



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

## Programme

**Thursday, January 17<sup>th</sup>**

**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) - **Thibaut Crépin**  
 Peer Review Committee Chairman 6 (5mn) - **Jörg Göttlicher**  
 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)
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# 14<sup>th</sup> SOLEIL USERS' MEETING

17-18 January 2019

17:15 - 18:45 Posters session / Commercial exhibition / ORGUES and AFURS Booth  
and Coffee break

## Transfer to SOLEIL 18:45

Visit of Beamlines (SAMBA / SEXTANTS / DISCO)  
or  
Forum – Discussion

- 19:00 - 20:00
- Data Policy for users – (**Amphitheatre SOLEIL**)  
*B. Gagey, J-P. Itié (SOLEIL) K. Provost (ORGUES)*
  - Upgrade: “Low energy” perspectives for users – (**Bâtiment d'accueil**)  
*A. Thompson, A. Taleb (SOLEIL), V. Boudon, N. Delsuc et R. Marsac (ORGUES)*

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

## Friday, January 18<sup>th</sup>

### 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 17<sup>th</sup>**

**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<sub>2</sub>  
**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<sub>1-x</sub> nanostructures on Pt<sub>3</sub>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)

Chairpersons:

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**Friday, January 18<sup>th</sup>**

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

- |                           |  |
|---------------------------|--|
| 09:50 - 10:10<br>(15'+5') | An insider view on pressure induced amorphisation of molecular crystals<br><b>Emiliano Fonda</b> - Synchrotron SOLEIL, Saint Aubin, France                       |
| 10:10 - 10:30<br>(15'+5') | Influence of applied pressure on the structural and magnetic properties of $Y_{1-x}Tb_xFe_2D_y$ compounds<br><b>Valérie Paul-Boncour</b> - ICMPE, Thiais, France |
| 10:30 - 10:50<br>(15'+5') | Water/ammonia ice mixtures under high pressure and temperature<br><b>Léon Andriambariarijaona</b> - IMPMC, Paris, France   |
| 10:50 - 11:20             | Coffee break   |
| 11:20 - 11:50<br>(25'+5') | X-ray diffraction and Cultural Heritage materials - Adaptive crystallography<br><b>Catherine DEJOIE</b> - ESRF, Grenoble, France                                 |
| 11:50 - 12:10<br>(15'+5') | 3D mapping by Laue micro-diffraction<br><b>Loïc Renversade</b> - INAC Grenoble, France   |
| 12:10 - 12:30<br>(15'+5') | Synchrotron based THz spectroscopy to probe magneto-electric effects in multiferroics<br><b>Sophie Debrion</b> - Institut Néel, Grenoble, France                 |
| 12:30 - 12:50<br>(15'+5') | XMCD Spectroscopy at ultra-low temperature on DEIMOS beamline (SOLEIL)<br><b>Weibin Li</b> - 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 17<sup>th</sup>****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 O<sub>2</sub><sup>+</sup> + C<sub>3</sub>H<sub>6</sub> 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 ClNO<sub>2</sub> 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
- 16:55 - 17:15  
(15'+5')
- Photoionization and dissociative photoionization of propynal in the gas phase: Theory and experiment.
- Imene Derbali** - MONARIS UMR 8233 CNRS, Sorbonne Université, France



## Parallel Sessions Schedule

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

Chairpersons:

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

Friday, January 18<sup>th</sup>

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

- 09:50 - 10:10  
(15'+5')
- Line positions and intensities in the  $\nu_2$  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  $\mu\text{m}$  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 Kouliantanos** - LCPMR, Sorbonne Université Paris, France
- 12:10 - 12:30  
(15'+5')
- The investigation of the  $\nu_8$  &  $\nu_{21}$  bands of propane  $CH_3CH_2CH_3$  at 11.5 & 10.9  $\mu\text{m}$ : 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 17<sup>th</sup>

**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  
**Benoit 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



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Benoît Masquida, Yann Gohon and Remi Marsac

**Friday, January 18<sup>th</sup>**

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

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





## TUTORIALS

Friday, January 18<sup>th</sup>

### 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 18<sup>th</sup>

### Coherence

*Synchrotron SOLEIL - Salle Libra – Bât. Central*

- |               |  |
|---------------|--|
| 15:00 - 15:55 | Introduction générale à la cohérence et les techniques associées<br><b>Felisa Berenguer</b> - <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<br><b>Virginie Chamard</b> - <i>Institut Fresnel, Marseille, France</i> |
| 16:35 - 17:05 | Bragg Coherent Diffraction Imaging benefits for materials science<br><b>Stéphane Labat</b> - <i>IM2NP, Marseille, France</i>   |
| 17:05 - 17:35 | Benefits of coherence for imaging of complex natural and manufactured materials<br><b>Laurent J. Michot</b> - <i>Laboratoire Phenix, Paris, France</i>   |