

Radiation Damage Satellite Workshop

Chairpersons: Amélie Bordage, Laurent Tranchant, Simona Raneri,
Amelia Suzuki, Charlotte Catrouillet

Wednesday, January 14th, 2026

SOLEIL Auditorium - Main Building

- 09:00 - 09:30 Registration – Welcome – Coffee
- 09:30 - 09:40 Introduction to the workshop
Amélie Bordage - S2UO chair
- Plenary Talk**
09:40 - 10:25 Radiation damage in macromolecular crystallography: What is it and why do we care?
Prof. Elspeth Garman - Department of Biochemistry, University of Oxford, UK
- Plenary Talk**
10:25 - 11:00 Beam damage and safe analysis: A study of how perception, perspective, and vocabulary shape the construction of risk
Dr. Mathieu Thoury - IPANEMA, St Aubin, France
- 11:00 - 12:30 A multidisciplinary viewpoint to radiation damage
Stéphanie Belin, Christophe Sandt, Jean Susini - Synchrotron SOLEIL, Saint-Aubin, France
Marine Fournier - LCPMR Sorbonne Université, Paris, France
- 12:30 - 13:45 Lunch
- 13:45 - 14:30 Introduction to round table
Dr. Amelia Suzuki - Institute of Heritage Science ISPC-CNR of Florence, Italy
Dr. Marine Cotte - ESRF, Grenoble, France
- 14:30 - 16:00 Interactive and multidisciplinary round table
Dr. Amélie Bordage - Institut de Chimie Moléculaire et des Matériaux d'Orsay, France
Dr. Laurent Tranchant - Synchrotron SOLEIL, Saint-Aubin, France
- 16:00 - 16:30 Coffee break setting up in front of the SOLEIL amphitheater.
- Tutorial**
16:30 - 17:20 The RADDOS-3D software program
Prof. Elspeth Garman - Department of Biochemistry, University of Oxford, UK
- Conclusion**
17:20 - 17:30 **Myrtille Hunault** - Synchrotron SOLEIL, Saint-Aubin, France
Amélie Bordage - S2UO chair

Thursday, January 15th, 2026

SOLEIL Users' Meeting January 14th - 16th, 2026 Synchrotron SOLEIL, Saint-Aubin - France

SOLEIL Auditorium - Main Building

09:00 - 10:00	Registration & coffee
10:00 - 10:10	Welcome / Introduction, S2UO Chair - Amélie Bordage
10:10 - 10:50	Latest news from SOLEIL, General Director - Jean Susini
	Plenary Talk - Soft Matter
10:50 - 11:35	Structure, properties and reactivity of oxide nanoparticles in solution: Synchrotron studies Olivier Diat & Matthieu Viot - <i>Institut de Chimie Séparative de Marcoule, Bagnols sur Cèze France</i>
11:35 - 12:05	Towards SOLEIL II: The Experiment Division Perspective - Eva Pereiro, Amina Taleb
12:05 - 13:30	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)
13:30 - 15:40	• Diluted matter • Geosciences / Environment / Cultural Heritage • Physics & Advanced Materials (Structural, electronic and magnetic properties of matter / Physical surfaces and interfaces)
15:40 - 16:10	Coffee break setting up in front of the SOLEIL amphitheater.
	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)
16:10 - 18:20	• Diluted matter • Geosciences / Environment / Cultural Heritage • Physics & Advanced Materials (Structural, electronic and magnetic properties of matter / Physical surfaces and interfaces)
	The Synchrotron Community posters session
18:30 - 20:00	Commercial Exhibitors / Aperitif
20:00 - 21:30	Dinner
21:30	Bus transfer

Friday, January 16th, 2026

SOLEIL Auditorium - Main Building

Plenary Talk - Geosciences

9:00 - 09:45 Structure Surface reactivity of tubular Al/Si nanoparticles: interactions with nucleic acids and implications for prebiotic scenarios
Jérôme Rose - CEREGE, Aix-en-Provence, France

09:45 - 11:45 **Scientific Posters session** - Coffee break setting up in front of the SOLEIL amphitheater.

11:45 - 12:00 **Award of the best student poster - Roger Fourme Prize**
Conclusion

12:00 - 13:30 Lunch

13:30 - 15:00 **Visit of 4 Beamlines** - DESIRS / MARS / PROXIMA-1 / SIXS

TEA-XAS Meeting

13:30 - 16:30

SOLEIL Auditorium - Main Building

13:30 - 13:35 Introduction

Status and projects of the XAS beamlines and laboratory instruments

13:35 -14:50 **Delphine Vantelon** (SOLEIL), **Olivier Proux** (FAME/FAME-UHD), **Marine Cotte** (ESRF), **Sophie Nowak** (ITODYS) & **Benoît Baptiste** (IMPMC)

14:50 - 15:00 Status of the project to unite the French community of X-ray absorption spectroscopists
Amélie Bordage (S2UO)

15:00 - 16:00 Interactive round table
Amélie Bordage, **Charlotte Catrouillet** (S2UO)

16:00 - 16:30 Plenary discussion and conclusions

Parallel Session Schedule

Biology and Health

Chairpersons: Paloma Fernandez Varela & Lorella Pascolo

SOLEIL - Reception Building Auditorium

Thursday, January 15th, 2026

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| 13:30 - 14:00
(25'+5') | From tissue to trace: an elemental investigation of bromine in healthy and diseased ovarian tissue
Anna Flamigni - IRCCS Ospedale Infantile Burlo Garofolo, Italy |
| 14:00 - 14:25
(20'+5') | Structural insights into tecovirimat antiviral activity and poxvirus resistance
Riccardo Vernuccio - Institut Pasteur, Paris, France |
| 14:25 - 14:50
(20'+5') | Small angle X-ray scattering structural characterization of quinones oxidoreductases ζ crystallins using SOLEIL SWING beamline
Nicolas Mousnier - Centre de Recherche Paul Pascal, Pessac, France |
| 14:50 - 15:15
(20'+5') | Probing the colloidal behavior of polysaccharides-degrading enzyme in a highly constrained model system
Hugo Voisin - INRAE Nantes, France |
| 15:15 - 15:40
(20'+5') | Tracing metal contaminants in environmental plastics pellets and mammalian tissues using XRF mapping at PUMA
Alessandra Gianoncelli - Elettra, Sincrotrone Trieste, Italy |
| 15:40 - 16:10 | Coffee break |
| 16:10 - 16:35
(20'+5') | Designing cryo-correlative workflows: Understanding radiation damage risks in HEK293-XpaQ
Harisa Rista - Synchrotron SOLEIL, Saint-Aubin, France |
| 16:35 - 17:00
(20'+5') | Detection of titanium dioxide particles in human, animal and infant formula milk
Anne Burtey - Génétique Animale et Biologie Intégrative, Jouy-en-Josas, France |
| 17:00 - 17:30
(25'+5') | The role of the gut in dementia
Alessia Cedola - CNR-NANOTEC, Italie |
| 17:30 - 17:55
(20'+5') | Mechanical phenomena occurring in tissue during subcutaneous injections
Aurélien Baquié - Nemera, Lyon & INSERM Sainbiose, Saint-Étienne, France |
| 17:55 - 18:20
(20'+5') | Structural and functional characterization of human tissue nonspecific alkaline phosphatase
Pierre-Damien Coureux - I2BC, Gif-sur-Yvette, France : Présentation by Iliass Imam - Université Claude Bernard Lyon 1, France |

Parallel Session Schedule

Chemistry & Soft Matter

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

Chairpersons: Luis Cardenas, Asma Tougerti & Amélie Bordage

SOLEIL Auditorium - Main Building

Thursday, January 15th, 2026

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| 13:30 - 14:00
(25'+5') | STXM as a tool for studying the morphology of organic semiconducting nanoparticles for energy applications
Anne Hebraud - Institut de Chimie et Procédés pour l'Energie, l'Environnement et la Santé, Strasbourg, France |
| 14:00 - 14:25
(20'+5') | Revealing the mechanisms of enhanced photo-electrocatalytic OER performance of Ni doped maghemite via operando XAFS
Francesco Paparoni - Synchrotron SOLEIL, Saint-Aubin, France |
| 14:25 - 14:50
(20'+5') | Comparison of STXM and SXP for the morphological study of organic semiconducting nanoparticles used for hydrogen production
Sufal Swaraj - Synchrotron SOLEIL, Saint-Aubin, France |
| 14:50 - 15:15
(20+5') | Tracking hydrogen-driven structural dynamics in supported Pd nanoparticles using full-field hyperspectral XAS imaging
Marlon Muniz da Silva - Brazilian Synchrotron Light Laboratory & Institute of Chemistry, Campinas, SP, Brazil |
| 15:15 - 15:40
(20+5') | Fate of self-assembled squalene nanoparticles in a biomimetic medium assessed by scattering techniques
Hugo Roncin - NIMBE/CEA Paris-Saclay, Gif-sur-Yvette, France |
| 15:40 - 16:10 | Coffee break |
| 16:10 - 16:40
(25'+5') | Realistic catalysts at work: APXPS insights into surface transformation for sustainable energy applications
Spiros Zafeiratos - Institut de Chimie et Procédés pour l'Energie, l'Environnement et la Santé, Strasbourg, France |
| 16:40 - 17:05
(20+5') | Probing protonation state dependent charge transfer-to-solvent in L-cysteine via sulfur K β Valence-to-core resonant inelastic X-ray Scattering
Sayantana Sarkar - Laboratoire de Chimie Physique-Matière et Rayonnement, Paris, France |
| 17:05 - 17:30
(20'+5') | Strong coupling attraction in nanoconfined water between like-charged phospholipid layers
Arnaud Hemmerle - Synchrotron SOLEIL, Saint-Aubin, France |
| 17:30 - 17:55
(20'+5') | Cation ordering in synthetic stannoidite (Cu ₈ Fe ₃ Sn ₂ S ₁₂) revealed by multiple-edge anomalous diffraction
Carmelo Prestipino - CRISMAT, Caen, France |
| 17:55 - 18:20
(20'+5') | Operando surface-sensitive X-ray scattering of Pd nanoparticles for selective NH ₃ oxidation
Alina Vlad - Synchrotron SOLEIL, Saint-Aubin, France |

Parallel Session Schedule

Diluted matter

Chairpersons: Pierre Asselin & Helgi Rafn Hrodmarsson

ORION Room

Thursday, January 15th, 2026

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|---------------------------|---|
| 13:30 - 14:00
(25'+5') | Are ketohydroperoxides from isoprene ozonolysis a missing major source of tropospheric OH?
Jérémy Bourgalais - <i>Institut de Physique de Rennes, France</i> |
| 14:00 - 14:25
(20'+5') | Tender X-ray induced fragmentation and charge release in halogenated radiosensitizers: A first electron–multi-ion coincidence study
Oksana Travnikova - <i>LCPMR, Paris and Synchrotron SOLEIL, Saint-Aubin, France</i> |
| 14:25 - 14:50
(20'+5') | Quantitative FTIR spectroscopy of corrosive and unstable atmospheric gases: Application to HNO ₃ , HONO and HOBr
Alexandre Voute - <i>Synchrotron SOLEIL, Saint-Aubin, France</i> |
| 14:50 - 15:15
(20+5') | Gas-phase interstellar ion-molecule reactivity driven by VUV Synchrotron light
Corentin Rossi - <i>Institut des Sciences Moléculaires d'Orsay, France</i> |
| 15:15 - 15:40
(20+5') | How do non-covalent interactions within small molecular cluster in the gas phase modify the ion molecule reactivity?
Lucas Albouy - <i>MONARIS, Paris, France</i> |
| 15:40 - 16:10 | Coffee break |
| 16:10 - 16:40
(25'+5') | Rovibrational analysis of cyclopentadiene using ASAP and SOLEIL
Luis Bonah - <i>I. Physikalisches Institut, Universität zu Köln, Germany</i> |
| 16:40 - 17:05
(20+5') | The importance of Synchrotron spectroscopy in untangling the complex spectral patterns of deuterated methyl rotors
Hayley A. Bunn - <i>Center for Astrochemical Studies, Garching, Germany</i> |
| 17:05 - 17:30
(20'+5') | Direct experimental evidence of the roaming atom mechanism in a macromolecular noncovalent complex
Jean-Christophe Pouilly - <i>CIMAP, Caen, France</i> |
| 17:30 - 17:55
(20'+5') | Comparison of ethylene spectra at 10 μm recorded by Fourier transform and frequency comb spectrometers
Hazem Ziadi - <i>Groupe de Spectrométrie Moléculaire et Atmosphérique, Reims, France</i> |

Parallel Session Schedule

Geosciences / Environment / Cultural Heritage

Chairpersons: Charlotte Catrouillet & Simona Raneri

LIBRA Room

Thursday, January 15th, 2026

- 13:30 - 14:00
(25'+5') How Synchrotrons can help us understand the dangers of historical lead-based cosmetics
Fiona E. McNeill - McMaster University, Hamilton, Canada
- 14:00 - 14:25
(20'+5') Characterization of 19th and 20th century African glass beads using XRF band XAS spectroscopy
Laurent Tranchant - Synchrotron SOLEIL, Saint-Aubin, France
- 14:25 - 14:50
(20'+5') Investigation of iron and copper speciation: Deciphering the green colourations of medieval stained-glass windows
Cecile Bretonnet - Ministère de la Culture, Paris, France
- 14:50 - 15:15
(20'+5') Art gets the blues: Simple colorimetric tools for X-ray dose assessment
Alice Gimat - Muséum national d'Histoire naturelle, Paris, France
- 15:15 - 15:40
(20'+5') Quantifying the speciation of sulfur and associated metals in geological fluids using Synchrotron spectroscopy
Gleb Pokrovski - Géosciences Environnement Toulouse, France : *Présentation by Olivier Proux* - ESRF, Grenoble, France
- 15:40 - 16:10 Coffee break
- 16:10 - 16:40
(25'+5') Invisible metals, visible impacts: Geochemical dynamics and the environment
Alexandra Courtin - GEOPS, Université Paris-Saclay, Orsay, France
- 16:40 - 17:05
(20'+5') Multi-scale Synchrotron study of critical-metal phases by XRF and XANES spectroscopies
Georgia Grypaiou Iskenteridou - Géosciences Paris-Saclay & Laboratoire de Physique du Solide, Orsay, France
- 17:05 - 17:30
(20'+5') Environmental degradation of plastics in soils: Example of polypropylene alteration investigated by Synchrotron-based GIXD and nano-CT
Quentin Bollaert - Synchrotron SOLEIL, Saint-Aubin, France
- 17:30 - 17:55
(20'+5') Impact of different micro-organisms (bacteria, archaea) on the platinum (Pt) speciation
Justine Le Doaré - Institut de physique du globe de Paris, France
- 17:55 - 18:20
(20'+5') Impact of redox conditions on the binding of redox-inert contaminants to magnetite
Rémi Marsac - Institut de physique du globe de Paris, France

Parallel Session Schedule

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

Chairpersons: Eglantine Boulard, Sara Gonzalez & Fabien Silly

CEA BLOCH Auditorium

Thursday, January 15th, 2026

- 13:30 - 14:00 Deep strain field of surface reconstruction
(25'+5') **Vincent Repain** - Université Paris Cité, Paris, France
- 14:00 - 14:25 1s2p resonant inelastic X-ray scattering natural circular dichroism
(20'+5') **Alessandro De Frenza** - Synchrotron SOLEIL, Saint-Aubin, France
- 14:25 - 14:50 Deep learning approach for fixing limited angle artefacts in Synchrotron X-ray tomography
(20'+5') **Shyam Pulickan** - Synchrotron SOLEIL, Saint-Aubin, France
- 14:50 - 15:15 *In situ* Synchrotron study of the 1T'/1H phase transition in colloidal WS₂ monolayers
(20'+5') **Dario Mastrispolito** - Synchrotron SOLEIL, Saint-Aubin, France
- 15:15 - 15:40 Is there a liquid-liquid transition in realgar (As₄S₄) under extreme conditions? A comprehensive Synchrotron study
(20'+5') **Vincent Rajaji** - Institut de Minéralogie, de Physique des Matériaux et de Cosmochimie, Paris, France
- 15:40 - 16:10 Coffee break
- 16:10 - 16:40 Probing inversion symmetry breaking and related electronic properties in ultrathin tellurides
(25'+5') **Fabien Cheynis** - CINaM Centre Interdisciplinaire de Nanoscience de Marseille
- 16:40 - 17:05 Mechanical strain effects on the magnetic response of ferromagnetic thin films on polymer substrates
(20'+5') **Alejandro Toledano-Povedano** - Institut Pprime-CNRS, Poitiers, France
- 17:05 - 17:30 Correlating RIXS and EELS and XEOL spectroscopies in Van der Waals materials
(20'+5') **Alessandro Nicolaou** - Synchrotron SOLEIL, Saint-Aubin, France
- 17:30 - 17:55 Structural and electrical characterization of Hf_{0.5}Zr_{0.5}O₂ and ZrO₂ thin films using grazing incidence Synchrotron X-ray diffraction
(20'+5') **Grégoire Magagnin** - INSA Lyon, Villeurbanne, France