



## Serial Crystallography at FELs and synchrotron sources

Thursday, 26 January 2017

DESY Auditorium, Bldg. 5

Serial Femtosecond X-ray crystallography (SFX) at X-ray Free Electron Lasers (XFELs) has changed the way crystallographic data can be collected. Instead of investigating one or a few large crystals, still images from hundreds to hundred of thousands of crystals are collected in series. Recently, the technique of serial crystallography has also been very successfully applied at synchrotron sources. In addition to determinations of ground state structures from micro- and nano-crystals, an important potential of serial crystallography is studying kinetics of irreversible enzyme reactions. Dynamic events can be induced in different ways; such as laser excitation, microfluidic mixing, temperature jumps, cleavage of caged compounds, and others.

With the European XFEL and the PETRA III storage ring the Hamburg metropolitan area offers excellent opportunities for serial crystallography experiments. During this workshop, application experts will present their latest results along with facility experts showcasing the experimental opportunities at the SPB/SFX instrument of the European XFEL and the PETRA III biology beamlines.

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### PROGRAMME

14:00	Welcome	Alke Meents	DESY / CFEL
14:10	Capturing the structure of a biochemical interaction intermediate state of a riboswitch in real time using an XFEL	Yun-Xing Wang	NIH / National Cancer Institute
14:40	Serial femtosecond crystallography pump probe experiments	Ilme Schlichting	Max Planck Society
15:10	A molecular movie of the bacteriorhodopsin photocycle on the nanosecond to millisecond time scale	Antoine Royant	ESRF / Institut de Biologie Structurale
15:40	Beyond the Braggs - Getting more from protein crystallography	Oleksandr Yefanov	DESY / CFEL
16:10	<i>Coffee break</i>		
16:40	Opportunities for serial crystallography using the SPB/SFX instrument at the European XFEL	Adrian Mancuso	European XFEL
17:10	Opportunities for Serial Crystallography at beamline P11 at PETRA III	Anja Burkhardt	DESY
17:30	Workflows for serial crystallography on beamline P14	Johanna Kallio	EMBL Hamburg