

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 techniques 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

- 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

- 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
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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

- 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 (SAMBA 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, Hedy Soufaril (SOLEIL-POLARIS)

SOLEIL Auditorium



Parallel Session Schedule

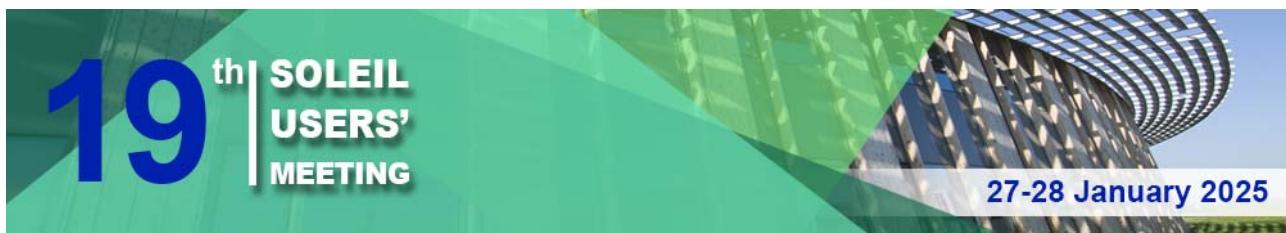
Biology and Health

Chairpersons: B. Masquida, P. Fernandez Varela

SOLEIL - Reception Building Auditorium

Monday, January 27th, 2025

14:00 - 14:30 (25'+5')	Regulation of toxSAS toxin-antitoxin systems: Phage sensors and defence effectors Abel Garcia Pino - <i>Univ. Libre de Bruxelles, Belgium</i>
14:30 - 14:55 (20'+5')	First detection of calcium oxalate in human hairs Christophe Sandt - <i>SOLEIL Synchrotron, St Aubin, France</i>
14:55 - 15:20 (20'+5')	Domain of 36 of tropoelastin interacts with model membranes Manon Ragouilliaux - <i>MEDyC, Reims, France</i>
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 - <i>Laboratoire de Chimie de la Matière Condensée de Paris, France</i>
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 - <i>Architecture et Fonction des Macromolécules Biologiques, Marseille, France</i>
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 - <i>SOLEIL Synchrotron, St Aubin, France</i>
17:10 - 17:35 (20'+5')	Hijacking of host PDZ proteins by the hepatitis B virus during infection Lina Boumediene - <i>Institut Pasteur, Paris, France</i>
17:35 - 18:00 (20'+5')	Multiscale atlas of Xpa in vivo biomolecular condensates Pierre Montaville - <i>SOLEIL Synchrotron, St Aubin, France</i>



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 Stephan - 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 CH ₄ 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

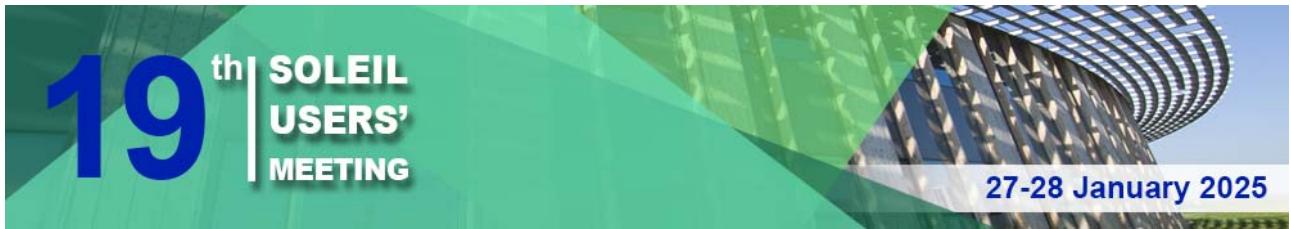
Diluted matter

Chairpersons: Héloïse 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, Créteil, 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 CO ₂ ices Antoine Hacquard – MONARIS, Sorbonne Université, 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. Milosavljević - SOLEIL Synchrotron, Saint Aubin, France
15:45 - 16:15	Coffee break
16:15 - 16:45 (25'+5')	The methyl cation CH ₃ ⁺ produced by Synchrotron and laser VUV photoionisation of the methyl radical CH ₃ : Spectroscopy and reactivity Christian Alcaraz – ICP Université Paris-Saclay, France
16:45 - 17:10 (20+5')	Design and preliminary tests of a new double imaging photoelectron photoion coincidence (i ² PEPICO) spectrometer for VUV gas phase applications Myriam Drissi - SOLEIL Synchrotron, Saint Aubin, France
17:10 - 17:35 (20'+5')	<i>High-resolution structure and energetics of the DABCO molecule attached to clusters for modelling energy transport in matter</i> 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

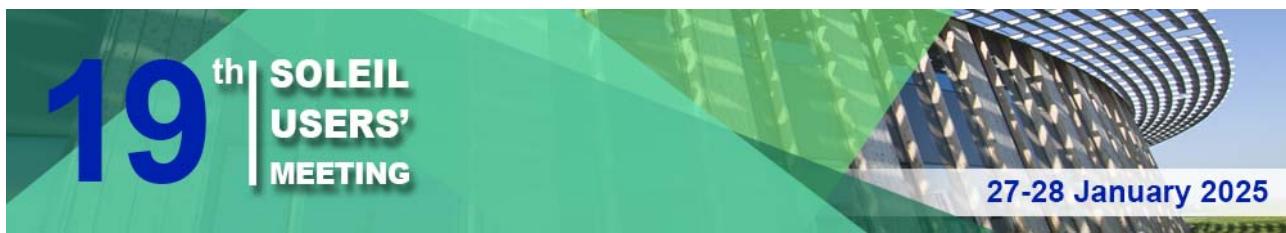
Geosciences / Environment / Cultural Heritage

Chairpersons: Charlotte Catrouillet, Simona Raneri

PHENIX Room

Monday, January 27th, 2025

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



Parallel Session Schedule

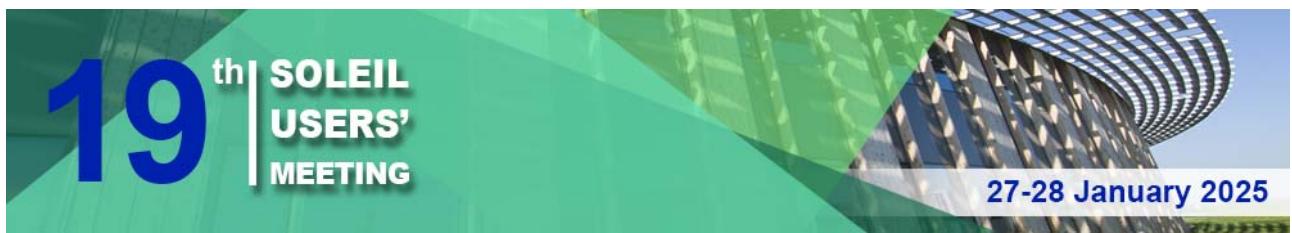
Physics & Advanced Materials
(Structural, electronic and magnetic properties of matter / Physical surfaces and interfaces)

Chairpersons: Debora Pierucci, Fabien Cheynis, Sara Gonzalez

SOLEIL Auditorium - Main Building

Monday, January 27th, 2025

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

Introduction

09:00 - 09:20 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

Introduction

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

Parallel sessions on technique / methodology

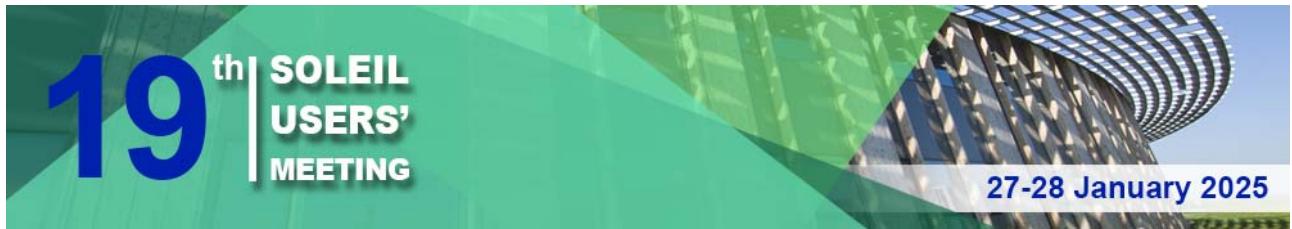
Diffraction & Scattering / Coherence

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

PHENIX Room

Tuesday, January 28th, 2025

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



Networks for students & postdoc

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

LIBRA Room

Tuesday, January 28th, 2025

09:00 - 10:00