



# SOLEIL Users' Meeting 2010 January 20-21, 2010

## PROGRAMME

20/01/2010 :

9h30 – 10h30	Registration and coffee	
<b>Chairperson: Marc SIMON</b>		
10h30 – 10h35	Welcome	Polytechnique
10h35 - 10h50	Introduction	<b>Marc SIMON</b> , <i>ORGUES Chairman</i>
10h50 – 11h15	The word of SOLEIL General Director	<b>Michel van der REST</b>
11h15 – 12h00	High lights of SOLEIL	<b>Jean-Marc FILHOL / Paul MORIN / Jean-Pierre SAMAMA</b>
12h00 – 12h30	<i>Synchrotron based photoelectron spectroscopy: present status and perspectives.</i>	<b>Svante SVENSSON</b>
12h30 – 13h00	<i>Pluripotent Stem Cells: current and future challenges for medicine.</i>	<b>Anne-Lise BENNACEUR GRISCELLI</b>
13h00 – 14h30	Lunch	
<b>Chairperson: Eric Sibert</b>		
14h30 – 15h00	<i>Synchrotron XRD and XAS characterization of lithium battery electrodes.</i>	<b>Guy OUVRARD</b>
15h00 – 15h30	<i>High Resolution ARPES of Advanced Materials.</i>	<b>Amina TALEB</b>
<b>Transfer to SOLEIL</b>		
16h	Coffee break / Posters session / Visit of SOLEIL / Commercial exhibitions	
19h00	Buffet	

21/01/2010 :

9h00 – 11h00	Parallel sessions	<b>See detailed programme below</b>
11h00 – 11h30	Coffee break	
11h30 – 13h00	Parallel sessions	
13h00 - 14h30	Lunch	
<b>Chairperson: Alain Polian</b>		
14h30 – 15h00	<i>Synchrotron X-ray radiation for exploring trace element speciation and biogeochemical cycling in the environment.</i>	<b>Ruben KRETZSCHMAR</b>
15h00 - 15h30	<i>Inelastic scattering of X-rays from excitations in solids: A key to the understanding of new and complex materials.</i>	<b>Abhay SHUKLA</b>
15h30 – 15h45	Price for the best student poster	
15h45 – 16h45	Synthesis of parallel sessions and conclusion	
16h45	Coffee break	



## Detailed programme

### Parallel sessions of January 21<sup>st</sup>, 2010:

#### PS1: *Materials science*

##### Moderators :

**Valérie PAUL-BONCOUR** *Laboratoire de Chimie Métallurgique des terres rares, Thiais*

**Alain POLIAN** *Institut de Minéralogie et de Physique des Milieux Condensés, Paris*

##### 9:00-11:00:

- |   |   |   |
|---|---|---|
| 1 | <u>P. Martin</u> , H. Palancher, C. Valot, C. Gaillard, R. Bes, S. Schlutig, P.-L. Solari and B. Sitaud                           | $\mu$ -XRD and XAS characterizations on MARS of materials related to nuclear fuels                      |
| 2 | <u>V. Uhler</u> , S. Pizzini, N. Rougemaille, F. Sirotti, V. Cros, E. Jimenez, J. Camarero, J. Vogel                              | Current-induced Magnetisation Dynamics in Spin-valve Nanowires Studied by Time-Resolved XMCD-PEEM       |
| 3 | <u>F. Coppari</u> , A. Polian, A. Congeduti, S. Chagnot, E. Principi, A. Di Cicco   | An Upgraded Setup For Combined High Pressure XAS/XRD Measurements At ODE Beamline                       |
| 4 | <u>Fanny Rodolakis</u> (LPS / SOLEIL).  | oxydes de Vanadium ( $V_2O_3$ et $VO_2$ ) à la transition métal / isolant, en particulier sous pression |
| 5 | <u>Franck Vidal</u> , Yunlin Zheng, Julian Milano, Dominique Demaille, Pedro Schio, Emiliano Fonda, Boris Vodungbo, Victor Etgens | Growth Of Embedded 5 nm Diameter Cobalt Nanowires   |
| 6 | <u>C. Zlotea</u> , V. Paul-Boncour, F.Cuevas, S. Belin, P. Dibandjo, R. Gadiou, C. Vix-Guterl and M. Latroche                     | Icosahedral reconstruction of Pd nanoparticles under hydrogen atmosphere                                |
| 7 | <u>G. Weck</u> , S. Ninet, P. Loubeyre  | Search for metallization in solids $H_2$ and $N_2$ at the SMIS beamline                                 |

11:00-11:30: coffee break

##### 11:30-13:00: Round table

Possible topics to be discussed:

- |                                      |  |
|--------------------------------------|--|
| - high pressure laboratory           | - program committee results            |
| - gaz extraction                     | - propositions and needs of formations |
| - sample preparation and environment | - ...                                  |
| - ...                                |  |

#### PS2: *Diluted matter (chemical physics)*

##### Moderators :

**Marc SIMON** *LCPMR – Paris*

**Arnaud CUISSET** *LPCA – Dunkerque*

##### 9:00-11:00:

1. Thérèse Huet (Lille)
2. Vincent Boudon (Dijon)



# SOLEIL Users' Meeting 2010

## January 20-21, 2010

3. Séverine Boyé (Orsay)
4. Yann Picard (Orsay)
5. Robert Georges (Rennes)
6. Renaud Guillemin (Paris)
7. Alain Huetz (Orsay)
8. Ivan Powis (Nottingham)

**11:00-11:30:** coffee break

**11:30-13:00:**

The second part of the session starts with a presentation of Catalin Miron, manager of the PLEIADES beamline which welcomed its first users in 2009.

The last part of the session will be shared between scientific presentations chosen on abstract and a free discussion with the members of the community on various subjects. Among these, the problems caused by the gas extraction will be discussed.

### **PS3: Life sciences / Health**

#### **Moderators :**

**Louis RENAULT** LEBS – Gif/Yvette

**Solange MORERA** LEBS – Gif/Yvette

**9.00-11.00 Short Seminars on SOLEIL beamline results/developments by beamline scientists or users: 15mn + 5mn discussion/questions**

- |                    |   |
|--------------------|---|
| 9.00-9.20          | <b>Matthieu REFREGIERS</b> (beamline manager on <b>DISCO</b> ) "Results about commissioning and first results on Dichroism, Imaging, mass spectrometry for chemistry and biology"                             |
| 9.20-9.40          | <b>Andrea SOMOGYI</b> (beamline manager on <b>NANOSCOPIUM</b> ) "Present and futur technics of X imagery at SOLEIL"   |
| 9.40-10.00         | <b>Camille LARUE</b> (CEA, IRAMIS, Gif) <b>LUCIA</b> "Investigation Of Titanium Dioxide Nanoparticles Toxicity And Uptake By Plants"  |
| 10.00-10.20        | <b>Guillaume BROTONS</b> (LPEC, Université du Maine, Le Mans) <b>SWING</b> "Structure of phospholipid bilayers from yeast membranes incorporating mammalian olfactory receptors (ORs). A SAXS and SANS study" |
| 10.20-10.40        | <b>Louise AIGRAIN</b> (CGM, CNRS, Gif sur Yvette) <b>PROXIMA1</b> "Structure of the open conformation of a functional chimeric NADPH cytochrome P450 reductase"   |
| 10.40-11.00        | <b>Marion BOUDES</b> (YSG IBBMC, Université Paris-Sud, Orsay) <b>PROXIMA1 + SWING</b> "The Genetic Transformation, A New Therapeutical Target For The Human Pathogen <i>Streptococcus pneumoniae</i> "        |
| <b>11.00-11.30</b> | <b>Coffee break</b>   |
| <b>11.30-13.00</b> | <b>Round Table</b>  |



# SOLEIL Users' Meeting 2010

## January 20-21, 2010

11.30-11.45 **Jean-Pierre SAMAMA**, scientific director at SOLEIL "Updates on SOLEIL beamlines opened or to be opened in biology"

- Opened discussion about calls for proposals / beamline environment, needs from the users for workshops at SOLEIL for ex. on data collection and analysis (SMIS beamline) or BAG training on PROXIMA1
- Users' feedback/requests on future developments at SOLEIL
- Beamline scientists' update / feedback / requests

### **PS4: Chemistry, condensed matter and soft condensed matter**

#### **Moderators :**

**Fabienne TESTARD** LIONS CEA / IRAMIS – Saclay

**Giulia FORNASIERI** Institut de Chimie Moléculaire et des Matériaux – Orsay

#### **9:00-11:00:**

1. David Le Bolloc'h
2. Cafun Jean Daniel
3. Michalowicz Alain
4. Cristol Sylvain
5. Bazin Dominique
6. Ilakovac Vita

**11:00-11:30:** Coffee break

#### **11:30-13:00:**

- General presentation of chemistry in SOLEIL (V. Briois)
- Short communication on new beamlines to be opened (MARS, SIRIUS...)
- News from beamlines
- Point on chemistry laboratory
- Round table

### **PS5: Surfaces, interfaces, nano objects**

#### **Moderators :**

**Véronique DUPUIS** LPMCN – Lyon

**Eric SIBERT** LEPMI – Grenoble

9:00-9:30: V. Brouet (invited)

9:30-9:50: M. Mougnot, Orléans - GISAXS

9:50- 10:10: N. Rougemaille, Grenoble

10:10-10:40: G. Held (invited)

10:40-11:00: N. Barrett, Gif – Electronic structure

**11:00-11:30:** Coffee break

11:30- 12:00: Y. Fagot-Revurat (invited)

12:00- 12:20: B. Bouchet-Fabre, Gif - XANES

12:20- 12:40: J.J. Gallet, Paris, TEMPO

**12h40-13h:** round table about users' feedback/requests and perspectives.



# SOLEIL Users' Meeting 2010

## January 20-21, 2010

### **PS6: Cultural heritage, archaeology, environment, geosciences**

#### **Moderators :**

**Farid JUILLOT** IMPMC – Paris

**Emmanuel DOELSCH** CEREGE – Aix en Provence

#### **9:00-11:00:**

9:00-9:10: Introduction

6 oral presentations giving new results obtained at SOLEIL on subjects covering the three scientific domains of the community:

- 9:10-9:25: Kergourlay F., Réguer S., Mirambet F., Foy E., Vantelon D., Rémazeilles C., Neff D., Dillmann P. and Refait P. Structural evidence for the dechlorination of Roman iron ingots from marine archaeological site.
- 9:25-9:40: Auffan M., Chaurand P., Hull M., Flank A-M., Bottero J-Y., Vikesland P. and Rose J. Manufactured Nanomaterials: Bio-assimilation And Biological Impact.
- 9:40-9:55: Cochain B., Neuville D.R., De Ligny D., Roux J. and Richet P. Kinetics and Mechanisms of Redox Reactions In Silicate Melts: A High Temperature Xanes Study.
- 9:55-10:10: Echard J.-P., Le Hô A.-S., Robinet L., Sandt C., Dumas P., Bellot-Gurlet L., Paris C. and Bertrand L. Discriminating Between Varnishing Techniques of Musical Instruments Using Synchrotron FTIR Microscopy.
- 10:10-10:25: Trcera N., Rossano S., Cabaret D. and Madjer K. Experimental and Theoretical Approaches to Investigate Mg Structural Environment in Silicate Glasses by X-Ray Absorption Spectroscopy.
- 10:25-10:40: Popov D., Dähn R., Grolimund D., Pattison P. and Wieland E. Application of the X-ray Microdiffraction Technique to 100000 Years Old Natural Cementitious Materials.

**10:40-11:00:** the repartition of the beamtime for our community for the past two years (2008 and 2009).

**11:00-11:30:** Coffee break

#### **11:30-13:00:**

11:30-12:10: Presentations of MARS and PSYCHE beamlines and also of IPANEMA.

12:10-12:30: Discussion about the technical specificities of the laboratories at SOLEIL (chemistry lab, HP-HT lab)

12:30-13:00: Miscellaneous