



CentraleSupélec - Bâtiment Eiffel, Gif-sur-Yvette - France
 &
 Synchrotron SOLEIL, Saint-Aubin - France

Programme

Thursday, January 17th

CENTRALE-SUPELEC-GIF-SUR-YVETTE - MICHELIN AUDITORIUM #2

- 09:00 - 10:00 Registration & coffee
- 10:00 - 10:10 Welcome / Introduction
Jean-Sébastien Girardon - *ORGUES Chairperson*
- 10:10 - 10:20 The word of SOLEIL General Director
Jean Dailant
- 10:20 - 11:05 Biology:
 Biomimetic self-assemblies: 10 years of collaboration with SOLEIL
Frank Artzner - *Institut de Physique de Rennes, France*
- 11:05 - 11:50 SOLEIL Evolution
 - **Science directors** (*Organisation of the Upgrade Project*)
 - **Felisa Berenguer** (*Opportunities exploiting the improved coherence of beam from SOLEIL 2*)
 - **François Polack** (*Optics for a high brilliance MBA source*)
- 11:50 - 12:10 Peer Review Committee Chairman 5 (5mn) - **T. Crépin**
 Peer Review Committee Chairman 6 (5mn) - **J. Goettlicher / L. Robbiola**
 Questions 10mn
- 12:10 - 13:45 Lunch

Parallel sessions (see the detailed programme below)

- 13:45 - 15:15
- Ancient & New Materials (Cultural heritage / Structure / Electronic Properties / Surfaces & Interfaces)
 - Dynamic, Reactivity & Chemical analysis (Diluted Matter & Chemistry)
 - Life & Earth Sciences (Biology / Health & Environment / Geoscience)

15:15 - 15:45 Coffee break

Parallel sessions (see the detailed programme below)

- 15:45 - 17:15
- Ancient & New Materials (Cultural heritage / Structure / Electronic Properties / Surfaces & Interfaces)
 - Dynamic, Reactivity & Chemical analysis (Diluted Matter & Chemistry)
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17:15 - 18:45 Posters session / Commercial exhibition / ORGUES and AFURS Booth

Transfer to SOLEIL 18:45

19:00 - 20:00 Visit of Beamlines (SAMBA / SEXTANTS / DISCO)
 Forum - Discussion
 DATA POLICY for users – (Amphitheatre SOLEIL)
 UPGRADE: “low energy” perspectives for users – (Bâtiment d’accueil)

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

Friday, January 18th

CENTRALE-SUPELEC-GIF-SUR-YVETTE - MICHELIN AUDITORIUM #2

9:00 - 09:45 Surfaces/Interfaces:
 Magnetic skyrmions: When topology meets spintronics
Vincent Cros - *Unité Mixte de Physique CNRS/Thalès, Palaiseau, France*

Parallel sessions (see the detailed programme below)

9:50 - 10:50

- Ancient & New Materials (Cultural heritage / Structure / Electronic Properties / Surfaces & Interfaces)
- Dynamic, Reactivity & Chemical analysis (Diluted Matter & Chemistry)
- Life & Earth Sciences (Biology / Health & Environment / Geoscience)

10:50 - 11:20 *Coffee break*

Parallel sessions (see the detailed programme below)

11:20 - 12:50

- Ancient & New Materials (Cultural heritage / Structure / Electronic Properties / Surfaces & Interfaces)
- Dynamic, Reactivity & Chemical analysis (Diluted Matter & Chemistry)
- Life & Earth Sciences (Biology / Health & Environment / Geoscience)

13:10 - 14:30 *Lunch*

Transfer to SOLEIL 14:45

2 tutorials at SOLEIL Synchrotron (see the detailed programme below)

15:00 - 18:00

- **Photoemission** - (Salle Formation – Bât. T5)
- **Coherence** - (Salle Libra – Bât. Central)

Parallel Sessions Schedule

Ancient & New Materials

(Cultural heritage / Structure / Electronic Properties / Surfaces & Interfaces)

Chairpersons:

Marie d'Angelo, Karine Provost, Noemi Carmona-Tejero, Thomas Maroutian & Frédéric Datchi

Thursday, January 17th

CENTRALE-SUPELEC-GIF-SUR-YVETTE - MICHELIN AUDITORIUM #3

- | | |
|---------------------------|---|
| 13:45 - 14:15
(25'+5') | Dynamics in narrow band gap nanocrystals
Emmanuel LHUILLIER - INSP, Paris, France |
| 14:15 - 14:35
(15'+5') | Real time study of Si(111)-7x7 room temperature oxidation by near ambient pressure XPS
Lucia Perez Ramirez - LCPMR, Paris, France |
| 14:35 - 14:55
(15'+5') | A tunable and robust two-dimensional electron system at the (110) surface of SnO ₂
Ji Dai - CSNSM, Orsay, France |
| 14:55 - 15:15
(15'+5') | Defects investigation and engineering in 2D materials: A spectroscopic study
Debora Pierucci - ALBA Synchrotron, Barcelona, Spain |
| 15:15 - 15:45 | Coffee break |
| 15:45 - 16:15
(25'+5') | Self-assembled resonant nanostructured surfaces for optics: The precious role of X-rays
Virginie PONSINET - CRPP, Pessac, France |
| 16:15 - 16:35
(15'+5') | Structural resolution of inorganic nanotubes with complex stoichiometry
Geoffrey Monet - LPS, Orsay, France |
| 16:35 - 16:55
(15'+5') | Origin of the low value onset potential in nanostructured hematite photoanodes
Stefan Stanescu - Synchrotron SOLEIL, Saint Aubin, France |
| 16:55 - 17:15
(15'+5') | The formation of catalytically active interfacial Pt-NiO _{1-x} nanostructures on Pt ₃ Ni(111) under CO oxidation reaction
Bongjin Simon Mun - SOKENDAI, Tsukuba, Japan & GIST, Gwangju, Korea |

Parallel Sessions Schedule

Ancient & New Materials

(Cultural heritage / Structure / Electronic Properties / Surfaces & Interfaces)

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Friday, January 18th

CENTRALE-SUPELEC-GIF-SUR-YVETTE - MICHELIN AUDITORIUM #3

- | | |
|---------------------------|---|
| 09:50 - 10:10
(15'+5') | An insider view on pressure induced amorphisation of molecular crystals
Emiliano Fonda - Synchrotron SOLEIL, Saint Aubin, France |
| 10:10 - 10:30
(15'+5') | Influence of applied pressure on the structural and magnetic properties of $Y_{1-x}TbxFe_2D_y$ compounds
Valérie Paul-Boncour - ICMPE, Thiais, France |
| 10:30 - 10:50
(15'+5') | Water/ammonia ice mixtures under high pressure and temperature
Léon Andriambariarijaona - IMPMC, Paris, France |
| 10:50 - 11:20 | Coffee break |
| 11:20 - 11:50
(25'+5') | X-ray diffraction and Cultural Heritage materials - Adaptive crystallography
Catherine DEJOIE - ESRF, Grenoble, France |
| 11:50 - 12:10
(15'+5') | 3D mapping by Laue micro-diffraction
Loïc Renversade - INAC Grenoble, France |
| 12:10 - 12:30
(15'+5') | Synchrotron based THz spectroscopy to probe magneto-electric effects in multiferroics
Sophie Debrion - Institut Néel, Grenoble, France |
| 12:30 - 12:50
(15'+5') | XMCD Spectroscopy at ultra-low temperature on DEIMOS beamline (SOLEIL)
Weibin Li - Synchrotron SOLEIL, Saint Aubin & IMPMC, Paris, France |
| 12:50 - 13:10 | Conclusion |

Parallel Sessions Schedule

Dynamic, Reactivity & Chemical analysis
(Diluted Matter & Chemistry)

Chairpersons:

Jean-Sébastien Girardon, Nicolas Delsuc, Vincent Boudon and Renaud Guillemin

Thursday, January 17th

CENTRALE-SUPELEC-GIF-SUR-YVETTE - MICHELIN AUDITORIUM #2

- 13:45 - 14:15
(25'+5')
- Correlative X-ray fluorescence nano-imaging and optical microscopy to investigate chemical element compartmentalization in cells
Richard ORTEGA - CENBG, CNRS, University of Bordeaux, France
- 14:15 - 14:35
(15'+5')
- Irradiation of water ice in the O 1s region : Spectral and kinetic energy signatures of photodesorbed species
Géraldine Féraud - LERMA, PSL, CNRS, Paris, France
- 14:35 - 14:55
(15'+5')
- Progress around the High Resolution Heterodyne spectrometer of the AILES beamline
Sophie Eliet - IEMN, Villeneuve d'Ascq, France
- 14:55 - 15:15
(15'+5')
- State-selected ion-molecule reactions with VUV Synchrotron Radiation: The O₂⁺ + C₃H₆ case
Christian Alcaraz - LCP, CNRS - Université Paris-Saclay, France
- 15:15 - 15:45
- Coffee break
- 15:45 - 16:15
(25'+5')
- High resolution spectrometry at the AILES beamline
Jean VANDER AUWERA - Université Libre de Bruxelles, Brussels, Belgium
- 16:15 - 16:35
(15'+5')
- High-resolution analysis of the 12.6 μm absorption of the nitryl chloride ClNO₂ molecule
Anusanth Anantharajah - LISA, Institut Pierre Simon Laplace, Créteil, France
- 16:35 - 16:55
(15'+5')
- Role of hydrogen absorption in supported Pd nanocatalysts during CO-PROX: Insights from operando X-ray absorption spectroscopy
Claudia Zlotea - ICM Paris-Est, Thiais, France

Parallel Sessions Schedule

Dynamic, Reactivity & Chemical analysis (Diluted Matter & Chemistry)

Chairpersons:

Jean-Sébastien Girardon, Nicolas Delsuc, Vincent Boudon and Renaud Guillemin

Friday, January 18th

CENTRALE-SUPELEC-GIF-SUR-YVETTE - MICHELIN AUDITORIUM#2

- 09:50 - 10:10
(15'+5')
- Line positions and intensities in the ν_2 band of sulfuryl fluoride using the C_{2v} Top Data System (C2vTDS)
Maud Rotger -GSMA, UMR CNRS 7331, Univ. de Reims Champagne Ardenne, France
- 10:10 - 10:30
(15'+5')
- In-situ XRD analysis of transient liquid assisted growth of $YBa_2Cu_3O_7$ superconducting films
Juri Banchewski - ICMAB-CSIC, Campus UAB, Bellaterra, Spain
- 10:30 - 10:50
(15'+5')
- First high resolution measurement and analysis of the 83.3 μm absorption of the chlorine nitrate $ClONO_2$ molecule
Fridolin Kwabia Tchana - LISA, Institut Pierre Simon Laplace, Créteil, France
- 10:50 - 11:20
- Coffee break
- 11:20 - 11:50
(25'+5')
- Surface chemistry of colloidal surfactant-free gold nanoparticles generated by laser ablation
Anna LEVY - INSP Sorbonne Universités, Paris, France
- 11:50 - 12:10
(15'+5')
- Double inner-shell vacancies in molecules
Dimitri Kouletianos - LCPMR, Sorbonne Université Paris, France
- 12:10 - 12:30
(15'+5')
- The investigation of the ν_8 & ν_{21} bands of propane $CH_3CH_2CH_3$ at 11.5 & 10.9 μm : Evidence of large amplitude tunnelling effects
Agnès Perrin - LMD/IPSL, Ecole Polytechnique, Université Paris-Saclay, Palaiseau, France
- 12:30 - 12:50
(15'+5')
- Characterization of two-photon entanglement resulting from VUV photodissociation of H_2
Baptiste Fabre - CELIA, Talence, France
- 12:50 - 13:10
- Conclusion

Parallel Sessions Schedule

Life & Earth Sciences (Biology / Health & Environment / Geoscience)

Chairpersons:
Benoît Masquida, Yann Gohon and Remi Marsac

Thursday, January 17th

CENTRALE-SUPELEC-GIF-SUR-YVETTE - MICHELIN AUDITORIUM#1

- 13:45 - 14:15
(25'+5') Structural basis of nucleotide sugar transport across the Golgi membrane
Simon NEWSTEAD - Department of Biochemistry, University of Oxford, UK
- 14:15 - 14:45
(25'+5') *In vitro, in cellulo and in crystallo* enzymatic reaction from APRT
Pierre NIOCHE - Université Paris Descartes, Centre Universitaire des Saints Pères, Paris France
- 14:45 - 15:05
(15'+5') Structure-function analysis of the photosynthetic ribulose epimerase CrRPE1
Julien Henri - Laboratoire de Biologie Moléculaire et Cellulaire des Eucaryotes, Paris France
- 15:05 - 15:45 *Coffee break*
- 15:45 - 16:15
(25'+5') Cristal chemistry and stability of phyllosilicates: New approaches to solve old problems
Benoît DUBACQ - Institut des Sciences de la Terre, Paris, France
- 16:15 - 16:35
(15'+5') Calcium control on the size and organization of iron-organic matter nano-aggregates: Impact on their surface reactivity
Anthony Beauvois - Synchrotron SOLEIL, St-Aubin, France
- 16:35 - 16:55
(15'+5') Multimodal ultrastructural study of lipid droplet
Marine Froissard - INRA AgroParisTech, Paris, France
- 16:55 - 17:15
(15'+5') Investigations in the $\text{CaMoO}_4 - \text{Na}_{0.5}\text{Ln}_{0.5}\text{MoO}_4$ (Ln = La, Eu, Yb) solid solution series
Nicolas Finck - KIT-INE, Karlsruhe, Germany

Parallel Sessions Schedule

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Benoît Masquida, Yann Gohon and Remi Marsac

Friday, January 18th

CENTRALE-SUPELEC-GIF-SUR-YVETTE - MICHELIN AUDITORIUM #1

- 09:50 - 10:20
(25'+5') Crystal chemistry of trace elements in sulfide minerals: environmental implications
Guillaume MORIN - IMPMC, Paris, France
- 10:20 - 10:50
(25'+5') Abiotic synthesis of amino acids in the recesses of the oceanic lithosphere
Celine PISAPIA - IPGP, Paris, France
- 10:50 - 11:20 Coffee break
- 11:20 - 11:50
(25'+5') Setting up an in-vivo crystallography platform at SOLEIL
Pierre MONTAVILLE - Synchrotron SOLEIL, St-Aubin, France
- 11:50 - 12:10
(15'+5') Looking deep inside the phloem and xylem cell wall composition by synchrotron FTIR and raman spectroscopy
Rozenn Le Hir - Institut Jean-Pierre Bourgin, Versailles, France
- 12:10 - 12:30
(15'+5') Structure of liquid crystalline nanocarriers for delivery of neuroprotective molecules
Angelina Angelova - Institut Galien Paris-Sud, Paris, France
- 12:30 - 13:10 Conclusion



TUTORIALS

Friday, January 18th

Photoemission

Synchrotron SOLEIL - Salle Formation – Bât. T5

X-Ray Photoemission Spectroscopy: Processing, fitting and analyzing data acquired with synchrotron light

Julien Rault & Matthieu Silly – Synchrotron SOLEIL, Gif-sur-Yvette, France

Introduction

15:00 - 15:30

- XPS at a synchrotron beamline
- Data acquisition - Spectrometer
- First data treatments - Softwares

Low energy XPS: Graphene on SiC

15:30 - 16:45

- Peak fitting: Lineshapes & background
- Energy dependence of surface & interface components

16:45 - 17:00

Coffee break

High energy XPS

17:00 - 17:45

- Buried interfaces with HAXPES
- Introduction to standing wave technique

Closing words

17:45 - 18:00

- XPS at SOLEIL beamlines
- Guidelines for XPS proposals



TUTORIALS

Friday, January 18th

Coherence

Synchrotron SOLEIL - Salle Libra – Bât. Central

- | | |
|---------------|--|
| 15:00 - 15:55 | Introduction générale à la cohérence et les techniques associées
Felisa Berenguer - <i>Synchrotron SOLEIL, Gif-sur-Yvette, France</i> |
| 15:55 - 16:05 | <i>Coffee break</i> |
| 16:05 - 16:35 | Challenges of bio-inspired material science and perspectives in the - coherent - light of 4th generation Synchrotron sources
Virginie Chamard - <i>Institut Fresnel, Marseille, France</i> |
| 16:35 - 17:05 | Bragg Coherent Diffraction Imaging benefits for materials science
Stéphane Labat - <i>IM2NP, Marseille, France</i> |
| 17:05 - 17:35 | Benefits of coherence for imaging of complex natural and manufactured materials
Laurent J. Michot - <i>Laboratoire Phenix, Paris, France</i> |