

ORAL PROGRAM

Wednesday, October 29

Opening

Chair: H. Arakawa

9:40 **Opening Address**
Dr. Masanori Tachiya
Chair of the Organizing Committee

Welcome Address
Dr. Kisaburo Kodama
Vice-President, AIST

Session 1

Chair: N. Koshizaki

- 10:00 O-1
Surface Micro-Structuring of Transparent Materials by LIBWE Method
HiroYuki Niino, Ximing Ding, Ryoza Kurosaki, Aiko Narazaki, Tadatake Sato, and Yoshizo Kawaguchi
Photoreaction Control Research Center, AIST
- 10:30 O-2 (Invited)
Fabrication of Micro-Optical Elements in UV Transparent Materials
Thomas Lippert, Giedrius Kopitkovas, Christian David, Alexander Wokaun, and Jens Gobrecht
General Energy Department, Paul Scherer Institute, Switzerland
- 11:10 O-3 (Invited)
Photonic Materials Utilizing Natural Nanostructure in Transparent Oxide Crystals
Hideo Hosono^{1,2}
¹ *Materials and Structures Laboratory, Tokyo Institute of Technology*
² *Transparent Electro-Active Materials Project, Exploratory Research for Advanced Technology, Japan Science and Technology Corporation*
- 11:50 **Lunch**
- 13:00 **Poster session 1 (Odd numbers)**

Session 2

Chair: H. Niino

- 14:40 O-4
Low Temperature Growth of Epitaxial Oxide Films by Excimer Laser MOD
T. Tsuchiya, H. Niino, I. Yamaguchi, T. Manabe, T. Kumagai, and S. Mizuta
Institute for Materials and Chemical Process, AIST
- 15:10 O-5 (Invited)
Pulsed Laser Deposition of Nanoporous Metal Oxides
Kenneth J. Balkus, Jr., Thomas J. Pisklak, Zhongsheng Deng, and Chunrong Xiong
Department of Chemistry and the UTD NanoTech Institute, University of Texas at Dallas, USA
- 15:50 **Break**

Session 3

Chair: K. Yase

- 16:10 O-6 (Invited)
3D Nanofabrication with a Rubber Phase Mask
Seokwoo Jeon, Jang-Ung Park, and John A. Rogers

*Department of Materials Science and Engineering, and Beckman Institute,
University of Illinois at Urbana-Champaign, USA*

- 16:50 O-7 (Invited)
Organic Light-Emitting Materials and Devices for Optical Communication Technology
Hiroyuki Suzuki
NTT Photonics Laboratories, NTT Corporation
- 17:30 O-8 (Invited)
Scanning Maxwell Stress Microscopy of Photo-Induced Charge Separation in A-S-D Triad Monolayers
Masamichi Fujihira ¹ and Masaru Sakomura ²
¹*Department of Biomolecular Engineering, Tokyo Institute of Technology*
²*Department of Material Science, Yokohama National University*
- 18:10

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Session 4

Chair: T. Nakanaga

- 9:00 O-9 (Invited)
Quantum Control of Gas-Phase and Liquid-Phase Femtochemistry
 Gustav Gerber
Physikalisches Institut, Universitaet Wuerzburg, Germany
- 9:40 O-10
Coherent Control of Photodissociation in Two-Color Laser Fields
Hideki Ohmura and Taisuke Nakanaga
Photoreaction Control Research Center, AIST
- 10:10 **Break**

Session 5

Chair: M. Matsumoto

- 10:30 O-11 (Invited)
In Control of Switching and Motion
 Ben L. Feringa
Department of Organic and Molecular Inorganic Chemistry, University of Groningen, The Netherlands
- 11:10 O-12 (Invited)
Reversible Control of Properties by Photochromism
 Yasushi Yokoyama
Department of Advanced Materials Chemistry, Graduate School of Engineering, Yokohama National University
- 11:50 **Lunch**
- 13:00 **Poster session 2 (Even numbers)**

Session 6

Chair: A. V. Barzykin

- 14:40 O-13 (Invited)
Quantum Dynamical Simulation of Ultrafast Photoinduced Electron-Transfer Processes
Wolfgang Domeke, Dussia Egorova, and Michael Thoss
Institute of Physical and Theoretical Chemistry, Technical University of Munich, Germany
- 15:20 O-14
Electric Field Effect on Electron Transfer between Donor and Acceptor in Polymer Matrix
 M. Tachiya
National Institute of Advanced Industrial Science and Technology (AIST)
- 15:50 **Break**

Session 7

Chair: M. Tachiya

- 16:10 O-15 (Invited)
Photoinduced Electronic Processes in Molecular Donor/Acceptor Systems; Non-Condon Effects and Multiple Reaction Coordinates
 Marshall D. Newton
Chemistry Department, Brookhaven National Laboratory, USA
- 16:50 O-16 (Invited)
Porphyrin and Fullerene-Based Photovoltaic Devices
 Hiroshi Imahori^{1,2}
¹*Department of Molecular Engineering, Graduate School of Engineering, Kyoto University*
²*PRESTO, Japan Science and Technology Corporation (JST)*
- 17:30
- 18:10 **Banquet**

ORAL PROGRAM

Friday, October 31

Session 8

Chair: S. Murata

- 9:00 O-17 (Invited)
Dawn of the Evolution of the Photoelectrochemistry
 Kenichi Honda
Tokyo Polytechnic University
- 9:40 O-18 (Invited)
Mechanisms of Ultrafast Electron Injection in Dye-Sensitized Nanostructured Semiconductors
 G. Benko, A.Yartsev, V. Sundström
Department of Chemical Physics Chemical Center, Lund University, Sweden
- 10:20 **Break**

Session 9

Chair: H. Sugihara

- 10:40 O-19
Efficiency of Electron Injection from Excited Sensitizer Dye to Nanocrystalline Semiconductor Film Studied by Near-IR Transient Absorption Spectroscopy
Ryuzi Katoh¹, Akihiro Furube¹, Toshitada Yoshihara¹, Yoshiaki Tamaki^{1,2}, Miki Murai¹, Kohjiro Hara, Shigeo Murata¹, Hironori Arakawa¹, and M. Tachiya³
¹*AIST PCRC*, ²*NEDO Fellow*, ³*AIST*
- 11:10 O-20 (Invited)
Electron Diffusion Control in Dye-Sensitized TiO₂ Solar Cells: Fabrication of Efficient Polymer-Sensitized Solar Cells
Shozo Yanagida¹, G.K. Rohan Senadeera², Kazuki Nakamura¹, Takayuki Kitamura¹, and Yuji Wada¹
¹*Material and Life Science, Graduate School of Engineering, Osaka University*
²*Institute of Fundamental Studies, Sri Lanka*
- 11:50 **Lunch**

Session 10

Chair: H. Arakawa

- 13:00 O-21 (Invited)
Design of Red Sensitive Dyes and of Electron Mediators for Dye-Sensitized Solar Cells Based on Mesoscopic Oxide
Carlo A. Bignozzi¹, Silvano Altobello¹, Gerardo Larramona², and C. Michael Elliott³
¹*Department of Chemistry, University of Ferrara, Italy*
²*IMRA Europe, France*
³*Department of Chemistry, Colorado State University, USA*
- 13:40 O-22
Design of Ruthenium Polyimine Complexes as Sensitizers for Nanocrystalline TiO₂ Electrodes
Hideki Sugihara, Masatoshi Yanagida, Takeshi Yamaguchi, Nobuko Onozawa-Komatsuzaki, Kazuyuki Kasuga, and Hironori Arakawa
Photoreaction Control Research Center, AIST
- 14:10 O-23 (Invited)
First Large Area Dye Solar Cells
 Toby B. Meyer, A. Azam, and Andreas F. Meyer
Solaronix SA, Switzerland

Session 11

Chair: K.Kasuga

14:50 O-24

Dye-Sensitized Photocatalysts for Efficient Hydrogen Production from Water under Visible Light Irradiation

Ryu Abe, Kazuhiro Sayama, and Hironori Arakawa

Photoreaction Control Research Center, AIST

1520 O-25 (Invited)

A Nano-Modified Si/TiO₂ Composite Electrode for Efficient Solar Water Splitting

Yoshihiro Nakato^{1, 2}

¹ *Division of Chemistry, Graduate School of Engineering Science, Osaka University*

² *CREST, Japan Science and Technology Corporation (JST)*

16:00 **Closing Remarks**

Dr. Hironori Arakawa

Vice-Chair of the Organizing Committee

16:10