

Program

Wednesday, December 19

20:00 – *Welcome Reception*

Thursday, December 20

9:10 – 9:30 **Opening Address**
Kunihito Koumoto (Nagoya University)
Wei Pan (Tsinghua University)
Shigeki Suzuki (Toyota Motor Corporation)
Shinichi Kikkawa (Hokkaido University)

<**Session I**> *Chair: Prof. Tsukasa Torimoto (Nagoya Univ.)*

9:30 – 9:50 **Shigeki Suzuki** (Toyota Motor Corp.)
IL-01 “Current State and Future of Automotive Material Technology
-Initiatives of Toyota Motor Corporation- ”

9:50 – 10:10 **Wenzheng Zhang** (Tsinghua Univ.)
IL-02 “Assorted Morphologies of Precipitates in Mg Alloys”

10:10 – 10:25 **Makoto Kobashi** (Nagoya Univ.)
IL-03 “Multi-Dimensional Diversity of Cell Morphology in Porous Metals Fabricated by
Reactive Precursor Method”

10:25 – 10:45 **Kazuhisa Azumi** (Hokkaido Univ.)
IL-04 “Development of Corrosion Protective Al Coatings for Mg Alloys”

10:45-11:00 *Break*

<**Session II**> *Chair: Prof. Shin Mukai (Hokkaido Univ.)*

11:00 – 11:20 **Wei Pan** (Tsinghua Univ.)
IL-05 “Low Thermal Conductivity Oxides”

11:20 – 11:35 **Chunlei Wan** (Nagoya Univ.)
IL-06 “Versatile TiS₂-based Organic/Inorganic Superlattices for Thermoelectric Energy
Conversion”

11:35 – 11:55 **Jingfeng Li** (Tsinghua Univ.)
IL-07 “BiCuSeO-based Oxyselenide as a Promising Thermoelectric Material”

11:55 – 13:00 *Lunch*

<Session III> *Chair: Prof. Hong Lin (Tsinghua Univ.)*

13:00 – 13:20
IL-08 **Tetsu Yonezawa** (Hokkaido Univ.)
“Application of Metal and Semiconductor Nanoparticles for Soft Ionization of Organic Molecules by Laser Irradiation”

13:20 – 13:40
IL-09 **Tsukasa Torimoto** (Nagoya Univ.)
“Facile Synthesis of Hollow In₂O₃ Nanoparticles in Ionic Liquids via Sputter Deposition Technique”

13:40 – 14:00
IL-10 **Yasuchika Hasegawa** (Hokkaido Univ.)
“First Synthesis of EuS Nanoparticles Thin Film on a Glass Electrode”

14:00 – 14:15
IL-11 **Feng Dang** (Nagoya Univ.)
“Characteristics of La-SrTiO₃ Nanocubes and Their Self-assembled Film”

<Session IV>

14:15 – 15:15 *Poster Session*

<Session V> *Chair: Prof. Jingfeng Li (Tsinghua Univ.)*

15:15 – 15:35
IL-12 **Shinichi Kikkawa** (Hokkaido Univ.)
“Crystal Structure and Magnetic Properties of “ α ”-Fe₁₆N₂” Containing Residual α -Fe Prepared by Low-temperature Ammonia Nitridation”

15:35 – 15:55
IL-13 **Masao Yano, Akira Kato** (Toyota Motor Corp.)
“Multi-Aspect Characterization of Nd-Fe-B Magnets”

15:55 – 16:15
IL-14 **Hong Lin** (Tsinghua Univ.)
“Efficient Carbon Nanotubes Cathodes for Iodine- and Iodine-free Dye-Sensitized Solar Cells”

16:15 – 16:35
IL-15 **Hiroki Habazaki** (Hokkaido Univ.)
“Anodizing of Metals and Alloys for Fabrication of Functional Nanostructured Oxide Films”

18:30 – *Banquet and NTTH Award (by TOYOTA) Ceremony*

Friday, December 21

<Session VI> *Chair: Prof. Tetsu Yonezawa (Hokkaido Univ.)*

9:00 – 9:20 **Zhengjun Zhang** (Tsinghua Univ.)
IL-16 “Defects-Induced Ferromagnetism in Un-doped ZnO”

9:20 – 9:40 **Hiroyuki Asanuma** (Nagoya Univ.)
IL-17 “DNA Nano-engineering for the Construction of Photon-fuelled
Molecular-machine”

9:40 – 9:55 **Mina Han** (Nagoya Univ.)
IL-18 “Two-Dimensional Sheets Assembled from Photoisomerizable
Azobenzene–palladium Complexes”

9:55-10:15 ***Break***

<Session VII> *Chair: Dr. Akira Kato (Toyota Motor Corp.)*

10:15 – 10:35 **Shin Mukai** (Hokkaido Univ.)
IL-19 “Carbon Gels with Unique Morphologies”

10:35 – 10:50 **Anyarat Watthanaphanit** (Nagoya Univ.)
IL-20 “Depolymerization of Sodium Alginate by Solution Plasma Process”

10:50 – 11:05 **Can Zhu** (Nagoya Univ.)
IL-21 “The Evolution of Step Bunching Under One-way Flow in Solution Growth of
SiC Crystals”

11:05 – 13:00 ***Lunch***

13:00 – ***Laboratory Tour***

18:30 – ***Farewell Dinner***

Poster Session

Thursday, December 20

14:15 – 15:15

P-01

Yukiko Kamiya, T. Takagi, H. Nishioka, X.G. Liang, H. Asanuma (Nagoya Univ.)

“Regulation of DNA Function with Azobenzenes as Light-driven Molecular Engine”

P-02

Ali Shaaban, S. Hayashi, K. Azumi (Hokkaido Univ.)

“Promotion of α -Al₂O₃ Formation on Ni-Al Alloy Using Ni-Fe₂O₃ Nano-composite Seeding Layer”

P-03

Jian-Gan Wang, Y. Yang, Z.H. Huang, F. Kang (Tsinghua Univ.)

“Interfacial Synthesis and Electrochemical Properties of Mesoporous MnO₂/Polyaniline Hollow Spheres”

P-04

Noriyuki Oyaizu, C. Wan, K. Koumoto (Nagoya Univ.)

“Two Dimensional TiS₂ Nanosheets Prepared by Liquid-phase Exfoliation”

P-05

Daichi Jinmori, Y. Masubuchi, T. Motohashi, S. Kikkawa (Hokkaido Univ.)

“Oxidation Protective Silica Coating of Iron Nitride Powder by Hydrolysis of Tetraethyl Orthosilicate”

P-06

Daichi Yamaoka, M. Hara, S. Nagano, T. Seki (Nagoya Univ.)

“Synthesis of Photoinitiators Possessing an Azobenzene Scaffold”

P-07

Can Liu, Z.C. Li, Z.J. Zhang (Tsinghua Univ.)

“MoO_x Thin Films Deposited by Magnetron Sputtering as an Anode for Aqueous Supercapacitors”

P-08

Shinichiro Yamazaki, C. L. Wan, K. Koumoto (Nagoya Univ.)

“Development of Photovoltaic/Thermoelectric Hybrid Solar Cell”

P-09

Ikuya Hashimoto, Y. Masubuchi, T. Motohashi, S. Kikkawa (Hokkaido Univ.)

“Morphologically Controlled Vanadium Oxide/Silica Composite Prepared by Hydrolysis of V₂O₅ Gel and Tetraethyl Orthosilicate”

P-10

Tetsuya Sasamura, T. Osaki, T. Kameyama, A. Kudo, S. Kuwabata, T. Torimoto (Nagoya Univ.)

“Enhanced Visible-light Response of Colloidally Synthesized Cu₂ZnSnS₄ Nanocrystals Accumulated on Ag-based Metal Sulfide Particulate Films”

P-11

Wei Liu, W. Pan (Tsinghua Univ.)

“Electrospun Yttria-doped Zirconia Nanofibers and Nanotubes”

P-12

Hiroyasu Nishi, S. Kuwabata, T. Torimoto (Nagoya Univ.)

“Photoelectrochemical Properties of $\text{Cu}_2\text{ZnSnS}_4$ Nanoparticles Depending on Their Particle Size and Chemical Composition”

P-13

Heping Li, W. Pan (Tsinghua Univ.)

“TiN Nanofiber: A New Material with High Conductivity and Transmittance for Transparent Conductive Electrode”

P-14

Gasidit Panomsuwan, N. Zettsu, N. Saito (Nagoya Univ.)

“Fabrication of Noble Metal Nanoparticles Supported on Metal Oxide by Solution Plasma and Their Photocatalytic Properties”

P-15

Yoshitaka Satoh, I. Ogino, S.R. Mukai (Hokkaido Univ.)

“Synthesis of Silica Microhoneycomb having a Hierarchical Pore Structure via Ice Templating Method and Post-freezing Treatment”

P-16

Shohei Miyake, M.Kobashi, N.Kanetake (Nagoya Univ.)

“Self-propagation Synthesis of Open Cell Porous TiAl for Fuel Tank of Spacecraft”

P-17

Weijiang Xue, T. Wang, ZP. Xie (Tsinghua Univ.)

“Zirconia-based Nanocomposite Toughened by Functionalized Multi-wall Carbon Nanotubes”

P-18

Yuki Nagashima, S. Nagano, T. Seki (Nagoya Univ.)

“Molecular Design for On-demand Orientation Control of Block Copolymer Films”

P-19

Kanbun Kure, Y. Konno, E. Tsuji, Y. Aoki, H. Habazaki (Hokkaido Univ.)

“Formation of Self-organized Nanoporous Anodic Films on Stainless Steel”

P-20

Shiyuko Nakamura, M. Sano, S. Nagano, T. Seki (Nagoya Univ.)

“TEM Observations of the Transient State of Photo-reorientation Process of Block Copolymers”

P-21

Yu Song, Y. Shen, C.W. Nan (Tsinghua Univ.)

“Enhancement of Breakdown Strength in Flexible Polymer Nanocomposites via Filling Dopamine-modified BaTiO_3 Nanofibers”

P-22

Daiki Shimura, K. Hashimoto, F. Ichihashi, S. Harada, M. Kuwahara, T. Ito, M. Matsunami, S. Kimura, T. Sakai, T. Ujihara (Nagoya Univ.)

“Effects of Periodicity Imperfection on Mini-bands for Intermediate Band Solar Cell”