

Strategies to improve sample preservation (preparation and environment) for the synchrotron based X-ray analyses of biological samples

Monday, 4 th February 2019 - Tutorial 1 Venue: IBS Auditorium		
08:30 – 08:50	Registration at IBS	
08:50 – 09:00	Welcome	
	Session I: Monitoring (on-line)/ Assessing (off-line) / Understanding radiation damage	
09:00 – 09:25	General introduction about radiation damage on protein crystals	Martin Weik (IBS)
09:25 – 09:50	Temperature dependence of both global and specific radiation damage in macromolecular crystallography	Antoine Royant/ Guillaume Gotthard (IBS)
09:50 – 10:15	Radiation damage observed in XAS analyses	Pieter Glatzel (ESRF)
10:15 – 10:45	<i>Coffee break</i>	
10:45 – 11:10	Assessing the impact of X-ray tomography on fossils DNA	Paul Tafforeau (ESRF)
11:10 – 11:30	<i>Session wrap-up</i>	
	Session II: ESRF access and on-site services	
11:30 – 11:50	Safety rules for the analysis of biological samples at the ESRF and overview of the labs on site	Véronique Mayeux (ESRF)
11:50 – 12:10	The PSCM: instruments available for off-line pre/post characterization of biological samples	Pierre Lloria (ESRF)
12:10 – 14:00	<i>Lunch break</i>	
	Session III: Improving sample preparation protocols	
14:00 – 14:25	Preparing biological samples for cryo EM	Hélène Malet (IBS)
14:25 – 14:50	Preparation and observation (cryo visible microscope) of samples for nano-scopy at ID16A	Sylvain Bohic (INSERM)
14:50 – 15:15	Cryo-ultramicrotomy (CEMOVIS), STXM, cryo-STXM and cryo-SEM study of mineral formation by bacteria	Karim Benzerara (Sorbonne University)
15:15 – 15:40	Preparation of tissues for μ XRF/ μ XAS analyses	Katarina Vogel-Mikus (Univerza Ljubljani)
15:40 – 16:00	<i>Session Wrap-up</i>	
16:00 – 16:30	<i>Coffee break</i>	
	Session IV: Additional strategies for sample preparation	
16:30 – 16:55	Optimizing cells preparation for correlative elemental imaging/electron microscopy	Giulia Veronesi (CNRS)
	Session V: Instrumental developments at beamlines	
16:55 – 17:20	Future approaches to record diffraction data on macromolecular crystals	Antoine Royant/ Guillaume Gotthard (IBS)
17:20 – 17:40	The cryo stage for ID13/ID16B	Peter van der Linden (ESRF)
17:40 – 18:00	<i>Session Wrap-up</i>	