deliver the nanocrystals to the beam.

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