



Programme

Monday, January 27th, 2025

SOLEIL Auditorium - Main Building

09:00 - 10:00 Registration & coffee

10:00 - 10:10 Welcome / Introduction, S2UO Chair – Amélie Bordage

10:10 - 10:50 The word of SOLEIL General Director – Jean Susini

PLENARY TALK – Cultural Heritage

Jose Tapia – Lab-BC UAR3506 CNRS-C2RMF-Chimie ParisTech PSL, Paris, France

10:50 - 11:35 Chemical characterization using a combination of in-situ, laboratory and Synchrotron-based technics of prehistoric coloring matter from the Franco-Cantabrian region. From Font-de-Gaume to Altamira

11:35 - 12:05 **The SOLEIL High Pressure Group** – SOLEIL Synchrotron, Saint-Aubin, France
High pressure in SOLEIL: Tools and science

12:05 - 12:30 AFURS / S2UO / PRC

12:30 - 13:45 Lunch

Parallel sessions – 5 different rooms

14:00 - 15:45

- Biology and Health
- Chemistry & Soft Matter (Characterization of structure and properties of chemical materials, reactivity, catalysis, chemical surfaces and interfaces / Soft matter)
- Diluted matter
- Geosciences / Environment / Cultural Heritage
- Physics & Advanced Materials (Structural, electronic and magnetic properties of matter / Physical surfaces and interfaces)

15:45 - 16:15 Coffee break

Parallel sessions – 5 different rooms

16:15 - 18:00

- Biology and Health
- Chemistry & Soft Matter (Characterization of structure and properties of chemical materials, reactivity, catalysis, chemical surfaces and interfaces / Soft matter)
- Diluted matter
- Geosciences / Environment / Cultural Heritage
- Physics & Advanced Materials (Structural, electronic and magnetic properties of matter / Physical surfaces and interfaces)

18:00 - 20:00 Posters session / Commercial Exhibitors / Aperitif

20:00 - 21:30 Award of the best student poster / Dinner



Tuesday, January 28th, 2025

SOLEIL Auditorium - Main Building

Parallel sessions on technic / methodology – 5 different rooms

- 9:00 - 10:00
- X-ray Absorption Spectroscopy (soft / tender / Hard X-ray)
 - Imaging / Microscopy / Tomography
 - Photoelectron Spectroscopies
 - Diffraction & Scattering / Coherence

Network for Students & Postdocs

10:00 - 10:30 *Coffee break – Cafeteria Space*

PLENARY TALK – Electronic and magnetic properties of matter

10:30 - 11:15 **Federico Mazzola** – *University Ca'Foscari, Venice, Italy*
Probing chiral phases in quantum matter.

ROUND TABLE – Experimental environments at SOLEIL: status, on-going projects, our dreams for SOLEIL 2

11:15 - 12:30
S2UO and SOLEIL staff

12:30 - 13:45 *Lunch*

14:00 - 15:00 Visit of 3 Beamlines (PLEIADES / ROCK / SWING)

Tutorial 1 – The latest developments of FASTOSH

Gautier Landrot – SOLEIL Synchrotron (SAMBAs beamline)

PHENIX Room

Tutorial 2 – Surface diffraction - Data treatment and analysis

14:00 - 17:00 *Fabien Cheynis (S2UO), Alessandro Coati, Andrea Resta, Alina Vlad, Yves Garreau (SOLEIL)*

LIBRA Room

Satellite – The new CryoEM - POLARIS

Paloma Fernandez-Varela (S2UO), Pierre Legrand, Eric Larquet, Heddy Soufaril (SOLEIL-POLARIS)

SOLEIL Auditorium



Parallel Session Schedule

Biology and Health

Chairpersons: B. Masquida, P. Fernandez Varela

SOLEIL - Reception Building Auditorium

Monday, January 27th, 2025

- 14:00 - 14:30 (25'+5') Regaulation of toxSAS toxin-antitoxin systems: Phage sensors and defence effectors
Abel Garcia Pino – *Univ. Libre de Bruxelles, Belgium*
- 14:30 - 14:55 (20'+5') First detection of calcium oxalate in human hairs
Christophe Sandt - *SOLEIL Synchrotron, St Aubin, France*
- 14:55 - 15:20 (20'+5') Domain of 36 of tropoelastin interacts with model membranes
Manon Ragouilliaux - *MEDyC, Reims, France*
- 15:20 - 15:45 (20+5') Analysis of the organic-inorganic interface in pigmented biominerals: The case of octocoral sclerites and sea urchin spines
Arturo J. Álvarez Valverde - *Laboratoire de Chimie de la Matière Condensée de Paris, France*
- 15:45 - 16:15 *Coffee break*
- 16:15 - 16:45 (25'+5') Biophysical and structural study of La Crosse virus endonuclease inhibition for the development of new antiviral options
Mikael Feracci - *Architecture et Fonction des Macromolécules Biologiques, Marseille, France*
- 16:45 - 17:10 (20+5') Exploring cryo-correlative light, electron, and X-ray microscopy (cryo-CLEXM): Methods and insights for biological imaging
Harisa Rista - *SOLEIL Synchrotron, St Aubin, France*
- 17:10 - 17:35 (20'+5') Hijacking of host PDZ proteins by the hepatitis B virus during infection
Lina Boumediene - *Institut Pasteur, Paris, France*
- 17:35 - 18:00 (20'+5') Multiscale atlas of Xpa in vivo biomolecular condensates
Pierre Montaville - *SOLEIL Synchrotron, St Aubin, France*



Parallel Session Schedule

Chemistry & Soft Matter

(Characterization of structure and properties of chemical materials, reactivity, catalysis, chemical surfaces and interfaces / Soft matter)

Chairpersons: Amélie Bordage, Asma Tougeri, Florent Carn

CEA BLOCH Auditorium

Monday, January 27th, 2025

- 14:00 – 14:30
(25'+5') Suivi in situ des mécanismes de formation de nanocristaux semi-conducteurs
Benjamin Abecassis – ENS Lyon, France
- 14:30 - 14:55
(20'+5') Synergistic effect of oxygen and water on the environmental reactivity of 2D layered GeAs
Luca Persichetti – Università di Roma, Tor Vergata, Italy
- 14:55 - 15:20
(20'+5') Electronic structure of binary and ternary uranium sulphides probed by X-ray spectroscopies
Thomas Stephant - ISCR, Rennes, France
- 15:20 - 15:45
(20+5') Investigation of composite organic nanoparticles: A comparative study using soft X-ray STXM and Ptychography
Corentin Rieb - University of Strasbourg, France
- 15:45 - 16:15
Coffee break
- 16:15 - 16:45
(25'+5') Catalysts for dehydroaromatization of methane: insights from operando characterization
Nikolay Kosinov – Eindhoven University of Technology, The Netherlands
- 16:45 - 17:10
(20+5') Droplet levitation for in-situ SAXS studies
Claire Hotton - Laboratoire de Physique des Solides, Orsay, France
- 17:10 - 17:35
(20'+5') A real time kinetic study of hydrogen diffusion in a single crystal by in situ infrared absorption
Kamil F. Dziubek - Faculty of Chemistry, Warsaw University of Technology, Warszawa, Poland
- 17:35 - 18:00
(20'+5') Understanding CH₄ steam reforming catalysts under dynamic reaction conditions by systematic in situ/operando XAS and XRD studies
Andrea De Giacinto - Karlsruhe Institute of Technology, Germany



Parallel Session Schedule

Diluted matter

Chairpersons: H lo se Dossmann, Pierre Asselin

LIBRA Room

Monday, January 27th, 2025

- 14:00 – 14:30
(25'+5') VUV photoionization of molecules of astrophysical interest: applied molecular physics in space
Helgi Rafn Hrodmarsson – LISA UPEC, Cr teil, France
- 14:30 - 14:55
(20'+5') Operando PEPICO spectroscopy to unveil plastic pyrolysis mechanisms
Patrick Hemberger – PSI, Villigen, Switzerland
- 14:55 - 15:20
(20'+5') Flux and fluence effects on the VUV photodesorption and photoprocessing of CO₂ ices
Antoine Hacquard – MONARIS, Sorbonne Universit , Paris, France
- 15:20 - 15:45
(20'+5') Can we perform on-the-fly X-ray photoelectron spectroscopy of mass/charge selected ions produced by electrospray ionization source?
Aleksandar R. Milosavljevi  - SOLEIL Synchrotron, Saint Aubin, France
- 15:45 - 16:15 *Coffee break*
- 16:15 - 16:45
(25'+5') The methyl cation CH₃⁺ produced by Synchrotron and laser VUV photoionisation of the methyl radical CH₃: Spectroscopy and reactivity
Christian Alcaraz – ICP Universit  Paris-Saclay, France
- 16:45 - 17:10
(20'+5') Design and preliminary tests of a new double imaging photoelectron photoion coincidence (i²PEPICO) spectrometer for VUV gas phase applications
Myriam Drissi - SOLEIL Synchrotron, Saint Aubin, France
- 17:10 - 17:35
(20'+5') *High-resolution structure and energetics of the DABCO molecule attached to clusters for modelling energy transport in matter*
Audrey Scognamiglio - ISMO, Orsay, France
- 17:35 - 18:00
(20'+5') Angularly resolved post-collision interaction on core ionized neon and water molecules in gas phase
Abhishek Verma - LCPMR, Paris, France



Parallel Session Schedule

Geosciences / Environment / Cultural Heritage

Chairpersons: Charlotte Catrouillet, Simona Raneri

PHENIX Room

Monday, January 27th, 2025

- 14:00 – 14:30
(25'+5')
- Asteroid Ryugu Chemical characterization from Synchrotron spectroscopy in the mid to far infrared, and AFMIR, of Hayabusa 2 samples
Emmanuel Dartois – ISMO Université Paris-Saclay, France
- 14:30 - 14:55
(20'+5')
- A BAG for major-to-trace elemental mapping and speciation of flat fossils at the PUMA beamline
Pierre Gueriau - IPANEMA, Saint-Aubin, France and Institute of Earth Sciences, Lausanne, Switzerland
- 14:55 - 15:20
(20'+5')
- Cu Redox speciation at magnetite surface: A Cu L_{3,2}-Edge study
Jaimy Scaria - Géosciences Rennes, France
- 15:20 - 15:45
(20'+5')
- Determination of optical parameters of water ice using infrared Synchrotron Radiation: Characterisation of ice clouds emission
Cecilia Taverna - SOLEIL Synchrotron, Saint Aubin, France
- 15:45 - 16:15
- Coffee break
- 16:15 - 16:45
(25'+5')
- Operando VIS-NIR microscopic hyperspectral imaging to monitor possible SR X-ray damage on paintings
Amelia Suzuki – School of Science and Technology, Nottingham Trent University, U.K.
- 16:45 - 17:10
(20'+5')
- SR-XRPD investigation of artificially and naturally aged weighted silk fibers
Alina Krotova - ARCHES group and AXIS group University of Antwerp, Belgium
- 17:10 - 17:35
(20'+5')
- The magic scroll of the future Ampus museum of writing. The story continues...
Jean-Paul Itié - SOLEIL Synchrotron, St Aubin, France
- 17:35 - 18:00
(20'+5')
- Counterfeiting silver coins, from Roman republic to middle age
Vincenzo Palleschi - Laboratory of Applied and Laser Spectroscopy, Pisa, Italy



Parallel Session Schedule

Physics & Advanced Materials
(Structural, electronic and magnetic properties of matter / Physical surfaces and interfaces)

Chairpersons: Debora Pierucci, Fabien Cheynis, Sara Gonzalez

SOLEIL Auditorium - Main Building

Monday, January 27th, 2025

- 14:00 – 14:30
(25'+5') Atomic structure of novel 2D materials unveiled by surface X-ray diffraction
Geoffroy Prevot – INSP CNRS – Sorbonne Université, Paris, France
- 14:30 - 14:55
(20'+5') Unveiling electric field distribution in quantum dotbased devices by operando scanning photoemission microscopy
Dario Mastrippolito - SOLEIL Synchrotron, Saint Aubin, France
- 14:55 - 15:20
(20'+5') Mapping of stress/strain distribution within chromium layers deposited on Zr substrates at the ESRF facility
Clément Ribart - CEA, Grenoble, France
- 15:20 - 15:45
(20+5') Development of a high-throughput XRD wide-surface furnace for In Situ hydration Study of Proton Conductor electrolytes
Giulio Cordaro - CentraleSupélec, Gif-sur-Yvette, France
- 15:45 - 16:15 *Coffee break*
- 16:15 - 16:45
(25'+5') Structure and magnetic properties of FeRh nanomagnets deposited on perovskite surfaces
Florent Tournus - ILM, Lyon, France
- 16:45 - 17:10
(20+5') On the cuprates' universal waterfall feature: Evidence of a momentum-driven crossover
Benjamin Bacq-Labreuil - IPCMS, Strasbourg, France
- 17:10 - 17:35
(20'+5') A combination of real-time diagnostics probing the impact of nitrogen on silver thin film growth
Michał Kamiński - Karlsruhe Institute of Technology, Germany
- 17:35 - 18:00
(20'+5') Inverse freezing and melting of FeGd ferrimagnetic domains at the spin-reorientation transition
Matthias Riepp - IPCMS, Strasbourg, France



Parallel sessions on technique / methodology

X-ray Absorption Spectroscopy (soft / tender / Hard X-ray)

Chairpersons: Amélie Bordage (S2UO), Sara Gonzalez (S2UO), Delphine Vantelon (SOLEIL)

SOLEIL - Reception Building Auditorium

Tuesday, January 28th, 2025

- 09:00 - 09:20 Introduction
Beamlines presentation, overview and perspectives
First feedbacks from the survey for XAS
- 09:20 - 10:00 Round table discussion / questions from the users

Parallel sessions on technique / methodology

Imaging / Microscopy / Tomography

Chairpersons: Andrew King (SOLEIL), Simona Raneri (S2UO), Pierre Asselin (S2UO)

SOLEIL Auditorium - Main Building

Tuesday, January 28th, 2025

- 09:00 - 09:10 Introduction
Andrew King – SOLEIL Synchrotron (*PSICHE and SOLEIL referent for imaging techniques*)
- 09:10 - 09:30 Beamlines presentation, overview and perspectives
- 09:30 - 10:00 Round table discussion / questions from the users



Parallel sessions on technique / methodology

Photoelectron Spectroscopies

Chairpersons: Debora Pierucci (S2UO), Fabien Cheynis (S2UO)

CEA BLOCH Auditorium

Tuesday, January 28th, 2025

- 09:00 - 09:20
(15'+5') Nano-ARPES facility at ANTARES beamline for direct electronic structure determination of 2D materials
José Avila - SOLEIL Synchrotron, St Aubin, France
- 09:20 - 09:40
(15'+5') TEMPO beamline: high-resolution and time-resolved photoemission spectroscopy from UHV to near ambient pressure
Matthieu Silly - SOLEIL Synchrotron, St Aubin, France
- 09:40 - 10:00 Round table discussion

Parallel sessions on technique / methodology

Diffraction & Scattering / Coherence

Chairpersons: Florent Carn (S2UO), Benoît Masquida (S2UO)

PHENIX Room

Tuesday, January 28th, 2025

- 09:00 - 09:10
(6'+4') **Philippe Fontaine** – SIRIUS beamline
- 09:10 - 09:20
(6'+4') **William Shephard** – Proxima-2A beamline
- 09:20 - 09:30
(6'+4') **Thomas Bizien** – SWING beamline
- 09:30 - 09:40
(6'+4') **Alessandro Coati** – SixS beamline
- 09:40 - 09:50
(6'+4') **Dominique Tiaudière** – DiffAbs beamline
- 09:50 - 10:00
(6'+4') **Pierre Legrand** – Proxima 1 and Polaris beamlines



Networks for students & postdoc

Chairperson: Charlotte Catrouillet (S2UO), Asma Tougerti (S2UO)

LIBRA Room

Tuesday, January 28th, 2025

09:00 - 10:00