



## Programme

**Thursday, 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**
- 10:50 - 11:35 **Jose TAPIA** – *Lab-BC UAR3506 CNRS-C2RMF-Chimie ParisTech PSL, Paris, France*  
Chemical characterization using a combination of in-situ, laboratory and Synchrotron-based techniques of prehistoric coloring matter from the Franco-Cantabrian region. From Font-de-Gaume to Altamira.
- 11:35 - 12:05 **Marine VERSEILS** – *Synchrotron SOLEIL – AILES Beamline, France*  
High pressure in SOLEIL: tools and science
- 12:05 - 12:30 *AFURS / ESUO / S2UO / PRC (PRC4 Erwan Paineau)*
- 12:30 - 13:45 *Lunch*
- Parallel sessions – 5 different rooms
- 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)
- 14:00 - 15:45
- 15:45 - 16:15 *Coffee break*
- Parallel sessions – 5 different rooms
- 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)
- 16:15 - 18:00
- 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

- 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  
Amélie Bordage, Charlotte Catrouillet, Valérie Briois, Denis Menut, Stéphanie Blanchandin

12:30 - 13:45 *Lunch*

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

**Satellite** – The new CryoEM

*Paloma FERNANDEZ-VARELA, Pierre LEGRAND, Eric LARQUET, Heddy SOUFARI – S2UO – [SOLEIL Auditorium](#)*

**Tutorial 1** – The latest developments of Fastosh

- 14:00 - 17:00 *Gautier LANDROT – Synchrotron SOLEIL (SAMBA beamline)*

**Tutorial 2** – Surface diffraction - Data treatment and analysis

*Fabien CHEYNIS, Alessandro COATI, Andrea RESTA, Alina VLAD, Yves GARREAU – S2UO*



## Parallel Session Schedule

### Biology and Health

Chairpersons: B. Masquida, P. Fernandez Varela

#### Monday, January 27th, 2025

- 14:00 - 14:30  
(25'+5') **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') *To be confirmed*
- 16:45 - 17:10  
(20+5') *To be confirmed*
- 17:10 - 17:35  
(20'+5') *To be confirmed*
- 17:35 - 18:00  
(20'+5') *To be confirmed*



## 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

### Monday, January 27th, 2025

- 14:00 – 14:30  
(25'+5') Suivi in situ des mécanismes de formation de nanoparticules colloïdales  
**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') Characterization of working catalysts with X-ray absorption spectroscopy  
**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 CH<sub>4</sub> 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

#### 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') High-resolution structure and energetics of the DABCO molecule attached to clusters for modelling energy transport in matter  
**Audrey Scognamiglio** - ISMO, Orsay, France
- 14:55 - 15:20  
(20'+5') Flux and fluence effects on the VUV photodesorption and photoprocessing of CO<sub>2</sub> 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 CH<sub>3</sub><sup>+</sup> cation produced by VUV synchrotron and laser photoionization of the methyl radical CH<sub>3</sub>: 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 (i<sup>2</sup>PEPICO) spectrometer for VUV gas phase applications  
**Myriam Drissi** - SOLEIL Synchrotron, Saint Aubin, France
- 17:10 - 17:35  
(20'+5') Operando PEPICA spectroscopy to unveil plastic pyrolysis mechanisms  
**Patrick Hemberger** – PSI, Villigen, Switzerland
- 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

### 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<sub>3,2</sub>-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

### 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 Mastroppolito** - 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  
**F. 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)

### Tuesday, January 28th, 2025

09:00 - 09:30 *To be confirmed*  
(25'+5')

09:30 - 10:00 *To be confirmed*  
(25'+5')

## Parallel sessions on technique / methodology

Imaging / Microscopy / Tomography

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

### Tuesday, January 28th, 2025

09:00 - 09:10 Introduction  
**A. King** – SOLEIL Synchrotron (*PSICHE and SOLEIL referent for imaging techniques*)

09:10 - 09:30 Beamlines presentation, overview and perspectives

09:30 - 10:00 Roundtable discussion / questions from the users





## Parallel sessions on technique / methodology

### Photoelectron Spectroscopies

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

#### 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 Table ronde et discussion

## Parallel sessions on technique / methodology

### Diffraction & Scattering / Coherence

Chairpersons: Florent Carn, Benoît Masquida

#### Tuesday, January 28th, 2025

- 09:00 - 09:30  
(25'+5') *To be confirmed*
- 09:30 - 10:00  
(25'+5') *To be confirmed*

## NETWORKS FOR STUDENTS & POSTDOC

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

- 09:00 - 10:00 *To be confirmed*