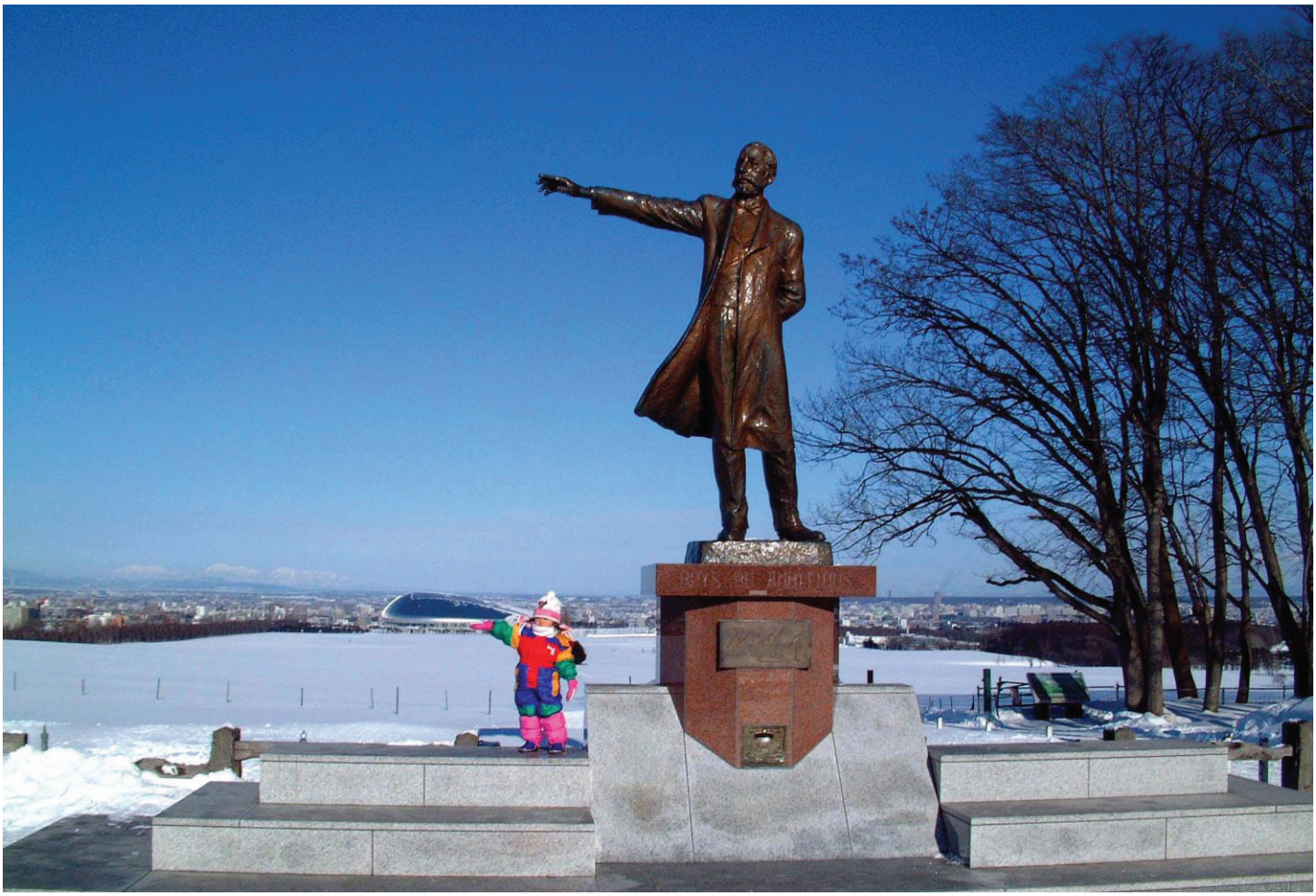
Nagoya Univ.-Tsinghua Univ.-Toyota Motor Corp.-Hokkaido Univ. Joint Symposium

— *Materials Science and Nanotechnology for the 21st Century* —

October 7-9, 2010, Sapporo, Japan



TOYOTA

Catalysis & Materials Science
Hokkaido University GCOE Program, 2007-2011

General Information

Official Language

The official language is English.

Invited Oral Presentation

All speakers present their talk via the LCD projection system supplied in the lecture room. Each speaker has 15 min to give a talk, including a few minutes for discussion.

Poster Presentation

The poster session will be held from 13:00 to 14:20 on October 8. A panel of 90 cm (w) by 120cm (h) will be provided for each poster. The authors have to remove their posters immediately after the poster session is over.

Accommodation

Accommodation for participants will be arranged at the Hotel Milione in Hokkaido for October 8.

Scientific Program

Thursday, October 7

18:00 – 20:00 ***Welcome Reception*** (Aspen Hotel)

Friday, October 8

9:30 – 9:45 **Opening Address**
Kunihito Koumoto (Nagoya University)
Wei Pan (Tsinghua University)
Shin-ichi Kikkawa (Hokkaido University)

<Session I> *Chair: Prof. T. Torimoto (Nagoya University)*

9:45 – 10:00 **K. Koumoto** (Nagoya Univ.)
IL-01 "3D Superlattice Ceramics of $SrTiO_3$ for Thermoelectrics"

10:00 – 10:15 **J. Takahashi** (Hokkaido Univ.)
IL-02 "Magnetic Ion Substitution for Ti-sites in Ferroelectric $Bi_4Ti_3O_{12}$ and $BaBi_4Ti_4O_{15}$"

10:15 – 10:30 **X.D. Wu** (Tsinghua Univ.)
IL-03 "MnO_x-CeO_2 Based Mixed Oxides as NO_x-assisted Soot Oxidation Catalyst"

10:30 – 10:45 **A. Kato** (Toyota Motor Corp.)
IL-04 "Nano-structural Control of Mg Alloys Leading to Excellent Mechanical Properties"

<Session II> *Chair: Dr. A. Kato (Toyota Motor Corp.)*

10:45 – 11:00 **S. Kikkawa** (Hokkaido Univ.)
IL-05 "Thermally Metastable Transition Metal Nitrides for Metamaterials"

11:00 – 11:15 **H. Lin** (Tsinghua Univ.)
IL-06 "Progress on Dye-Sensitized Solar Cells"

11:15 – 11:30 **T. Torimoto** (Nagoya Univ.)
IL-07 "Enhancement of the Photocatalytic Activity of CdS Nanoparticles by the Immobilization on Au Particles"

11:30 – 11:45 **F. Zeng** (Tsinghua Univ.)
IL-08 "Electromechanical Properties of Transition Metal Doped ZnO"

11:45 – 13:00 ***Lunch***

<Session III>
13:00 – 14:20 ***Poster Presentation***

<Session IV> *Chair: Prof. C. Ohtsuki (Nagoya Univ.)*

14:30 – 14:45 **W. Pan** (Tsinghua Univ.)
IL-09 "Electrospinning of Functional Nanofibers: Synthesis, Assembly and Properties"

14:45 – 15:00 **T. Shimada** (Hokkaido Univ.)
IL-10 "Very High Temperature Chemical Vapor Deposition of New Carbon Thin Films Using Organic Semiconductor Molecular Beam Sources"

15:00 – 15:15 **C. Terashima** (Nagoya Univ.)
IL-11 "Fabrication of Transparent DLC with High Adhesion on Polymer Materials by SiO_x Incorporation and Plasma Pre-treatment"

15:15 – 15:30 **Y. Hasegawa** (Hokkaido Univ.)
IL-12 "Europium Chalcogenide Nanocrystals with Remarkable Magneto-optic Properties"

<Session V> *Chair: Prof. H. Lin (Tsinghua Univ.)*

15:30 – 15:45 **T. Seki** (Nagoya Univ.)
IL-13 "Light-Directed Structuring and Alignment of Mesopatterns Formed by Block Copolymer Films"

15:45 – 16:00 **Z.J. Zhang** (Tsinghua Univ.)
IL-14 "Ag Nanorods for PCB Detection by GLAD"

16:00 – 16:15 **H. Habazaki** (Hokkaido Univ.)
IL-15 "Surface Micro-/Nano-morphology for Super-oleophobicity"

16:15 – 16:30 **C. Ohtsuki** (Nagoya Univ.)
IL-16 "Formation of Octacalcium Phosphate in Hydrogel Matrices"

19:00– ***Banquet*** (Hotel Milione)

Poster Program

Friday, October 8

13:00 – 14:20

P-01
N. Wang, L. Han, and K. Koumoto (Nagoya Univ.)
"A Novel High-performance Thermophotovoltaic Hybrid Device"

P-02
H. Zhang, L.i Zhang, X. Cheng, and B. Bai (Tsinghua Univ.)
"Superplastic Characteristic of Mn-Si-Cr Alloyed Ultrahigh Carbon Steel Realized through a Novel Process"

P-03
T. Yamamoto, T. Yokoi, I. Y. Kim, K. Kikuta, and C. Ohtsuki (Nagoya Univ.)
"Effects of Amino Acid on Transformation of α-Tricalcium Phosphate to Hydroxyapatite"

P-04
K. Miyata and Y. Hasegawa (Hokkaido Univ.)
"Luminescence Properties of Eu(III) Complexes with Bidentate Phosphine Oxide Ligands Depended on Their Coordination Structures"

P-05
T. Kameyama, T. Osaki, K. Okazaki, T. Shibayama, A. Kudo, S. Kuwabata, and T. Torimoto (Nagoya Univ.)
"Preparation and Densely Immobilization of p-Type Cu_2ZnSnS_4 Nanoparticles on ITO Electrode"

P-06
S. Miayamoto, H. Kiyono, T. Hasegawa, and T. Shimada (Hokkaido Univ.)
"Preparation of Semiconductor Nanorods by Organic-Vapor-Assisted Solid Source CVD"

P-07
X. Zhao, H. Lin, P. Yang, and J. Li (Tsinghua Univ.)
"Optimization of TiO_2 Graded Film on the Photovoltaic Performance of Flexible Dye-sensitized Solar Cells"

P-08
Y. Wang, C. Wan, N. Wang, Y. Ba, J. Niu, and K. Koumoto (Nagoya Univ.)
"Effect of Grain-Boundary-Nb-doping on Electrical Transport Properties of La-doped $SrTiO_3$ Ceramics"

P-09
S. Yang, T. Fujii, Y. Aoki and H. Habazaki (Hokkaido Univ.)
"Micro-/nano-hierarchical Morphology of Self-organized Anodic Oxides"

P-10
Y. Iwai, C. Terashima, N. Saito, and O. Takai (Nagoya Univ.)
"Characterization of Carbon Nanoballs for Air Electrodes in Lithium/Air Batteries"

P-11
R. Liu and H. Zhou (Tsinghua Univ.)
"Shape Evolution and Tunable Properties of Monodisperse Magnetite Crystals Synthesized by a Facile Surfactant-Free Hydrothermal Method"

P-12
Y. E. Putri, Y. Wang, C. Wan, N. H. Park, and K. Koumoto (Nagoya Univ.)
"Misfit Layer Compounds, $(BiS)_{1.2}(Mg_xTi_{1-x}S_2)_2$, as Novel Thermoelectric Materials"

P-13
Y. Fan, Y. Aoki, and H. Habazaki (Hokkaido Univ.)
"Thickness-dependent Proton Conductivity in Anodic ZrO_2-WO_3 Nanofilms"

P-14
M. Hara, S. Nagano, and T. Seki (Nagoya Univ.)
"π-Conjugated Surface Using Spontaneous Aggregation of Amphiphilic Discotic Molecules on a Water Surface"

P-15
K. Matsushita, K. Fushimi, and Y. Hasegawa (Hokkaido Univ.)
"In-situ Interface Imaging with a Coaxial Double–Ring Microelectrode Probe in SG/TC Mode SECM"

P-16
Z. Xia, C. Zhang, and Z. Yang (Tsinghua Univ.)
"Precipitation Behaviors in Reduced Activation Steel under High Temperature and Strong Magnetic Field"

P-17
H. Shibata, Y. Ichikawa, I. Y. Kim, K. Kikuta, and C. Ohtsuki (Nagoya Univ.)
"In Vitro Calcification on Hydroxyapatite Modified with Silver Nanoparticles"

P-18
A.K. Yang, C.A. Wang, R. Guo, and Y. Huang (Tsinghua Univ.)
"Microstructure and Electrical Properties of Porous PZT Ceramics Fabricated by Different Methods"

P-19
T. Sasamura, K. Okazaki, A. Kudo, S. Kuwabata, and T. Torimoto (Nagoya Univ.)
"Quantum Dot Solar Cells of ZnO Rods Modified with ZnS-$AgInS_2$ Solid Solution Nanoparticles"

P-20
T. Sato, M. Higuchi, J. Takahashi, S. Kawamura, and J. H. Kaneko (Hokkaido Univ.)
"Investigation on the Melting and Solidification Behaviors of Rare-earth Pyrosilicates by the Slow-cooling Floating Zone Method"

P-21
CL. Wan, YF. Wang, N. Wang, and K. Koumoto (Nagoya Univ.)
"Effective Control of the In-plane Lattice Thermal Conductivity of the "Natural Superlattice" Materials $(MS)_{1+x}(TiS_2)_2$ (M = Pb, Sn, Bi)"

P-22
X. S. Fan, Z. G. Yang, and C. Zhang (Tsinghua Univ.)
"The Evaluation of Vanadium Carbide Coatings Obtained by Thermo-reactive Deposition Process"

P-23
A. Sasaki, S. Nagano, and T. Seki (Nagoya Univ.)
"Photoalignment of Liquid Crystal on Surface Modified Polyimide Film through VUV Light Treatment"

P-24
K. Ye, Y. Aoki, and H. Habazaki (Hokkaido Univ.)
"High Proton Conductivity in Anodic ZrO_2-WO_3-SiO_2 Nanofilms"

P-25
N. H. Park, Y. F. Wang, J. Niu, Y. E. Putri, K. Koumoto (Nagoya Univ.)
"Synthesis and Morphology Control of $SrTiO_3$ Nanoparticles by Sol-precipitation Hydrothermal Method"

P-26
HP. Li, and W. Pan (Tsinghua Univ.)
"Diameter dependency Photocatalytic Activity of Electrospun TiO_2 Nanofiber"

P-27
W. Li, S. Nagano, and T. Seki (Nagoya Univ.)
"Photo-triggered Mass Migration Azo Polymer Systems Involving Photo-crosslinking Unit"

P-28
YR. Zhang, T. Motohashi, Y. Masubuchi, and S. Kikkawa (Hokkaido Univ.)
"Crystal Structure Study and Sintering of Dielectric Oxynitride Perovskite $SrTaO_2N$"

P-29
YS. Ba, N. Wang, CL. Wan, and K. Koumoto (Nagoya Univ.)
"Thermoelectric Properties of Bi-doped Mg_2Si