

## Tuesday, August 23, 2016

8:30 – 9:00 **Registration**

9:00 – 9:15 **Opening**

**9:15 – 12:05 Section I PIPT - theory**

Chair: P. Monceau

9:15 – 10:35 Theory of non-linear phononics for coherent light-control of solids  
*A. Georges, College de France, France*

10:35 – 11:05 Coffee

11:05 – 11:40 Theory for photo-induced dynamics in correlated materials  
*M. Eckstein, Max Planck Institute, Germany*

11:40 – 12:05 Non-equilibrium analysis on an open-dissipative electron-hole condensate in a steady state  
*R. Hanai, Keio University, Japan*

12:15 – 14:30 Lunch

**14:30 – 15:50 Section II Strong correlations, Mott state**

Chair: C.-Y. Ruan

14:30 – 14:55 Non-Fermi liquids in two and three-dimensional SrTiO<sub>3</sub>  
*S. Stemmer, University of California, USA*

14:55 – 15:30 Polaron physics in SrTiO<sub>3</sub>  
*P. Littlewood, University of Chicago, USA*

15:30 – 15:50 Field-driven Mott gap collapse and resistive switch in correlated insulators  
*G. Mazza, Ecole Polytechnique, College de France, France*

15:50 – 16:20 Coffee

**16:20 – 17:25 Section III Graphene and monolayers**

Chair: K. Jin

16:20 – 16:45 Superconductivity and charge density waves in the clean 2D limit  
*A.W. Tsen, University of Waterloo, Canada*

16:45 – 17:05 Novel electron-phonon relaxation pathway in graphite revealed by time-resolved raman scattering  
*D. Reznik, University of Colorado-Boulder, USA*

17:05 – 17:25 Phase transitions induced by magnetic field in graphite  
*B. Fauqué, UPMC, College de France, France*

**18:00 Welcome reception**

## Wednesday, August 24, 2016

9:00 – 12:10	Section IV	Electrostatic doping	Chair: S. Stemmer
9:00 – 10:20	Electric field control of 2D materials <i>Y. Iwasa, University of Tokyo, Japan</i>		
10:20 – 10:40	Coffee		
10:40 – 11:15	Ising superconductivity in transition metal dichalcogenides <i>J.T. Ye, University of Groningen, The Netherlands</i>		
11:15 – 11:40	Photo-recovered surface potential in BiFeO <sub>3</sub> and oxygen vacancy induced metal-insulator transition in manganite films <i>K. Jin, Chinese Academy of Sciences, China</i>		
11:40 – 12:10	Negative charge-compressibility of SrTiO <sub>3</sub> FET. <i>I.H. Inoue, AIST, Japan</i>		
12:15 – 14:30	Lunch		
14:30 – 16:15	Section V	Spins and magnetism	Chair: R. Claessen
14:30 – 15:05	Electric-field control of magnetic and electronic properties of ferroelectric based heterostructures <i>Y.G. Zhao, Tsinghua University, China</i>		
15:05 – 15:35	Superconductivity and quantum phase transitions at oxide interfaces <i>J. Lesueur, CNRS, UPMC, France</i>		
15:35 – 15:55	Nonequilibrium control of quantum materials: From topology, spintronics to dissipationless heterodyne <i>T. Oka, Max-Planck Institute, Germany</i>		
15:55 – 16:15	Specificities of RMn <sub>2</sub> O <sub>5</sub> in multiferroics materials <i>V. Balédent, CNRS, Université Paris-Sud, France</i>		
16:15 – 16:35	Coffee		
16:35 – 18:00	Posters session I		
18:30	Musical journey from the 17th to the 21st century Karine Lethiec, viola and Christophe Giovaninetti, violin		

## Thursday, August 25, 2016

<b>9:00 – 12:05</b>	<b>Section VI Tr- ARPES, PES, X-RAY</b>	Chair: E. Collet
9:00 – 10:20	Ultrafast excited state dynamics in low-dimensional materials probed by time-resolved ARPES <i>M. Wolf, MGP, Germany</i>	
10:20 – 10:50	Coffee	
10:50 – 11:20	High temperature superconductors and Mott insulators far from equilibrium conditions <i>L. Perfetti, Ecole Polytechnique, CNRS, CEA, France</i>	
11:20 – 11:40	Electronic phase transitions in strongly correlated systems: when does the band gap collapse? <i>S. Mor, MPG, Germany</i>	
11:40 – 12:05	Can the charge-density-wave of chromium slide? <i>V. Jacques, CNRS, Université Paris-Sud, France</i>	
12:15 – 14:30	Lunch	
<b>14:30 – 15:45</b>	<b>Section VII PIPT, optics, ferroelectricity</b>	Chair: L. Perfetti
14:30 – 14:55	Photoinduced phase transitions and metastable states from the perspectives of nonequilibrium dynamics. <i>C.Y. Ruan, Michigan State University, USA</i>	
14:55 – 15:25	Photoinduced interaction modulation and charge localization: order formed in a quasi-two-dimensional organic conductor <i>K. Yonemitsu, Chuo University, Japan</i>	
15:25 – 15:45	Photoinduced macroscopic disappearance of ferroelectricity in the hydrogen-bonded molecular crystal of croconic acid <i>K. Iwano, Graduate University, KEK, Japan</i>	
15:45 – 16:05	Coffee	
<b>16:05 – 17:10</b>	<b>Section VIII Optical spectroscopy</b>	Chair: A. Tsen
16:05 – 16:30	Optical spectroscopy and pump-probe studies on charge density wave orders in LaAgSb <sub>2</sub> <i>N.L. Wang, Peking University, China</i>	
16:30 – 16:50	Low temperature order in (NbSe <sub>4</sub> ) <sub>3</sub> I examined by near IR pump-probe spectroscopy <i>D. Dominko, Institute of Physics, Croatia</i>	
16:50 – 17:10	Topological heterodyne in a two dimensional electron gas <i>L. Bucciattini, Max Planck Institute, Germany</i>	
<b>19:30</b>	<b>Conference dinner</b>	

## Friday, August 26, 2016

<b>9:00 – 12:10</b>	<b>Section IX Tera-Hz</b>	Chair: S. Ravy
9:00 – 10:20	Intense pulsed terahertz sources and their novel applications <i>J. A. Fülöp, MTA-PTE, ELI-ALPS, Hungary</i>	
10:20 – 10:40	Coffee	
10:40 – 11:05	Ultrafast spectroscopy of Higgs modes in superconductors <i>R. Shimano, University of Tokto, Japan</i>	
11:05 – 11:30	Coherent control of the spin systems by terahertz magnetic field <i>T. Suemoto, Toyota Physical and Chemical Research Institute, Japan</i>	
11:30 – 11:50	Terahertz-field-induced Mott transition in an ET-based organic molecular compound <i>T. Miyamoto, University of Tokyo, Japan</i>	
11:50 – 12:10	Terahertz-field induced large polarization and domain wall dynamics in an electronic-type dielectric of an organic molecular compound <i>T. Morimoto, University of Tokyo, Japan</i>	
12:15 – 14:30	Lunch	
<b>14:30 – 15:45</b>	<b>Section X Transient X-ray, ARPES</b>	Chair: K. Behnia
14:30 – 15:00	Cooperative elastic switching in volume-changing magnetic materials triggered by femtosecond molecular photoswitching. <i>E. Collet, Université de Rennes I, CNRS, France</i>	
15:00 – 15:20	Mapping the changes in lattice potential during the photoinduced insulator-metal transition in VO <sub>2</sub> <i>S. Wall, The Barcelona Institute of Science, Spain</i>	
15:20 – 15:45	Electron and lattice dynamics in transition metal dichalcogenides <i>R. Bertoni, MPG, Germany</i>	
15:45 – 16:05	Coffee	
<b>16:05 – 17:35</b>	<b>Section XI Topological insulators</b>	Chair: K. Yomemitsu
16:05 – 16:35	Ultrafast study of Dirac fermions in topological insulators <i>M. Marsi, CNRS, Université Paris-Sud, France</i>	
16:35 – 17:05	Topological insulators go elemental <i>R. Claessen, Universität Würzburg, Germany</i>	
17:05 – 17:35	Observation of Majorana fermions in the vortex of Bi <sub>2</sub> Te <sub>3</sub> /NbSe <sub>2</sub> topological insulator-superconductor heterostructure <i>J. Jia, Shanghai Jiao Tong University, China</i>	

## Saturday, August 27, 2016

<b>9:00 – 11:45</b>	<b>Section XII</b>	<b>PIPT - optics</b>	Chair: R. Shimano
9:00 – 10:20	Search for photo-induced phase transition with ultrafast response based on electronic-structural coupled probes <i>S. Koshihara, Tokyo Institute of Technology, Japan</i>		
10:20 – 10:50	Coffee		
10:50 – 11:10	Nanoscale picture of ultrafast switching to hidden state in 1T-TaS <sub>2</sub> <i>Ya. A. Gerasimenko, Jozef Stefan Institute, Slovenia</i>		
11:10 – 11:40	Dynamical phase transition to the excitonic insulator state induced by an optical pulse. <i>N. Kirova, Université Paris-Sud, CNRS, France</i>		
11:40 – 12:10	<b>Closing the 1th week</b>		
12:15 – 14:30	Lunch		

## Monday, August 29, 2016

8:30 – 9:00      **Registration**

**9:00 – 11:50**      **Section XIII      Electrostatic doping: FET, MBE, FIB**  
Chair: M. Rozenberg

9:00 – 10:20      Ionic liquid gating field effect studies in cuprates: On pairing in high- $T_c$  and related new superconductors  
*D. Pavuna, EPFL, Switzerland*

10:20 – 10:50      Coffee

10:50 – 11:20      From “perfect sample” towards precise atoms control in complex oxides heterostructures  
*G. Logvenov, Max Planck Institute, Germany*

11:20 – 11:50      Interlayer electronic transport in quasi-two-dimensional compounds.  
*A.A. Sinchenko, Kotel’nikov Institute, Russia, Institut Néel, France*

12:15 – 14:30      Lunch

**14:30 – 15:50**      **Section XIV      Tr-ARPES**  
Chair: C. Laulhe

14:30 – 15:00      Ultrafast dynamics in correlated materials probed by time-resolved XUV-ARPES  
*M. Bauer, University of Kiel, Germany*

15:00 – 15:30      Non-equilibrium control of complex solids by nonlinear phononics  
*R. Mankowsky, Max Planck Institute, Germany*

15:30 – 15:50      Understanding complex materials using non-equilibrium spectroscopy: what can theory tell us?  
*A. Kemper, North Carolina State University, USA*

15:50 – 16:20      Coffee

**16:20 – 18:00**      **Posters session II**

## Tuesday, August 30, 2016

<b>9:00 – 12:05</b>	<b>Section XV Switching by light and field</b>	Chair: E. Janod
9:00 – 10:20	Electronic crystals through time – on a femtosecond timescale <i>D. Mihailovic, Jozef Stefan Institute, Slovenia</i>	
10:20 – 10:40	Coffee	
10:40 – 11:00	Dynamics of ultrafast transition to photo- or current-induced stable hidden quantum state in 1T-TaS <sub>2</sub> <i>I. Vaskivskyi, Jozef Stefan Institute, Slovenia</i>	
11:00 – 11:30	Phenomenological approach in theory of pump and field induced transitions. <i>S. Brazovskii, CNRS, Université Paris-Sud, France</i>	
11:30 – 12:00	Strong-light-field effects on correlated system driven by nearly single-cycle 7 fs, >10 MV/cm infrared pulse <i>S. Iwai, Tohoku University, Japan</i>	
12:15 – 14:30	Lunch	
<b>14:30 – 15:50</b>	<b>Section XVI Pump-probe optics, Tr-Xray</b>	Chair: R.Mankowsky
14:30 – 15:00	All-optical femtosecond relaxation dynamics in iron based pnictides <i>T. Mertelj, Jozef Stefan Institute, Slovenia</i>	
15:00 – 15:25	Time-resolved spontaneous raman scattering <i>P. Van Loosdrecht, University of Cologne, Germany</i>	
15:25 – 15:50	Femtosecond x-ray diffraction as a tool for investigating coherent dynamics of ultra fast structural transformations <i>S. Johnson, ETH, Switzerland</i>	
15:50 – 16:10	Coffee	
<b>16:10 – 17:25</b>	<b>Section XVII TMO-devices FE+SC, SrTiO<sub>3</sub></b>	Chair: A. Caviglia
16:10 – 16:35	Shock waves in RRAM memristive devices <i>M. Rosenberg, CNRS, Université Paris-Sud, France</i>	
16:35 – 17:00	Electrochemical modulation of insulator to conducting magnet; a new route for high-capacity information storage device <i>T. Katase, Hokkaido University, Japan</i>	
17:00 – 17:25	Superconductivity and ferroelectricity in double-doped strontium titanate <i>K. Behnia, ESPCI, France</i>	

## Wednesday, August 31, 2016

<b>Section XVIII</b>	
<b>Interface states</b>	
<b>9:00 – 12:05</b>	Chair: G. Logvenov
9:00 – 10:20	Interfacial effects and superconductivity in oxide heterostructures <i>J.-M. Triscone, University of Geneva, Switzerland</i>
10:20 – 10:40	Coffee
10:40 – 11:10	Novel two-dimensional electron systems at oxide interfaces: nanoscale and ultrafast control <i>A. Caviglia, Delft University of Technology, The Netherlands</i>
11:10 – 11:40	Melting of electronic crystals in organic transistor interface <i>H.M. Yamamoto, IMS, Japan</i>
11:40 – 12:05	Magnetofermionic condensate in two dimensions <i>L. Kulik, Institute of Solid State Physics, Russia</i>
12:15 – 14:30	Lunch
<b>Section XIX</b>	
<b>PIPT theory</b>	
<b>14:30 – 15:30</b>	Chair: M. Fabrizio
14:30 – 14:55	Carrier relaxation and multiplication in photo-doped Mott insulators <i>Ph. Werner, University of Fribourg, Switzerland</i>
14:55 – 15:30	Optical and electric-field impacts in strongly charge correlated systems <i>S. Ishihara, Tohoku University, Japan</i>
15:30 – 16:00	Coffee
<b>17:00</b>	<b>Social activity: Bus excursion</b>



## Thursday, September 1, 2016

Section XX		
9:00 – 11:40	Resistance switching	Chair: H. Yamamoto
9:00 – 10:20	Ferroelectric field effects in strongly correlated oxides <i>J. Villegas, CNRS, Thales, Université Paris-Sud, France</i>	
10:20 – 10:50	Coffee	
10:50 – 11:15	Out-of-equilibrium insulator to metal transitions induced by electric field in canonical Mott insulators <i>E. Janod, Université de Nantes, CNRS, France</i>	
11:15 – 11:40	Nanoscale control of phase transitions as a pathway to precise material manipulation <i>P. Maksymovych, Oak Ridge National Laboratory, USA</i>	
12:15 – 14:30	Lunch	
Section XXI		
14:30 – 15:50	Semiconductors	Chair: S. Ishihara
14:30 – 15:00	Electrostatic doping in semiconductor devices <i>J. Knoch, Aachen University, Germany</i>	
15:00 – 15:30	Ultrafast protection of charge carriers in hybrid perovskites <i>X. Zhu, Columbia University, USA</i>	
15:30 – 15:50	On the stability of the water surface in an external electric field <i>V. Shikin, ISSP, Russia</i>	
15:50 – 16:15	Coffee	
Section XXII		
16:15 – 17:10	Superconductivity	Chair: M. Bauer
16:15 – 16:45	The magnetic field tuned superconductor to insulator transition <i>A. Kapitulnik, Stanford University, USA</i>	
16:45 – 17:10	Onset of two-dimensional superconductivity in space charge doped few-layer MoS <sub>2</sub> <i>A. Shukla, UPMC, CNRS, France</i>	
17:30	Wine and cheese tasting	

## Friday, September 2, 2016

<b>Section XXIII</b>		
<b>9:00 – 11:45</b>	<b>Time resolved diffraction</b>	Chair: S. Iwai
9:00 – 10:20	Cooperative atomic motion probed by femtosecond real-time techniques <i>J. Demsar, Johannes Gutenberg-University, Germany</i>	
10:20 – 10:50	Coffee	
10:50 – 11:20	Novel transient electronic state induced by laser pulses in 1T-TaS <sub>2</sub> <i>C. Laulhe, SOLEIL, Université Paris-Saclay, France</i>	
11:20 – 11:45	Sub-ps hard X-ray pulses for pump-probe experiments: Characterisation at cristal beamline of SOLEIL synchrotron <i>A. Ciavardini, SOLEIL, France</i>	
11:45 – 12:00	<b>Closing</b>	
12:30 – 14:00	Lunch	