

Wednesday 22 January

09:00-09:30	REGISTRATION FOR PARTICIPANTS ATTENDING THE INTRODUCTION (OPTIONAL)
OPTIONAL INTRODUCTION FOR NEWCOMERS	
09:30-09:35	Welcome and introduction (M. Cotte, Scientist at the ESRF)
09:35-10:00	The ESRF in a few words (J. Susini, Director of Research, ESRF)
10:00-10:25	Basic principles of X-ray tomography (P. Tafforeau, Scientist at the ESRF)
10:25-10:45	<i>Coffee break</i>
10:45-11:10	Basic principles of X-ray diffraction (C. Dejoie, Scientist at the ESRF)
11:10-11:35	Basic principles of X-ray spectroscopy (M. Cotte, Scientist at the ESRF)
11:35-12:00	Applying via peer-reviewed proposals & writing good proposals (J. McCarthy, Head of User Office)
11:30-13:30	REGISTRATION FOR PARTICIPANTS NOT ATTENDING THE INTRODUCTION
12:00-13:30	<i>Lunch at the EPN campus restaurant</i>

OFFICIAL LAUNCH OF THE WORKSHOP	
13:30-13:45	Welcome and introduction to EBS (F. Sette, Director General, ESRF)
13:45-14:00	Scopes and objectives of the workshop (M. Cotte, Scientist at the ESRF)
SESSION I – PALAEOLOGY I (Chairperson: S. Sanchez)	
14:00-14:40	10 Years of Synchrotron and Sediba Lee BERGER, University of the Witwatersrand, Johannesburg
14:40-15:00	Synchrotron X-ray imaging enables 3D quantification of bone microstructures across fossil and modern bird-line archosaurs Dennis VOETEN, Department of Organismal Biology, Uppsala University
15:00-15:40	Digging virtually into large fossils using synchrotron X-ray microtomography Vincent FERNANDEZ, Natural History Museum, London
15:40-16:10	<i>Coffee break</i>
SESSION II - MATERIALS, PROCESSES AND CHAÎNES OPÉRATOIRES I (Chairperson: M. Cotte)	
16:10-16:50	Cultural Heritage & Synchrotron Radiation: Quo Vadis? Koen JANSSENS, Faculty of Science, University of Antwerp
16:50-17:10	Colour Enamels in the Modernist Catalan stained glasses from Barcelona Marti BELTRAN, University of Catalonia, Barcelona
17:10-17:30	Complementary use of SR and neutrons for heritage study at NRC "Kurchatov institute" Elena TERESCHENKO, National Research Centre "Kurchatov Institute", Moscow
17:30-18:30	Poster clips
18:30-20:30	Poster session and buffet dinner (<i>apéritif dinatoire</i>)

Thursday 23 January

SESSION III – CONSERVATION AND ALTERATION (Chairperson: V. Gonzalez)	
09:00-09:40	Probing the degradation mechanisms of artists' pigments by different 2D XANES-based approaches Letizia MONICO, CNR-SCITEC, Perugia
09:40-10:00	The criticality of synchrotron techniques in developing new conservation strategies to characterise and stabilise marine archaeological artefacts Eleanor SCHOFIELD, Mary Rose Trust, HM Naval Base, Portsmouth
10:00-10:20	3D Visualization of the Effect of Light Aging on Orpiment Pigment Particles Frédérique BROERS, Rijksmuseum Amsterdam, Conservation and Science, Amsterdam
10:20-10:50	<i>Coffee break</i>
SESSION IV - MATERIALS, PROCESSES AND CHAINES OPERATOIRES II (Chairperson: N. Blanc)	
10:50-11:30	Structural studies of historical inorganic pigments using synchrotron radiation: capacities and future applications Victor GONZALEZ, Science Department, Rijksmuseum, Amsterdam
11:30-11:50	Shed light on the schematic paintings of Savoy: the use of μXRD to understand the painted wall Emilie CHALMIN, University Savoie Mont Blanc, CNRS, EDYTEM (UMR 5204)
11:50-12:10	Burning before painting: Synchrotron Radiation X-ray and Micro-XRF based Characterisation of rock art pigments from Karim Cave, Sangkulirang-Mangkalihat site, East Borneo, Indonesia Moh Mualliful ILMI, Institute of Technology, Bandung
12:10-13:40	<i>Lunch at the EPN campus restaurant</i>
SESSION V - INKS AND PAPYRUS (Chairperson: C. Dejoie)	
13:40-14:00	Structural and spectroscopic analyses of ancient black pigments from Roman archaeological sites Maria Cristina GAMBERINI, University of Modena, Department of Life Science
14:00-14:20	Elephantine: Challenges and first results on papyrus research V. LEPPER and H.-E. MAHNKE, Ägyptisches Museum und Papyrussammlung Berlin
14:20-14:40	Retrieval of the lost literature from the Herculaneum Papyri with the XRF Microscopy Luxi LI, Advanced Photon Source APS
SESSION VI - DEEP LEARNING (Chairperson: A. Goetz)	
14:40-15:00	Visibility Enhancement of Heritage Materials Through Deep Learning James BRUSUELAS, University of Kentucky, Computer Science Department
15:00-15:20	Automated Segmentation of Microtomography Imaging Using Machine Learning Johann BRIFFA, University of Malta
15:20-15:50	<i>Coffee break</i>
SESSION VII - PALAEOONTOLOGY II (Chairperson: V. Fernandez)	
15:50-16:30	Three-dimensional virtual bone histology of early tetrapods revealed by synchrotron light Sophie SANCHEZ, Uppsala University, Department of Organismal Biology
16:30-16:50	A lost world in sausage-shaped packages: synchrotron microtomography of fossil droppings as a tool for investigating ancient ecosystems Per AHLBERG, Department of Organismal Biology, Uppsala University
16:50-17:10	X-ray Raman scattering: A hard X-ray probe for the study of cultural and natural heritage Rafaella GEORGIU, IPANEMA c/o synchrotron SOLEIL
Transfer to Grenoble Museum	
18:30-20:00	Social programme: General public conference & private access at the Grenoble Museum
20:00-22:00	Workshop Dinner: Patio of Grenoble Museum

Friday 24 January

TUTORIALS (2) / PRACTICAL (1)	
09:00-10:00	PyMca ROI Imaging & Phase identification / Tomography
10:00-10:30	<i>Coffee break</i>
BEAMLINES POST ESRF-UPGRADE PHASE 2	
10:30-10:50	Introduction (J. Susini, Director of Research, ESRF)
10:50-11:10	X-ray tomography beamlines (P. Tafforeau, Scientist at the ESRF)
11:10-11:30	X-ray diffraction beamlines (C. Dejoie, Scientist at the ESRF)
11:30-11:50	X-ray spectroscopy beamlines (M. Cotte, Scientist at the ESRF)
11:50-12:10	ILL (J. Beaucour, C. Mondelli, ILL)
12:10-13:30	<i>Lunch at the EPN campus restaurant</i>
BEYOND INSTRUMENTS AND DATA COLLECTION	
13:30-13:40	Introduction (M. Cotte, Scientist at the ESRF)
13:40-14:10	Access models (J. McCarthy, Head of User Office)
14:10-14:25	Proprietary research (E. Mitchell, Head of Business Development Office, ESRF)
14:25-14:50	Data policy and data management (A. Goetz, Head of Software Group)
14:50-15:30	Discussion and Conclusions
<i>End of the Workshop</i>	
16:00-18:00	Social programme: Visit of Grenoble street art