

PROGRAM

SUNDAY, May 21

Session 1

Chair : Yoshiyasu Matsumoto (Institute for Molecular Science, Japan)

- 17:00 - 17:10** " Opening remarks "
Yoshiyasu Matsumoto (Institute for Molecular Science, Japan)
- 17:10 - 18:00** "The nature and dynamics of electronic excitations in carbon nanotubes"
Tony F. Heinz (Columbia University, USA)
- 18:00 - 18:50** "Quantum control on the nanoscale"
Moshe Shapiro (University of British Columbia, USA and The Weizmann
Institute, Israel)
- 19:00 -** **Dinner**

MONDAY, May 22

Session 2

Chair : Ulrich Höfer (Philipps-Universität Marburg, Germany)

- 8:30 - 9:10** "Time-resolved electron injection from the excited state of anchored
molecules into semiconductors"
Frank Willig (Hahn-Meitner-Institut, Germany)
- 9:10 - 9:30** "Ultrafast interfacial proton-coupled electron transfer"
Hrvoje Petek (University of Pittsburgh, USA)
- 9:30 - 10:10** "Ab initio calculation of charge transfer at surfaces"
Daniel Sánchez-Portal (Universidad del Pais Vasco, Spain)
- 10:10 - 10:30** **Coffee Break**
- Chair** : Thomas Fauster (Universität Erlangen-Nürnberg, Germany)
- 10:30 - 10:50** "Ultrafast dynamics of electron transfer and solvation processes at
ammonia and water ice/metal interfaces"
Martin Wolf (Freie Universität Berlin, Germany)
- 10:50 - 11:30** "Localized and delocalized electronic resonances at metal-molecule and
metal-insulator interfaces"
Xiaoyang Zhu (University of Minnesota, USA)
- 11:30 - 11:50** "Extreme ultrafast dynamics of quasiparticles excited in surface
electronic bands"
Branko Gumhalter (Donostia International Physics Center, Spain)

11:50 - 12:10 "Photoexcited electron dynamics in Kondo insulators and heavy fermions"
Jure Demsar (Jozef Stefan Institute, Slovenia)

12:10 - 13:50 Lunch Break

Session 3

Chair : Uwe Bovensiepen (Freie Universität Berlin, Germany)

13:50 - 14:30 "Photoemission micro-spectroscopy for organic films"
Toshiaki Munakata (Osaka University, Japan)

14:30 - 14:50 "Density-dependent ultrafast carrier dynamics on Si(001)-(2x1)"
Taku Ichibayashi (Osaka University, Japan)

14:50 - 15:10 "First-principle simulation of electron dynamics in solid under intense pulse laser"
Kazuhiro Yabana (University of Tsukuba)

15:10 - 15:30 "Dynamic behaviors of CdS nanoclusters monitored by time-resolved visible-pump/IR-probe spectroscopy"
Ichizo Yagi (National Institute of Advanced Industrial Science and Technology, Japan)

15:30 - 15:50 Coffee Break

Session 4

Chair : Muneaki Hase (University of Tsukuba, Japan)

15:50 - 16:10 "Quantum well states of ultrathin epitaxial Pb films on Si(111) investigated with time-resolved 2PPE"
Patrick S. Kirchmann (Freie Universität Berlin, Germany)

16:10 - 16:30 "Time-resolved two-photon photoemission experiments on boron nitride nanomesh"
Andrei Dolocan (University of Zürich, Switzerland)

Session 5 : Short Presentations for Posters

Chair : Kunie Ishioka (National Institute for Materials Science, Japan)

16:30 - 17:20

P1 "Amplitude saturation of coherent optical phonon in CdTe"
Kunie Ishioka (National Institute for Materials Science, Japan)

P2 "Two-photon photoemission for benzene on Cu(110)"
Toshiaki Munakata (Osaka University, Japan)

P3 "Dynamics at ice/CO/Pt(111) interface probed by time-resolved sum-frequency generation"
Jun Kubota (Tokyo Institute of Technology)

- P4** "Time-resolved two-photon photoemission from the Si(557)-Au surface"
Tilman Kurt Rügheimer (Universität Erlangen-Nürnberg, Germany)
- P5** "Observation of coherent transient phenomena of water vapor at 0.55 terahertz frequency"
Ryuzi Yano (Muroran Institute of Technology, Japan)
- P6** "Quantum interference effects in two-photon photoemission from adsorbates on surfaces"
Aimo Winkelmann (Max-Planck-Institut für Mikrostrukturphysik, Germany)
- P7** "Time-resolved measurement of surface diffusion induced by femtosecond laser pulses"
Jens Güdde (Philipps-Universität Marburg, Germany)
- P8** "Carrier dynamics in optically excited GaN_xAs_{1-x} investigated by optical pump-probe spectroscopy and time-resolved scanning tunneling microscopy"
Yasuhiko Terada (University of Tsukuba, Japan)
- P9** "Structural study of NO adsorbed on the reconstructed Pt(110)-(1x2) surface"
Toru Shimada (University of Tokyo, Japan)
- P10** "Generation of coherent optical phonons and their interaction with non-equilibrium electrons in Zn"
Muneaki Hase (National Institute for Materials Science/University of Tsukuba, Japan)
- P11** "Theoretical study of ion desorption from PMMA and PiPAc thin films through core-excitation"
Osamu Takahashi (Hiroshima University, Japan)
- P12** "Real-time imaging of a coherent phonon whispering gallery mode on a micro-disc"
Takehiro Tachizaki (Hokaido University, Japan)
- P13** "Excitation mechanism of coherent phonons on alkali-metal adsorbed metal surfaces"
Masanori Fuyuki (Graduate University for Advanced Studies, Japan)
- P14** "Ultrafast vibrational dynamics at D₂O/CO/Pt(111) studied by time-resolved sum frequency generation spectroscopy "
Masashi Nagao (Institute for Molecular Science, Japan)
- P15** "One dimensional plasmons in a metallic atom wire array"
Tadaaki Nagao (National Institute for Materials Science, Japan)
- P16** "Real-time observation of ultra-fast phenomena with femto-second X-ray diffraction"
Masaki Hada (Kyoto University, Japan)
- P17** "Observation of rutile (110) surface covered with organic molecules by fourth-order Raman spectroscopy"
Tomonori Nomoto (Kobe University, Japan)

- P18** "The substituent effect on the local electronic structure of halobenzoate adsorbed on Cu(110)"
Masafumi Hori (RIKEN, Japan)
- P19** "Sum frequency generation study of self-assembled monolayer with Ru trinuclear complex moiety"
Mikio Ito (Hokkaido University, Japan)
- P20** "Single molecule vibrational spectroscopy of water molecules on Pt(111) surface"
Kenta Motobayashi (RIKEN, Japan)
- P21** "Femtosecond ARPES with high harmonics using a 2D imaging energy analyser"
Stefan Mathias (University of Kaiserslautern, Germany)
- P22** "Dynamics of electronic structure during an insulator-metal transition"
Uwe Bovensiepen (Freie Universität Berlin, Germany)
- P23** "Probing electron transfer dynamics on MgO surfaces by Mg-atom desorption"
Wayne P. Hess (Pacific Northwest National Laboratory, USA)
- P24** "New measurement for anomalous diffusion by fluorescence correlation spectroscopy"
Kiminori Ushida (RIKEN, Japan)

18:00 - 19:30 Dinner

19:30 - 21:30 Poster Presentation

TUESDAY, May 23

Session 6

Chair : Xiaoyang Zhu (University of Minnesota, USA)

- 8:30 - 8:50** "Role of electron-phonon interaction in the decay of electron excitations at metal surfaces"
Evgueni Chulkov (Universidad del Pais Vasco, and Donostia International Physics Center, Spain)
- 8:50 - 9:10** "Electron and phonon structure of Cs/Cu(111)"
Bo Hellsing (Gothenborg University, Sweden)
- 9:10 - 9:50** "Coherent nuclear motions at alkali covered metal surfaces"
Kazuya Watanabe (Institute for Molecular Science, Japan)
- 9:50 - 10:10** "Scattering of electrons in image-potential bands on Cu(001) by adatoms"
Thomas Fauster (Universität Erlangen-Nürnberg, Germany)
- 10:10 - 10:30** "Transition of Ar/Cu image-potential states from short-lived resonances to long-lived quasi-bound interface states"
Ulrich Höfer (Philipps-Universität Marburg, Germany)

11:00 - 18:00 Excursion & Free discussions

19:00 - Dinner

WEDNESDAY, May 24

Session 7

Chair : Mosche Shapiro (University of British Columbia, USA and The Weizmann Institute, Israel)

8:30 - 9:10 "Control of complex molecular processes using adaptively-shaped, intense laser fields"
Robert J. Levis (Temple University, USA)

9:10 - 9:50 "Observation and control of picometric quantum ripples in a molecule"
Kenji Ohmori (Institute for Molecular Science, Japan)

9:50 - 10:10 "Ultrafast photo-induced insulator-to-metal phase transition in (EDO-TTF)₂PF₆"
Ken Onda (Tokyo Institute of Technology, Japan)

10:10 - 10:30 Coffee Break

Chair : Martin Wolf (Freie Universität Berlin, Germany)

10:30 - 11:10 "Generation and detection of coherent surface currents"
Jens GÜdde (Philipps-Universität Marburg, Germany)

11:10 - 11:50 "Femtosecond microscopy of surface plasmon polariton dynamics"
Atsushi Kubo (University of Pittsburgh, USA)

11:50 - 12:30 "Ultrafast adaptive optical near-field control in multiphoton photoemission electron microscopy"
Walter Pfeiffer (Universität Würzburg, Germany)

12:30 - 14:10 Lunch Break

Session 8

Chair : Kazutaka G. Nakamura (Tokyo Institute of Technology, Japan)

14:10 - 14:20 "Near-field dynamic spectroscopy of gold nanorods"
Kohei Imura (Institute for Molecular Science, Japan)

14:20 - 15:00 "Real-time imaging of surface excitations using ultrafast interferometry"
Oliver B. Wright (Hokkaido University, Japan)

15:00 - 15:40 "Static and dynamic approaches to obtain single-molecule vibrational spectrum with an STM"
Yousoo Kim (RIKEN, Japan)

15:40 - 16:10 Coffee Break

Session 9

Chair : Tony Heinz (Columbia University, USA)

16:10 - 16:50 "Electron, spin, and lattice dynamics of the Gd(0001) surface excited by an intense femtosecond laser pulse"

Uwe Bovensiepen (Freie Universität Berlin, Germany)

16:50 - 17:30 "Two-photon photoemission at surfaces of ferromagnetic films"

Martin Weinelt (Max-Born-Institut, Germany)

18:30 - 21:30 Banquet

THURSDAY, May 25

Session 10

Chair : Kazuya Watanabe (Institute for Molecular Science, Japan)

8:30 - 9:10 "The formation of coherent LO phonon-plasmon coupling modes in the near surface region of semiconductor"

Yu-Ming Chang (National Taiwan University, Taiwan)

9:10 - 9:30 "Coherent phonons in Bi at low temperature and high excitation"

Oleg V. Misochko (Institute of Solid State Physics, Russia)

9:30 - 9:50 "Ultrafast time-resolved x-ray diffraction of coherent phonons in photo-excited semiconductors"

Kazutaka G. Nakamura (Tokyo Institute of Technology, Japan)

9:50 - 10:10 "Low-frequency vibrations at buried interfaces observed with fourth-order Raman scattering"

Hiroshi Onishi (Kobe University, Japan)

10:10 - 10:30 Coffee Break

Chair : Christian Frischkorn (Freie Universität Berlin, Germany)

10:30 - 11:10 "Coherent optical phonons in diamond and graphite"

Kunie Ishioka (National Institute for Materials Science, Japan)

11:10 - 11:30 "Photodesorption NO from silver nanoparticles on a thin alumina film"

Kazuo Watanabe (Fritz-Haber-Institut, Germany)

11:30 - 11:50 Non-linear surface dynamics in the soft x-ray regime: NO/graphite"

Helmut Zacharias (Westfälische Wilhelms-Universität, Germany)

11:50 - 12:10 "Atomic position dependence of the primary core excitation on site-specific chemical bond scission"

Kenichiro Tanaka (Hiroshima University, Japan)

12:10 - 13:30 Lunch Break

Session 11

Chair : Toshiaki Munakata (Osaka University, Japan)

13:30 - 14:10 "Molecular motion over a surface followed in real-time"
Mischa Bonn (FOM-Institute, the Netherlands)

14:10 - 14:30 "Graphite-to-diamond phase transformation induced by femtosecond-laser excitation"
Katsumi Tanimura (Osaka University, Japan)

14:30 - 14:50 "Surface electrical neutrality breakdown in ultrafast laser ablation of graphite"
Miklos Lenner (University of Birmingham, UK)

14:50 - 15:10 "Ultra-fast electronic and slow thermal processes during laser ablation of metals and semiconductors."
Wolfgang Husinsky (Vienna University of Technology, Austria)

15:10 - 15:30 Coffee Break

Chair : Masahiro Kitajima (National Institute of Materials Science, Japan)

15:30 - 15:50 "Modeling of sum frequency generation pump-probe experiments: coherent effects and influence of surface diffusion and laser beam profile"
Bernard Bourguignon (CNRS, France)

15:50 - 16:10 "Surface dynamics of CO on a Pt electrode/electrolyte interface investigated by time-resolved SFG spectroscopy"
Hidenori Noguchi (Hokkaido University, Japan)

16:10 - 16:30 "Laser-induced potential jump at the electrode surface by picosecond surface-enhanced IR absorption"
Akira Yamakata (Hokkaido University, Japan)

16:30 - 17:10 "Non-adiabatic processes in surface femtochemistry at metals"
Christian Frischkorn (Freie Universität Berlin, Germany)

17:10 - 17:20 "Closing remarks and announcements for the 6th USD symposium "
Masahiro Kitajima (National Institute for Materials Science, Japan)