



École Polytechnique, Palaiseau – France
&
Synchrotron SOLEIL, Saint-Aubin - France

Programme

Thursday, January 21st

ÉCOLE POLYTECHNIQUE – POINCARÉ AUDITORIUM

- 09:00 - 10:00 Registration & coffee
- 10:00 - 10:15 Welcome / Introduction
Antonio Tejeda - *ORGUES Chairperson*
- 10:15 - 10:30 The word of SOLEIL General Director
Jean Dailant
- 10:30 - 10:50 Last improvements of the Machine
Amor Nadji
- 10:50 - 11:20 Scientific highlights and prospective of SOLEIL
Paul Morin / Andy Thompson
- 11:20 - 12:05 Probing carriers and molecules on oxide surfaces by X-ray
Susumu YAMAMOTO - *Inst. for Solid State Phys. - Univ. of Tokyo (Japan)*
- 12:05 - 12:50 X-ray spectroscopic studies of biological dinitrogen reduction
Serena DeBeer - *Max Planck Institute (Germany)*
- 12:50 - 14:30 Lunch

Transfer to SOLEIL (14h30)



Technical Workshops :

Temporal resolution and dynamics

Auditorium Main Building - SOLEIL

Contributors:

- Marie-Agnès Tordeux : "Storage ring operation modes for time-resolved experiments"
- Claire Laulhé : "Studies on photoinduced sub-ns and sub-ps structural dynamics: pump-probe X-ray diffraction setup at CRISTAL beamline"
- Fausto Sirotti: "Time-resolved experiments with soft x-rays"
- Ferenc Borondics : "Opportunities in dynamics studies on biological systems at the SMIS beamline."

15:00 - 16:30

Spatial resolution

Auditorium Reception Building - SOLEIL

Contributors:

- Clotilde Policar, ENS Paris: "M(CO) compounds imaged at different energies (IR, classical fluorescence, X-fluorescence) and different scales (sub-cellular, tissue)."
- Dominique Bazin, LPS, CNRS, Univ. Paris Sud: "Interest of microbeam for the study of pathological calcifications".
- Delphine Vantelon (Lucia beam line, SOLEIL)
- Andrea Somogyi (Nanoscopium beam line, SOLEIL)

Multi beamline Measurements

Auditorium BLOCH - CEA

Contributors:

- Jean-Paul Itié, SOLEIL
- Amélie Bordage, Univ. Paris Sud
- Charlotte Martineau, Univ. Versailles-Saint Quentin.
- Mathieu Kociak, Univ. Paris Sud

16:30 – 17:00 *Coffee break*

17:00 - 19:30 Posters session / Commercial exhibition / Users' questions Booth

18:00 - 19:30 Visit of DIFFABS, ODE, PSICHE & SMIS Beamlines

19:30 - 21:00 *Buffet / Award of the best student poster*

Friday, January 22nd

9:00 - 11:00 Parallel sessions (see detailed programme here after)

11:00 - 11:30 *Coffee break*

11:30 - 13:00 Parallel sessions (see detailed programme here after)

13:00 - 14:30 *Lunch*

14:30 - 15:15 Structural and functional studies of the translation initiation factor e/aIF2
Emmanuelle Schmitt - Ecole Polytechnique, Palaiseau (France)

15:15 - 16:15 Synthesis of technical workshops and discussion with SOLEIL Management

16:15 - 16:30 Conclusions



Parallel Sessions Schedule

Biology - Health

Chairpersons: Yann GOHON and Isabelle BROUTIN

ECOLE POLYTECHNIQUE –MONGE Auditorium

- 09:00 - 09:30
(25'+5')
- Solution studies of Suppressor of Fused reveal features undetected by crystal structures
Valérie Biou - IBPC, Paris, France
- 09:30 - 09:50
(15'+5')
- New structural insights into the final steps of methanogenesis*
Tristan Wagner - MPI for Terrestrial Microbiology, Marburg, Germany
- 09:50 - 10:10
(15'+5')
- Time-resolved WAXS of swelling and deformation of hydrogel fibers for soft-tissue reconstruction
Laurent Corté - Mines ParisTech, Evry, France
- 10:10 - 10:30
(15'+5')
- Structural and biochemical study of bacterial FIC toxins
Simon Veyron - LBPA, Cachan, France
- 10:30 - 10:50
(15'+5')
- Biomass hydrolysis: A time lapse localization of enzyme and modifications of plant cell walls by autofluorescence and infrared imaging
Marie-Françoise Devaux - BIA, Nantes, France
- 10:50 - 11:10
- Coffee break*
- 11:10 - 11:40
(25'+5')
- PB1-F2 influenza A virus protein Beta aggregated secondary structure: Synchrotron microscopy in infected-cells
Christophe Chevalier - VIM, Jouy-en-Josas, France
- 11:40 - 12:00
(15'+5')
- Two different centered monoclinic crystals of the E. Coli outer-membrane protein OmpF originate from the same building block
Vincent Chaptal - IBCP, Lyon, France
- 12:00 - 12:20
(15'+5')
- Structural models of intrinsically disordered and calcium-bound folded states of a protein adapted for secretion by SAXS, raman and HDX-MS
Darragh P. O'Brien - Institut Pasteur, Paris, France
- 12:20 - 12:40
(15'+5')
- Chaperoning 5S RNA assembly
Clément Madru - LCRB, Paris, France
- 12:40 - 13:00
(15'+5')
- Coping with polyproline stalling: Structural insights to hypusine-induced protein synthesis by the eukaryotic ribosome
Justine Mailliot - IGBMC, Strasbourg, France



Parallel Sessions Schedule

Chemistry & Physico-Chemistry, In Situ Reactivity, Soft Matter

Chairpersons: Jean-Sébastien GIRARDON and Sandrine LYONNARD

ECOLE POLYTECHNIQUE – BECQUEREL Auditorium

- 09:00 - 09:30
(25'+5')
- Coupling modelling and spectroscopy to unravel the structure of supported catalyst.
Asma Tougeri - UCCS, Lille, France
- 09:30 - 09:50
(15'+5')
- Oxidation and reactivity of small supported Pt-based nanoparticles under near-ambient pressure exposures to O₂ and CO
Ahmed Naitabdi – LCPMR, Paris, France
- 09:50 - 10:10
(15'+5')
- In situ characterization of hydrogen-evolving cobalt electrocatalysts by X-Ray absorption spectroscopy
Benedikt Lassalle-Kaiser – Synchrotron SOLEIL, Gif-sur-Yvette, France
- 10:10 - 10:30
(15'+5')
- In situ XAS investigations of butene oligomerization under industrially relevant conditions
Joerg Radnick - Leibniz Institute for Catalysis, Rostock, Germany
- 10:30 - 10:50
(15'+5')
- Chemical speciation determined by multivariate curve resolution optimized with alternating least square fitting of quick EXAFS data
Valérie Briois – Synchrotron SOLEIL, Gif-sur-Yvette, France
- 10:50 - 11:10
- Coffee break
- 11:10 - 11:40
(25'+5')
- In-situ SAXS studies of the alignment of colloidal suspensions in electric and magnetic fields
Patrick Davidson - LPS, Orsay, France
- 11:40 - 12:00
(15'+5')
- Colloidal crystal : Correlation between atomic and mesoscopic ordering scale
Nicolas Goubet – MONARIS Paris and LPS, Orsay, France
- 12:00 - 12:20
(15'+5')
- Time resolved infrared spectroelectrochemistry studies at the diffraction limit
Ferenc Borondics - Synchrotron SOLEIL, Gif-sur-Yvette, France
- 12:20 - 12:40
(15'+5')
- 2D inorganic mixed phase templated by organic layer at the air water interface
Sophie Cantin – LPPI, Cergy-Pontoise, France
- 12:40 - 13:00
(15'+5')
- High resolution spectroscopy of SOCl₂ and its isotopologues: From the microwave to the far-infrared
Anthony Roucou – LPCA, Dunkerque, France



Parallel Sessions Schedule

Cultural heritage, archaeology, environment, geosciences

Chairpersons: Emmanuel GUILLON and Noemi CARMONA-TEJERO

ECOLE POLYTECHNIQUE – SAUVY Auditorium

- 10:00 - 10:30
(25'+5')
- Metal contaminated soils and phytoremediation
Marie-Pierre Isaure - *IPREM, Pau, France*
- 10:30 - 10:50
(15'+5')
- Copper binding to nitrogen functional groups in tomato and wheat root apoplasts
Armand Masion - *CEREGE, Aix-en-Provence, France*
- 10:50 - 11:10
- Coffee break*
- 11:10 - 11:40
(25'+5')
- X-ray micro imaging in cultural heritage studies
Koen Janssens - *University of Antwerp, Belgium*
- 11:40 - 12:00
(15'+5')
- Development of manganese-rich patinas on the building sandstones from Luneville Castle: From initial bearing phases towards final phases
Laure Gatuingt - *LGE, Marne la Vallée, France*
- 12:00 - 12:20
(15'+5')
- The role of microbes in the geochemical cycle of P in lake Pavin
Karim Benzerara - *IMPMC, Paris, France*



Parallel Sessions Schedule

Diluted Matter

Chairpersons: Vincent BOUDON and Francis PENENT
ECOLE POLYTECHNIQUE –CARNOT Auditorium

- 09:00 - 09:30
 (25'+5') Combining Synchrotron Radiation with low temperature and long optical paths: IR signatures of halogen-containing atmospheric trace molecules
Laurent Manceron - Synchrotron SOLEIL, Gif-sur-Yvette and MONARIS, Paris, France
- 09:30 - 09:50
 (15'+5') Photoelectron diffraction observed in the ionization of the $2a_1$ orbital of methane
Saikat Nandi - Synchrotron SOLEIL, Gif-sur-Yvette, France
- 09:50 - 10:10
 (15'+5') Hard X-ray induced multi-step ultrafast dissociation
Oksana Travnikova - LCPMR, Paris, France
- 10:10 - 10:30
 (15'+5') First high-resolution analysis of phosgene $^{35}\text{Cl}_2\text{CO}$ and $^{35}\text{Cl}^{37}\text{ClCO}$ fundamentals in the 250 - 480 cm^{-1} spectral region
Moustafa Ndao – LISA, Créteil, France
- 10:30 - 10:50
 (15'+5') Probing the VUV photoionisation of methyl radicals produced in a pyrolysis and a reactor sources
Christian Alcaraz – LCP, Orsay, France
- 10:50 - 11:10
 Coffee break
- 11:10 - 11:40
 (25'+5') Threshold photoelectron spectra (TPES) applied to the OH + propene and OH + isoprene reactions
Jean-Christophe Loison – ISM, Talence, France
- 11:40 - 12:00
 (15'+5') Multiple Photoionization processes of alkali vapors
Jerome Palaudoux - LCPMR, Paris, France
- 12:00 - 12:20
 (15'+5') Frequency analysis of the ν_2 band of SO_2F_2 using the C_{2v} Top Data System
Fadoua Hmida – GSMA, Reims, France and LDMMMP, Tunis, Tunisia
- 12:20 - 12:40
 (15'+5') Electron-nuclear dynamics in resonant X-ray Raman scattering of CO molecule
Loïc Journel - LCPMR, Paris, France
- 12:40 - 13:00
 (15'+5') Photoionisation VUV de molécules prébiotiques : Spectroscopie et réactivité
Ayad Bellili – MSME, Marne-la-Vallée, France



Parallel Sessions Schedule

Electronic & Magnetic Property of Matter, Surfaces and Interfaces

Chairpersons: Marie d'ANGELO and Antonio TEJEDA

ECOLE POLYTECHNIQUE – FAURE Auditorium

- 09:00 - 09:30
(25'+5')
- Multimagnetic core-shell nanoparticles: Towards a fine control of the magnetic anisotropy
Vincent Dupuis - *laboratoire PHENIX, Paris, France*
- 09:30 - 09:50
(15'+5')
- Probing magnetization dynamics by time-resolved X-ray holography with extended references
Feodor Y. Ogrin - *School of Physics and Astronomy, Exeter, UK*
- 09:50 - 10:10
(15'+5')
- Symmetry of the Fermi surface and evolution of the electronic structure across the paramagnetic-helimagnetic transition in MnSi/Si(111)
Alessandro Nicolaou - *Synchrotron SOLEIL, Gif-sur-Yvette, France*
- 10:10 - 10:30
(15'+5')
- k dependence of the spin polarization in Mn₅Ge₃/Ge(111) thin films
Waly Ndiaye – *LPMS, Cergy-Pontoise and DSM, IRAMIS, CEA Saclay, Gif-sur-Yvette, France*
- 10:30 - 10:50
(15'+5')
- Calculation of XMCD and XNCD at the K-edge from first principles
Nadejda Mas – *IMPMC, Paris, France*
- 10:50 - 11:10
- Coffee break*
- 11:10 - 11:40
(25'+5')
- Interfaces between strongly correlated oxides : Controlling charge transfer and induced magnetism by hybridization
Manuel Bibes - *Unité Mixte de Physique CNRS/Thales, Palaiseau, France*
- 11:40 - 12:00
(15'+5')
- Structure and growth mechanisms of silicene layers on silver surfaces
Geoffroy Prevot – *INP, Paris, France*
- 12:00 - 12:20
(15'+5')
- Bandgap and structural periodicities of buffer layer graphene
Maya Narayanan Nair - *Synchrotron SOLEIL, Gif-sur-Yvette, France*
- 12:20 - 12:40
(15'+5')
- Studying chemical bonding between NTCDA and noble metal surfaces by photoelectron spectroscopy and scanning tunneling microscopy
Yong Feng Tong - *Synchrotron SOLEIL, Gif-sur-Yvette and ISMO, Orsay, France*
- 12:40 - 13:00
(15'+5')
- Mueller ellipsometer with Synchrotron light
Enric Garcia-Caurel – *LPICM, Palaiseau, France*



Parallel Sessions Schedule

Matter & Material Properties : Structure, Organization, Characterization, Elaboration

Chairpersons: Frédéric DATCHI and Karine PROVOST
ECOLE POLYTECHNIQUE – POINCARÉ Auditorium

- 09:00 - 09:30
 (25'+5') High pressure single crystal X-ray diffraction on CRISTAL beamline
Jerôme Rouquette – *Institut Charles Gerhardt, Montpellier, France*
- 09:30 - 09:50
 (15'+5') Structure of Lu phthalocyanine thin films deposited on Au(111)
Mattia Farronato – *INSP, Paris, France*
- 09:50 - 10:10
 (15'+5') High resolution three dimensional structural microscopy by single angle Bragg ptychography
Marc Allain - *Institut Fresnel, Marseille, France*
- 10:10 - 10:30
 (15'+5') Effect of myoglobin crowding on the dynamics of water: An infrared study
Sophie Le Caër - *LIONS, NIMBE, Gif-sur-Yvette, France*
- 10:30 - 10:50
 (15'+5') Water in carbon nanotubes: the original hydrogen bonds network revealed by infrared spectroscopy
Pascale Launois – *LPS, Orsay, France*
- 10:50 - 11:10 *Coffee break*
- 11:10 - 11:40
 (25'+5') A zero moment half metal that could change spintronic
Karsten Rode - *Trinity College, Dublin, Ireland*
- 11:40 - 12:00
 (15'+5') Pressure-induced spin transitions in chiral magnet MnGe
Nicolas Martin - *Laboratoire Léon Brillouin, Gif-sur-Yvette, France*
- 12:00 - 12:20
 (15'+5') The photomagnetism of CoFe PBAs nanoparticles investigated by an in situ XAS study
Amélie Bordage – *ICMMO, Orsay, France*
- 12:20 - 12:40
 (15'+5') Terahertz spectroscopy study of low energy excitations in Tb₂Ti₂O₇
Evan Constable - *Institut Néel, Grenoble, France*
- 12:40 - 13:00
 (15'+5') Evidence of charge density wave ability to slide in a 3D metal
Vincent L.R. Jacques – *LPS, Orsay, France*