

PROGRAMME

June 28, 2011

Opening & Welcome: Wrocław University of Technology
Main Hall

June 29 - July 02, 2011

Regular sessions: Regional Center for Business Tourism
Centennial Hall

June 29, 2011,

Wednesday, Morning Sessions

9:15 – 9:30

OPENING

Session I. Molecular, material and soft matter switching (1)

Chairman: **Hervé Cailleau**

9:30 – 10:05, invited talk

From molecular photo-switching to material transformation

M. Lorenc

Institute of Physics of Rennes, UMR CNRS-University Rennes 1, France

10:05 – 10:20

Nonequilibrium fluctuation of photo-induced phase under steady light irradiation in the spin crossover complex

T. Nishihara¹, L. Salmon², A. Bousseksou², **K. Tanaka**^{1,3}

¹*Department of Physics, Kyoto University, Japan*

²*CNRS, Laboratoire de Chimie de Coordination Tulus and Université de Toulouse, France*

³*Institute for Integrated Cell-Material Sciences, Kyoto University, Japan*

10:20 – 10:45, invited talk

Bistable molecular materials: nanoscale switching and photonic devices

G. Molnár, S. Bedoui, M. Lopes, L. Salmon, W. Nicolazzi, A Bousseksou

CNRS, Laboratoire de Chimie de Coordination Tulus and Université de Toulouse, France

10:45 – 11:00

Photoinduced phase transition in perovskite-type cobalt oxides

Y. Okimoto¹ and T. Egawa¹, M. Kurashima¹, K. Seko¹, R. Fukaya², T. Ishikawa¹, K. Onda¹, S. Koshihara^{1,2}, T. Kyomen³, M. Itoh⁴, T. Arima⁴, T. Sasagawa¹

¹*Tokyo Institute of Technology*

²*CREST, JST*

³*Department of Chemistry, Gunma University*

⁴*Institute of Multidisciplinary Research for Advanced Materials, Tohoku University*

Coffee break

Wednesday, Morning Sessions

Session II. Spin-charge-lattice coupled systems (1)

Chairman: **Katsumi Tanimura**

11:30 – 12:05, invited talk

Ultrafast dynamics of photoinduced transitions in 1D organic molecular compounds

H. Okamoto

University of Tokyo

12:05 – 12:30, invited talk

Coherent dynamics of macroscopic electronic order through a symmetry-breaking transition

D. Mihailovic¹ and R. Yusupov¹, T. Mertelj¹, V. V. Kabanov¹, P. Kusar¹, S. Brazovskii²

¹*JSI, Ljubljana, Slovenia*

²*LPTMS-CNRS, UMR8626, Université Paris-Sud, Orsay, France*

12:30 – 12:45

Mode-selective quantum quench of “Mottness” in a one-dimensional organic conductor

D. Nicoletti¹, and S. Kaiser¹, R. I. Tobey², N. Dean², D. Jaksch², S. R. Clark², G. Cotugno², S. Lupi³, H. Okamoto⁴, J. Tsutsumi⁴, T. Hasegawa⁴, A. Cavalleri^{1,2}

¹*Max Planck Research Department, CFEL, Department of Physics Universität Hamburg, Germany*

²*Department of Physics, Oxford University, United Kingdom*

³*Department of Physics, University of Rome, Italy*

⁴*AIST, Tsukuba, Japan*

12:45 – 13:00

Photo-induced insulator to metal transition caused by nanosecond pulse laser irradiation in charge-ordered BEDT-TTF salts

N. Takubo, N. Tajima and R. Kato

RIKEN, Saitama, Japan

Lunch

RCBT, bistro

Wednesday, Afternoon Sessions

Session III. Spin-charge-lattice coupled systems (2)

Chairman: **Tetsuo Ogawa**

14:30 – 15:05, invited talk

Interplay between correlated electrons and quantum phonons in charge-ordered organic compounds

K. Yonemitsu¹ and N. Maeshima², Y. Tanaka¹

¹*IMS, Okazaki; JST, CREST, Tokyo; Graduate University for Advanced Studies, Okazaki, Japan*

²*Institute of Materials Science, University of Tsukuba; Center for Computational Sciences, University of Tsukuba, Japan*

15:05 – 15:30, invited talk

Photo-induced phase change in spin-charge coupled correlated electron systems

S. Ishihara

Department of Physics, Tohoku University, Sendai; CREST, Sendai, Japan

15:30 – 15:45

Transient X-ray speckle patterns in photoinduced structural change

K. Ishida¹ and K. Nasu²

¹*Toshiba Corporation, Japan*

²*KEK, Tsukuba, Japan*

15:45 – 16:00

Incoherence given by phonon scattering in the domain growth dynamics expected for quasi-one-dimensional photoinduced phase transition systems: role of the center of gravity motion

K. Iwano

KEK, Tsukuba, Japan

Coffee break

Session IV. Multi-exciton dynamics

Chairman: **Shin-ya Koshihara**

16:30 – 17:05, invited talk

Multi-exciton correlations and their spectroscopic unveiling

K. Nelson

MIT, USA

17:05 – 17:20

Nonadiabatic sub-picosecond readout of coherent phonon to photoinduced melting and recovery of charge-density waves

J. D. Lee¹, and M. Hase²

¹*JAIST, Ishikawa, Japan*

²*Institute of Applied Physics, Tsukuba University, Japan*

17:20 – 17:45, invited talk

Photo-reversible phase transition at room temperature on λ -Ti₃O₅

H. Tokoro¹ and S. Ohkoshi^{1,2}

¹*Department of Chemistry, School of Science, University of Tokyo*

²*CREST, JST, Tokyo, JAPAN*

17:45 – 18:00

Crystallographic studies of photo-induced structural changes in crystals

J. Bąkiewicz and I. Turowska-Tyrk

Wrocław University of Technology, Poland

18:00 – 20:00

POSTER SESSION I

June 30, 2011,

Thursday, Morning Sessions

Session V. Molecular, material and soft matter switching (2)

Chairman: **R. J. Dwayne Miller**

9:30 – 10:00, invited talk

Visualizing protein structural dynamics with picosecond X-ray diffraction

H. Ihee

Center for Time-Resolved Diffraction, WCU, Daejeon, Republic of Korea

10:00 – 10:30, invited talk

Photocontrol of gene expression, membrane nano-mechanics and micro- to macrofluidic systems

D. Baigl

École normale supérieure, Paris, France

10:30 – 10:45

Out of equilibrium multi-phonon dynamics of the photoinduced phase transition in molecular material (EDO TTF)₂SbF₆

M. Servol¹ and W. Kaszub^{1,2}, M. Lorenc¹, N. Moisan¹, H. Cailleau¹, R. Naskrecki², S. Koshihara³, M. Maesato⁴, X. Shao⁵, Y. Nakano⁵, H. Yamochi⁵, G. Saito^{4,5}, E. Collet¹

¹*Institut de Physique de Rennes, UMR CNRS-University Rennes 1, France*

²*Quantum Electronics Laboratory, Faculty of Physics, Poznan, Poland,*

³*Department of Materials Science, Tokyo Institute of Technology, Tokyo, Japan*

⁴*Division of Chemistry, Graduate School of Science, Kyoto University, Kyoto, Japan*

⁵*Research Center for Low Temperature and Materials Sciences, Kyoto University, Kyoto, Japan*

10:45 – 11:00

Photoinduced complete melting of spin-Peierls phase in molecular compounds probed by doubling of coherent oscillation frequency

H. Uemura, K. Iwasawa, H. Okamoto

University of Tokyo

Coffee break

Thursday, Morning Sessions

Session VI. Photoinduced magnetism

Chairman: **Kenji Yonemitsu**

11:30 – 11:55, invited talk

Ultrafast magnetization dynamics induced by femtosecond optical pulses

J. Y. Bigot

University of Strasbourg

11:55 – 12:20, invited talk

Laser-induced magnetic phase transition and magnetization dynamics on a time-scale of the exchange interaction

A. Kimel

University of Nijmegen, The Netherlands

12:20 – 12:45, invited talk

Femtosecond dynamics of symmetry changes in superlattice structures

S. Johnson

Paul Scherrer Institute, Villigen, Switzerland

12:45 – 13:00

Ultrafast coherent control of spin precession motion by terahertz magnetic pulses

M. Nakajima, K. Yamaguchi and T. Suemoto

Institute for Solid State Physics, The University of Tokyo, Japan

Lunch
RCBT, bistro

Thursday, Afternoon Sessions

Session VII. Spin-charge-lattice coupled systems (3)

Chairman: **Koichiro Tanaka**

14:30 – 14:55, invited talk

Ultrafast dynamics in lanthanide ferromagnets and cuprate high-T_c-superconductors

U. Bovensiepen

University of Duisburg-Essen

14:55 – 15:20, invited talk

Search for the photo-induced hidden phase in inorganic and organic systems

S. Koshihara, K. Onda, Y. Okimoto and T. Ishikawa

Tokyo Institute of Technology

15:20 – 15:35

Lattice dynamics of laser excited ferroelectric BaTiO₃

D. Isenmann¹, S. Schleef^{1,2}, S. Ibrahimkuty¹, T. Baumbach^{1,3}, M. Beyer², J. Demsar², A. Plech^{1,2}

¹*Karlsruhe Institute of Technology, Karlsruhe, Germany*

²*Center for Applied Photonics, University Konstanz, Germany*

³*Institute of Physics, Karlsruhe Institute of Technology, Karlsruhe, Germany*

15:35 – 16:00, invited talk

Photoinduced conversion of hybridization

Ł. Radosiński¹, K. Nasu², A. Radosz¹

¹*Wroclaw University of Technology, Poland*

²*KEK, Tsukuba, Japan*

Coffee break

Thursday, Afternoon Sessions

Session VIII. Electron and X-ray diffraction and imaging

Chairman: **Keith Nelson**

16:30 – 17:05, invited talk

"Making the molecular movie": first frames.....coming features

D. Miller

University of Toronto

17:05 – 17:30, invited talk

Capturing photo-induced molecular structural dynamics by time-resolved X-ray structural analysis

S. Adachi

KEK, Tsukuba, Japan

17:30 – 17:45

Ultrafast science at ANKA with short electron pulses in low alpha mode

A. Plech^{1,2}, S. Ibrahimkuty¹, D. Issenmann¹, S. Schlee^{1,2}, A. S. Müller^{1,3},
R. Steininger, J. Göttlicher¹, T. Baumbach^{1,3}

¹*Institute for Synchrotron Radiation, KIT, Karlsruhe, Germany*

²*Center for Applied Photonics, University Konstanz, Germany*

³*KIT, Institute of Physics, Karlsruhe, Germany*

17:45 – 18:00

Crystallography of organic materials with single-electron pulses

F. Kirchner, S. Lahme, M. Aidelsburger, A. Gliserin, **P. Baum**

*Max-Planck-Institute of Quantum Optics, and
Ludwig-Maximilians-Universität München, Germany*

18:00 – 20:00

POSTER SESSION II

July 1, 2011,

Friday, Morning Sessions

Session IX. Correlated electrons (1)

Chairman: Keiichiro Nasu

9:30 – 10:00, invited talk

Nonequilibrium dynamical mean field theory

P. Werner

ETH Zurich

10:00 – 10:15

Relaxation of a pump-excited Mott insulator

M. Eckstein and P. Werner

ETH Zurich

10:15 – 10:45, invited talk

Photo-induced dynamics of spin textures

N. Nagaosa

University of Tokyo

10:45 – 11:00

Phase transition and crossover in electron-hole-photon systems

T. Ogawa^{1,2} and K. Kamide²

¹*Department of Physics, Osaka University, Japan*

²*Photon Pioneers Center, Osaka University, Japan*

Coffee break

Friday, Morning Sessions

Session X. Correlated electrons (2)

Chairman: **Hiroshi Okamoto**

11:30 – 12:00, invited talk

Light-induced superconductivity in a stripe-ordered cuprate

D. Fausti

University of Trieste

12:00 – 12:15

Persistent 'hidden' phases in manganite thin films

R. Tamaki^{1,4}, Y. Ogimoto^{2,3,4}, N. Ogawa^{3,4}, and K. Miyano^{3,4}

¹*Department of Applied Physics, University of Tokyo, Japan*

²*Fuji Electric HD, Japan*

³*RCAST, University of Tokyo, Japan*

⁴*CREST, JST, Japan*

12:15 – 12:35, invited talk

Dissecting charge ordering, lattice ordering, and localization on the ultrafast timescale in 2D CDW materials

J. C. Petersen^{1,2}, N. Dean¹, S. Kaiser², A. Simoncig², H.Y. Liu², A.L. Cavalieri², C.M. Cacho³, I.C.E. Turcu³, E. Springate³, S.S. Dhesi⁴, L. Poletto⁵, F. Frassetto⁵, H. Berger⁶, A. Cavalleri^{2,1}

¹*Department of Physics, University of Oxford, UK*

²*Max Planck Research Department for Structural Dynamics, CFEL, Hamburg, Germany*

³*Central Laser Facility, STFC Rutherford Appleton Laboratory, Didcot, UK*

⁴*Diamond Light Source, Didcot, UK*

⁵*LUXOR, CNR-INFN, Padova, Italy*

⁶*EPFL, Lausanne, Switzerland*

12:35 – 13:00, invited talk

Dynamics of the electronic and lattice parts of the order parameter in density waves

J. Demsar

University of Konstanz

Lunch

14.30

EXCURSION

20.00

CONFERENCE DINNER

July 2, 2011,

Saturday, Morning Sessions

Session XI. In Memoriam of Professor Yutaka Toyozawa

Chairmen: Naoto Nagaosa and Tadeusz Luty

9:30 – 10:00

Quantum and spontaneous breakage of translational symmetry due to light excitation and PIPT

K. Nasu

KEK, Tsukuba

10:00 – 10:30

PIPT from the Beginning to....

H. Cailleau¹, T. Luty², S. Koshihara³

¹Institute of Physics, University of Rennes 1, France

²Institute of Physical and Theoretical Chemistry, Wroclaw University of Technology, Poland

³Department of Material Science, Tokyo Institute of Technology, Japan

10:30 – 11:00

Excitonic Instability and Photoinduced Structural Phase Transitions

K. Tanimura

Osaka University

Coffee break

Session XII. Summary & closing

11:30 – 13:00

A summary from the poster sessions

R. J. Dwayne Miller and Kenji Yonemitsu

Discussion on challenges, perspectives for light-induced cooperative phenomena (voluntary contributions)

Chairmen: **Keith Nelson, Shin-ya Koshihara and Keiichiro Nasu**

Lunch
RCBT, bistro