Programme

Thursday, January 21st

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 Daillant

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.”

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

15:00 - 16:30

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/alF2*
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
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
<th>Institution</th>
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<tbody>
<tr>
<td>09:00 - 09:30</td>
<td>Coupling modelling and spectroscopy to unravel the structure of supported catalyst.</td>
<td>Asma Tougerti - UCCS, Lille, France</td>
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<tr>
<td>09:30 - 09:50</td>
<td>Oxidation and reactivity of small supported Pt-based nanoparticles under near-ambient pressure exposures to O₂ and CO</td>
<td>Ahmed Naitabdi - LCPMR, Paris, France</td>
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<td>09:50 - 10:10</td>
<td>In situ characterization of hydrogen-evolving cobalt electrocatalysts by X-Ray absorption spectroscopy</td>
<td>Benedikt Lassalle-Kaiser – Synchrotron SOLEIL, Gif-sur-Yvette, France</td>
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<tr>
<td>10:10 - 10:30</td>
<td>In situ XAS investigations of butene oligomerization under industrially revelant conditions</td>
<td>Joerg Radnick - Leibniz Institute for Catalysis, Rostock, Germany</td>
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<td>10:30 - 10:50</td>
<td>Chemical speciation determined by multivariate curve resolution optimized with alternating least square fitting of quick EXAFS data</td>
<td>Valérie Briois – Synchrotron SOLEIL, Gif-sur-Yvette, France</td>
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<td>11:10 - 11:40</td>
<td>In-situ SAXS studies of the alignment of colloidal suspensions in electric and magnetic fields</td>
<td>Patrick Davidson - LPS, Orsay, France</td>
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<td>11:40 - 12:00</td>
<td>Colloidal crystal : Correlation between atomic and mesoscopic ordering scale</td>
<td>Nicolas Goubet – MONARIS Paris and LPS, Orsay, France</td>
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<tr>
<td>12:00 - 12:20</td>
<td>Time resolved infrared spectroelectrochemistry studies at the diffraction limit</td>
<td>Ferenc Borondics - Synchrotron SOLEIL, Gif-sur-Yvette, France</td>
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<tr>
<td>12:20 - 12:40</td>
<td>2D inorganic mixed phase templated by organic layer at the air water interface</td>
<td>Sophie Cantin – LPPI, Cergy-Pontoise, France</td>
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<td>12:40 - 13:00</td>
<td>High resolution spectroscopy of SOCl₂ and its isotopologues: From the microwave to the far-infrared</td>
<td>Anthony Roucou – LPCA, Dunkerque, France</td>
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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 $^{35}$Cl$_2$CO and $^{35}$Cl$^{37}$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 (15'+5')
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 $v_2$ band of SO$_2$F$_2$ using the C$_2v$ Top Data System
**Fadoua Hmida** – GSMA, Reims, France and LDMMP, Tunis, Tunisia

12:20 - 12:40 (15'+5')
Electron-nuclear dynamics in resonant X-ray Raman scattering of CO molecule
**Loic 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 Mn_{5}Ge_{3}/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 (25'+5’)
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**

<table>
<thead>
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| 09:00 - 09:30 | High pressure single crystal X-ray diffraction on CRISTAL beamline  
Jerôme Rouquette – Institut Charles Gerhardt, Montpellier, France |
| 09:30 - 09:50  | Structure of Lu phthalocyanine thin films deposited on Au(111)  
Mattia Farronato – INSP, Paris, France |
| 09:50 - 10:10  | High resolution three dimensional structural microscopy by single angle Bragg ptychography  
Marc Allain - Institut Fresnel, Marseille, France |
| 10:10 - 10:30  | 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  | 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  | A zero moment half metal that could change spintronic  
Karsten Rode - Trinity College, Dublin, Ireland |
| 11:40 - 12:00  | Pressure-induced spin transitions in chiral magnet MnGe  
Nicolas Martin - Laboratoire Léon Brillouin, Gif-sur-Yvette, France |
| 12:00 - 12:20  | The photomagnetism of CoFe PBAs nanoparticles investigated by an in situ XAS study  
Amélie Bordage – ICMMO, Orsay, France |
| 12:20 - 12:40  | Terahertz spectroscopy study of low energy excitations in Tb₂Ti₂O₇  
Evan Constable - Institut Néel, Grenoble, France |
| 12:40 - 13:00  | Evidence of charge density wave ability to slide in a 3D metal  
Vincent L.R. Jacques – LPS, Orsay, France |