

**GDRi XFEL-Science**  
**Fostering the X-ray Free Electron Laser User Community in France**

**Journée scientifique autour des XFELs**  
**le 30 septembre 2014 au CNRS**

**Scientific Opportunities with X-ray Free Electron Lasers**

**TUESDAY, September 30<sup>th</sup>**

9:45 – 10:00 Registration

***Workshop Introduction***

10:00 – 10:10 *Welcome at the CNRS*

Amina Taleb-Ibrahimi (CNRS, INP)

10:10 – 10:40 *XFELs: Introduction, state-of-the-art and a brief overview of current activities*

Jan Lüning (LCPMR, UPMC Paris; Coordinator of the GDRi XFEL-Science)

***Scientific Highlights (I)***

10:40 – 11:20 *Watching ultrafast electronic and structural changes in light-excited states*

Eric Collet (IPR, Université de Rennes I)

11:20 – 11:40 *Ultrafast spin dynamics by single-shot pump-probe experiments at XFELs*

Christine Boeglin (IPCMS, Strasbourg)

11:40 – 12:10 *Planetary physics: High energy lasers and XFELs as complementary tools*

Michel Koenig (LULI)

12:10 – 12:30 *Opportunities for diffraction at XFELs in condensed matter*

Sylvain Ravy (Synchrotron SOLEIL)

12:30 – 14:00 *Lunch at the CNRS canteen*

***Scientific Highlights (II)***

14:00 – 14:40 *Opportunities for using XFELs in structural biology*

Martin Weik (IBS, Grenoble)

14:40 – 15:00 *Imaging crystalline structures at the nanoscale*

Virginie Chamard (Institut Fresnel, Aix-Marseille Université)

15:00 – 15:40 *New possibilities in atomic molecular science with XFELs:*

*Multiphoton Processes, Ultrafast Dynamics and Time-Resolved Imaging*

Marc Simon (LCPMR, CNRS/UPMC Paris)

15:40 – 16:00 *Two-color ionization of hydrogen in the threshold region with keV Photons*

Henri Bachau (CELIA, Bordeaux)

16:00 – 16:30 *Coffee break*

***Science at XFELs: Opportunities, Needs and the general context***

16:30 – 17:00 *Opportunities offered by bringing secondary laser sources to XFELs*

Philippe Zeitoun (LOA)

17:00 – 18:30 *Animated plenary discussion:*

*Research and Instrumentation projects, User Consortia at the European XFEL, opportunities at FLASH II and FERMI, needs and funding options*

20:00 *Diner*

## **WEDNESDAY, October 1<sup>st</sup>**

### ***Scientific Highlights (III)***

- 9:00 – 9:40 *X-ray pump/probe at a hard x-ray FEL source:  
technical and scientific achievements and highlights*  
Henrik Lemke (LCLS, SLAC)
- 9:40 – 10:00 *Arrival time diagnostic for sub-10fs resolution at XFEL*  
Marion Harmand (IMPMC, UPMC Paris)
- 10:00 – 10:40 *Photoelectron spectroscopy on solids at XFELs*  
Fausto Sirotti (Synchrotron SOLEIL)
- 10:40 – 11:00 Coffee break

### ***Annual plenary meeting of the GDRi XFEL-Science***

- 11:00 – 11:40 *Network report and discussion of next activities*  
Jan Lüning (Coordinator of the GDRi XFEL-Science; LCPMR, UPMC Paris)

### ***Scientific Highlights (IV)***

- 11:40 – 12:20 TBA
- 12:20 – 12:40 *Ultrafast evolution of the model Mott-Hubbard compound  $V_2O_3$*   
Gabriel Lantz (LPS, Orsay)
- 12:40 – 13:00 TBA

13:30 *Meeting closure; departure and/or lunch in the CNRS canteen*