

ISETS05

International Symposium on EcoTopia Science 2005

August 8 (Mon) - 9 (Tue), 2005

Integrated Building (IB), Nagoya University, Japan

Organized by EcoTopia Science Institute, Nagoya University

Monday, August 8, 2005

Conference Hall

9:00 - 9:20

Opening Ceremony

9:20 - 10:20

Plenary Lecture 1

Chair : K. Kitagawa (Nagoya University)

" Thermal Destruction of Wastes for Clean Energy Production "
Prof. A. K. Gupta
University of Maryland, USA

10:30 - 12:30

OS2 Advanced Energy System (1)

Chair : K. Kitagawa (Nagoya University)

OS2-1-1 Keynote Lecture

" Alternate Fuels and Combustion Processes for Propulsion "
G. D. Roy
Office of Naval Research, Mechanics and Energy Conversion Division, USA

Chair : K. Hanamura (Tokyo Institute of Technology)

OS2-1-2

" Study on Thermal Efficiencies and Emissions of Cooking Stoves Firing Wood and Charcoal "
S. Kittilapanon⁽¹⁾, W. Permchart⁽²⁾, S. Tanatvanit⁽³⁾
(1) Ramkhamhaeng University, Thailand
(2) King Mongkut's Institute of Technology, Thailand
(3) Ramkhamhaeng University, Thailand

OS2-1-3

" Study on Effect of Steam Addition on Spray Combustion Characteristics "
T. Tsujimura, T. Furuhashi, M. Arai
Gunma University, Japan

OS2-1-4

" Development of an Advanced Structure of Natural-Gas-Combustion-Radiant-Tube-Burner for NOx Reduction "
C. Takami, Y. Umeda
Toho Gas Co., Ltd., Japan

OS2-1-5

" Enhancement of Volumetric Ignitions in Lean Hydrogen-Air Mixtures by Injection of Hot Turbulent Jets "
H. Saitoh, N. Yoshikawa
Nagoya University, Japan

14:00 - 15:40

OS2 Advanced Energy System (2)

Chair : S. Stendardo (ENEA – Italian Agency for New Technologies)

OS2-2-1

" Minimizing Fuel and Environmental Costs for a 1330-MW Power Plant Firing Fuel Oil/Gas. Part 1: Modeling Emissions for the Utility Boilers. "
V. I. Kuprianov, W. Kaewboonsong
Thammasat University, Thailand

OS2-2-2

" Minimizing Fuel and Environmental Costs for a 1330-MW Power Plant Firing Fuel Oil/Gas. Part 2: Optimization of Load Dispatching. "
W. Kaewboonsong, V. I. Kuprianov
Thammasat University, Thailand

OS2-2-3

" An Investigation of Active-Flow Control on Diesel Engine After-treatment "
M. Zheng, G. T. Reader, M. Wang
University of Windsor, Canada

Chair : Y. Umeda (Toho Gas Co., Ltd.)

OS2-2-4

" Effect of BDF on DI Diesel Engine Performance "
T. Saito, T. Furuhashi, M. Arai
Gunma University, Japan

OS2-2-5

" Performance of Air-Conditioning Machine with an Additional Condenser Using HCFC22 and HFC134a "
M. Goto, K. Tanifuji, M. Fujita, T. Yamauchi, K. Nagata, I. Ueno, T. Hasegawa
Nagoya University, Japan

16:20 - 17:40

OS2 Advanced Energy System (3)

Chair : M. Zheng (University of Windsor)

OS2-3-1

" Energy Saving Potential of Home Co-generation System, - Effect of Reverse Power Flow - "

A. Minagata, T. Kato, Y. Suzuki
Nagoya University, Japan

OS2-3-2

" Proton-Conducting In³⁺-doped SnP₂O₇ for Intermediate-Temperature Fuel Cells "

P. Heo⁽¹⁾, M. Nagao⁽¹⁾, A. Takeuchi⁽¹⁾, T. Hibino⁽¹⁾,
M. Sano⁽¹⁾, D. Hirabayashi⁽¹⁾, A. Tomita⁽²⁾

(1) Nagoya University, Japan

(2) National Institute of Advanced Industrial Science and Technology, Japan

OS2-3-3

" Modeling and Numerical Analysis of Planar Type SOFC with Uneven Structure Active Layer "

H. Aiki, T. Houra, Y. Nagano

Nagoya Institute of Technology, Japan

OS2-3-4

" Heat Pump Water Heater by Adsorption Cycle Combined with Gas-fired Boiler "

N. Kobayashi, Y. Suzuki, M. Hasatani
Nagoya University, Japan

Room B (IB015)

10:30 - 12:30

OS1 Renewable Energy (1)
- Biomass Energy 1 -

Chair : T. Hasegawa (Nagoya University)

OS1-1-1 Keynote Lecture

" Biodiesel Research in Korea "

Youn-Woo Lee

Seoul National University, Korea

Chair : Y. Ishida (Nagoya University)

OS1-1-2

" Fuelization of Wet Biomass by Hydrothermal Reforming with Mixing Rice Husk "

T. Namioka⁽¹⁾, J. Zhang⁽¹⁾, S. J. Ha⁽¹⁾, K. Sato⁽¹⁾,
K. Yamamoto⁽¹⁾, Y. Morohashi⁽¹⁾, K. Yoshikawa⁽¹⁾,
M. Nozaki⁽²⁾, J. Takase⁽³⁾

(1) Tokyo Institute of Technology, Japan

(2) Tsukishima Kikai Co., Ltd., Japan

(3) Nishimuragumi Co., Ltd., Japan

OS1-1-3

" Production of Biodiesel Fuels from Animal Fat and Vegetable Oil in Supercritical Fluids "

M. Sasaki, S. Okazaki, K. Fukuyama, M. Goto
Kumamoto University, Japan

OS1-1-4

" Development of Liquefaction Technique of Pulverized Ligneous Biomass Powder "

N. Kobayashi, T. Sato, Y. Itaya, S. Hatano,
J. Kobayashi, S. Mori
Nagoya University, Japan

OS1-1-5

" Chemical Conversion of Acid Hydrolysis Lignin, One of the By-products in Saccharification of Woody Materials to Functional Materials "

Y. Matsushita, M. Imai, K. Fukushima
Nagoya University, Japan

14:00 - 15:40

OS1 Renewable Energy (2)
- Biomass Energy 2 -

Chair : M. Goto (Kumamoto University)

OS1-2-1

" Thermal Energy Production by Hydrothermal Oxidation "

M. Fukayama, K. Wakamatsu, K. Ouryoji,
T. Hasegawa

Nagoya University, Japan

OS1-2-2

" Supercritical Water Gasification of Biomass: Lumped Kinetics "

H. Tang, Y. Ishida, T. Hasegawa, K. Kitagawa
Nagoya University, Japan

OS1-2-3

" Effect of Catalyst on Hydrothermal Treatment of Lignocellulose "

T. Yoshida, Y. Matsumura
Hiroshima University, Japan

Chair : Y. Itaya (Nagoya University)

OS1-2-4

" Effects of Fuel Moisture on Combustion Efficiency and Emission Performance of a Fluidized-Bed Combustor Firing Rice Husk "

R. Kaewklum⁽¹⁾, V. I. Kuprianov⁽¹⁾, W. Permchart⁽²⁾

(1) Thammasat University, Thailand

(2) King Mongkut's Institute of Technology,
Thailand

OS1-2-5

" Statistical Evaluation of Efficient and Economical Utilization of Woody Biomass for Electricity Production "

Y. Makino, T. Kato, Y. Suzuki
Nagoya University, Japan

16:20 - 17:20

OS1 Renewable Energy (3)
- Waste Gasification -

Chair : T. Yoshida (Hiroshima University)

OS1-3-1

" Regeneration of Chlorinated Organic Solvent by Hydrothermal Treatment in a Room of Automobile Engine "

T. Tsuda⁽¹⁾, K. Nakamura⁽¹⁾, M. Aoki⁽¹⁾, M. Uehara⁽²⁾

(1) Nagoya Institute of Technology, Japan

(2) Toenec Corporation, Japan

OS1-3-2

" Hydrogen Production from Waste Plastics Employing a High Temperature Steam Reforming Process "

D. Meng , T. Namioka , K. Yoshikawa

Tokyo Institute of Technology, Japan

OS1-3-3

" Basic Research on Hydrogen Production from Solid Wastes Using a High Temperature Steam Gasification Process "

S. Yao⁽¹⁾, K. Yoshikawa⁽¹⁾, Y. Son⁽¹⁾, T. Namioka⁽¹⁾,

Y. Oka⁽²⁾, T. Nakamura⁽²⁾

(1) Tokyo Institute of Technology, Japan

(2) Chugoku Electric Power Co., Inc., Japan

Room C (IB014)

10:30 - 12:30

OS9 Innovative Production System by Nanotechnology (1)

Chair : O. Takai (Nagoya University)

OS9-1-1

" Environment-Friendly Manufacturing Using Nano-Technology "

O. Takenaka, S. Noda, T. Soma

Aichi Science and Technology Foundation;

Aichi/Nagoya Knowledge Cluster Headquarters, Japan

OS9-1-2 **Keynote Lecture**

" Novel Biomimetic Bonelike Composites "

A. P. Tomsia, E. Saiz, J. Song, C. Bertozzi

University of California, Berkeley, USA

OS9-2-1 **Keynote Lecture**

" Engineering Emergent Functionality Using Biomimetic Polymers "

H. Choi, D. Wendell, C. D. Montemagno

University of California, Los Angeles, USA

OS9-1-5

" Room Temperature Synthesis of Silicon Nanoparticles Using Pulse-Modulated UHF SiH₄/H₂ Plasma "

M. Takahata, M. Hori, T. Chikyo

Nagoya University, Japan

14:00 - 16:00

OS9 Innovative Production System by

Nanotechnology (2)

Chair : D. Fujita (National Institute for Materials Science)

OS9-1-3

" Development of Nano-Process Control Technology Using Smart Sensors and Application to Automic Nano Production Equipment "

M. Hori⁽¹⁾, S. Takahashi⁽²⁾, S. Takashima⁽¹⁾,

M. Hiramatsu⁽³⁾, H. Kano⁽⁴⁾, S. Den⁽²⁾

(1) Nagoya University, Japan

(2) Katagiri Engineering Co., Ltd, Japan

(3) Meijo University, Japan

(4) NU Eco Engineering Co., Ltd, Japan

OS9-1-4

" Production of Size-Controlled Si Nano- Crystallites Using SiH₄+H₂ Discharges and Its Application to Optoelectronic Films "

M. Shiratani⁽¹⁾, K. Koga⁽¹⁾, Y. Watanabe⁽¹⁾,

S. Nunomura⁽²⁾, M. Kondo⁽²⁾

(1) Kyushu University , Japan

(2) National Institute of Advanced Industrial Science and Technology, Japan

OS9-2-2

" Supramolecular Assembly of Helical Polymers for Nanomaterials "

E. Yashima

Nagoya University and ERATO, JST, Japan

OS9-2-3

" Photocontrol of Nanostructures in Organic and Inorganic Thin Films "

T. Seki

Nagoya University, Japan

OS9-2-4

" In Situ Observation of Adsorption States of Heptyl Viologen Cation Radicals on the Indium-Tin-Oxide Electrode by Slab Optical Waveguide Spectroscopy "

Y. Ayato, N. Matsuda

National Institute of Advanced Industrial Science and Technology, Japan

OS9-2-5

" Covalent Immobilization of Gold Nanoparticles onto an Atomically Flat Semiconductor Surface "

T. Yonezawa, Y. Yamanoi, H. Nishihara

The University of Tokyo, Japan

16:20 - 18:00

OS9 Innovative Production System by Nanotechnology (3)

Chair : M. Shiratani (Kyushu University)

OS9-3-1

" Preparation Pt Particles on Carbon Nanowalls in Supercritical Carbon Dioxide "

M. Nakamura⁽¹⁾, M. Hiramatsu⁽¹⁾, H. Amano⁽¹⁾,

H. Kano⁽²⁾, T. Machino⁽³⁾, S. Takashima⁽³⁾, M. Hori⁽³⁾
(1) Meijo University, Japan
(2) NU-Eco Engineering, Japan
(3) Nagoya University, Japan

OS9-3-2

" Saccharide Display on the Silicon Surface "
H. Sato⁽¹⁾, Y. Miura⁽²⁾, N. Saito⁽¹⁾, K. Kobayashi⁽¹⁾,
O. Takai⁽¹⁾
(1) Nagoya University, Japan
(2) Japan Advanced Institute of Science and
Technology, Japan

OS9-3-3

" The Growth Mechanism of Nanowalls Growth in
Tandem Type H Radical Injection Plasma Enhanced
Chemical Vapor Deposition "
M. Ebihara⁽¹⁾, S. Takashima⁽²⁾, M. Hori⁽²⁾, S. Den⁽³⁾,
H. Kano⁽⁴⁾, T. Maeda⁽⁵⁾, M. Hiramatsu⁽⁶⁾
(1) Foresight Techno Co., Ltd, Japan
(2) Nagoya University, Japan
(3) Katagiri Engineering Co., Ltd, Japan
(4) NU Eko Engineering Co., Ltd, Japan
(5) Marubun Corporation, Japan
(6) Meijo University, Japan

OS9-3-4

" Novel Carbon Nanostructure Formation by Surface
Precipitation "
D. Fujita
National Institute for Materials Science, Japan

OS9-3-5

" Parameter Extraction Using Impedance Analysis for
Acoustic Wave Sensors Operated at Elevated
Temperatures "
F. A. Nae, N. Saito, O. Takai
Nagoya University, Japan

Room D (IB013)

10:30 - 12:10

OS4 Nanomaterials for Energy and
Environment (1)

Chair : N. Tanaka (Nagoya University)

OS4-1-1 **Keynote Lecture**

" Sustainable Molecular-Scale Materials Science and
Engineering using Biology "
M. Sarikaya
University of Washington, USA

OS4-1-2

" Design of Organic/Inorganic Nanohybrid Materials
for NO₂ Optical-Sensor "
S. Katayama⁽¹⁾, N. Yamada⁽²⁾, M. Awano⁽³⁾
(1) Fine Ceramics Research Association, Japan
(2) Nippon Steel Corporation, Japan
(3) Advanced Manufacturing Research Institute, Japan

OS4-1-3

" Catalytic Nanoparticulate Rare Earth Ceramic and its
Thermal Stabilization for Automobile
Exhaust-treatment "
M. Ozawa
Nagoya Institute of Technology, Japan

OS4-1-4

" Atomic Structural Change of Silver Plating Layers
Leading to the Induction of Selemion Bending "
H. Tamagawa, F. Nogata
Gifu University, Japan

14:00 - 15:20

OS4 Nanomaterials for Energy and
Environment (2)

Chair : O. Takai (Nagoya University)

OS4-2-1

" Chiral Packing Materials for Enantiomer Separation
Prepared by Immobilization of Polysaccharide
Derivatives onto Silica Gel "
X. Chen, T. Kubota, C. Yamamoto, Y. Okamoto
Nagoya University, Japan

OS4-2-2

" Functional Self-Assembled Monolayers on Silicon
Crystalline as Eco-Materials via Hydrosilylation of
Designed Organic Molecules on Hydrogen-terminated
Si(111) Surface "
T. Okano, A. Takeda, H. Inari, K. Hisatsune,
T. Ishizaki, N. Saito, W. Sakamoto, O. Takai
Nagoya University, Japan

OS4-2-3

" White Light Emission of Porous Aluminosilicate
Glasses Under Near-Ultraviolet Excitation "
T. Hayakawa, Y. Fujii, K. Yamada, M. Nogami
Nagoya Institute of Technology, Japan

OS4-2-4

" Efficient Plasma Techniques for Decomposition of
Waste Water "
P. Baroch, V. Anita, M. Oda, N. Saito, O. Takai
Nagoya University, Japan

16:20 - 17:40

OS4 Nanomaterials for Energy and
Environment (3)

Chair : F. Watari (Hokkaido University)

OS4-3-1

" A Dipole/Dipole Electrostatic Approach to
Preparation of Unbundled Single-Walled Carbon
Nanotubes "
B. Fugetsu⁽¹⁾, W. Han⁽²⁾, T. Akasaka⁽¹⁾, F. Watari⁽¹⁾
(1) Hokkaido University, Japan
(2) Molecular Imaging, U.S.A

OS4-3-2
" Preparation of Single-Walled Carbon Nanotube Solids and Their Mechanical Properties "
G. Yamamoto, Y. Sato, T. Takahashi, M. Omori,
T. Hashida, A. Okubo, S. Watanabe, K. Tohji
Tohoku University, Japan

OS4-3-3
" Toughening of Hydroxyapatite by Multi-Walled Carbon Nanotube "
M. Omori, T. Watanabe, M. Tanaka, A. Okubo,
H. Kimura, T. Hashida
Tohoku University, Japan

OS4-3-4
" Incorporation of Carbon Nanotubes into Spin-Labeled Liposome and its Influence on Electron Spin Resonance Spectra "
K. Suzuki
Hokkaido University, Japan

Room E (IB011)

10:30 - 12:10

OS8 Sustainable Society Management (1)

Chair : K. Tateishi (Nagoya University)

OS8-1-1 **Keynote Lecture**
" Engineering Infrastructure Research and Education for Sustainable Society Management ? The Case of Transportation and Cities "
J. Black
The University of New South Wales, Australia

OS8-1-2
" Lifecycle Analysis of Bridges Considering Longevity of Bridge and Severe Earthquakes "
Y. Itoh, S. Tsubouchi, M. Wada
Nagoya University, Japan

OS8-1-3
" Reuse of By-Products for Concrete Materials "
T. Seaki
Niigata University, Japan

OS8-1-4
" Soil Remediation Using Heated Soil Vapor Extraction Method "
R. S. Amano , P. M. MohanDas, T. Roy, J. Jatkar
University of Wisconsin, USA

14:00 - 15:40

OS8 Sustainable Society Management (2)

Chair : A. Katayama (Nagoya University)

OS8-2-1
" Concept of Space Agriculture Developed for a Testbed of Self-Sustainable Life on the Earth "

N. Katayama, Y. Ishikawa, M. Yamashita
Nagoya Women's University, Japan

OS8-2-2
" Life Cycle Assessment (LCA) of Chinese energy chains for Shandong electricity scenarios "
R. Dones⁽¹⁾, X. Zhou⁽²⁾, C. Tian⁽³⁾
(1) Paul Scherrer Institut (PSI), Switzerland
(2) Nagoya University, Japan
(3) Policy Research Center for Environment & Economy State Environmental Protection Administration, People's Republic of China

OS8-2-3
" Total Factor Productivity in the Presence of Environmental Constraints in China "
D. Xu, Y. Arayama
Nagoya University, Japan

OS8-2-4
" General Microbial Properties of Compost as Detected by Quinone Profile Method "
J.-C. Tang^(1,2), A. Katayama⁽²⁾
(1) Nankai University, China
(2) Nagoya University, Japan

OS8-2-5
" Sustainable Application of Waste Minimization Systems for Medium Sized Municipalities: Case Study of Diamond Bar, California, USA "
J. Michael Huls⁽¹⁾, J. Perez⁽²⁾
(1) Huls Environmental Management, LLC, USA
(2) Environmental Coordinator of the City of Diamond Bar, USA

Lobby (1st Floor)

10:30 - 18:00

Poster Presentation 1

OS1-P-1
" Feasibility Study on Hydrogen Energy System with PEFC-CHP and FCV at Introductory Stage "
H. Y. Pak⁽¹⁾, N. Iwashima⁽¹⁾, K. Tsuduki⁽¹⁾,
N. Kobayashi⁽¹⁾, T. Kato⁽¹⁾, Y. Suzuoki⁽¹⁾,
T. Morikawa⁽¹⁾, K. Katsurayama⁽²⁾
(1) Nagoya University, Japan
(2) Toho Gas Co., Ltd., Japan

OS1-P-2
" Extra-Low Head Hydro Power Utilization by Darrieus Turbine "
K. Takenouchi, K. Okuma, A. Furukawa
Kyushu University, Japan

OS1-P-3
" Study on Fresh Water Making System with Moisture Absorption Utilizing Solar and Wind Energies "
T. Hayashi, Y. Hara, K. Tagawa, L. Wei, K. Tanaka,
K. Nojima
Tottori University, Japan

- OS1-P-4**
 " Fuel Gasification by Hydrothermal Reaction "
 H. Mishima, Y. Ishida, K. Kitagawa, T. Hasegawa
 Nagoya University, Japan
 (1) Nagoya University, Japan
 (2) Nagoya Industrial Science Research Institute, Japan
- OS2-P-1**
 " Characteristics of Turbulent Diffusion Combustion of Dimethyl Ether(DME) under Pressurized Conditions "
 A. Nitta, S. Nishio, Y. Kojima, Y. Hasegawa, T. Nakagawa, K. Kitagawa
 Nagoya University, Japan
- OS2-P-2**
 " Fundamental Study on Evaporative Cooling System of Centrifugal Compressor for Micro Gas-Turbine System "
 Y. Hasegawa, S. Maekawa
 Nagoya University, Japan
- OS2-P-3**
 " Invisible-HiTAC-flame Control for Improving Steam Reformer Heating Performance Using Flame Ionization Monitoring Technique "
 S. Mochida⁽¹⁾, T. Araake⁽¹⁾, T. Hasegawa⁽¹⁾, A. K. Gupta⁽²⁾
 (1) Nippon Furnace Kogyo Kaisha, Ltd., Japan
 (2) University of Maryland, USA
- OS2-P-4**
 " Theoretical Analysis of the Influence of the Exhaust Gas Temperature on Thermal Efficiencies of the Adsorption Rankine Cycle Driven by Low-Grade Heat"
 Y. Hirota, N. Kobayashi
 Nagoya University, Japan
- OS2-P-5**
 " Study on OH Radical in a Methane-Hydrogen Mixture Flame by Isotope Shift/Planar Laser Induced Fluorescence Spectroscopy "
 A. Katoh⁽¹⁾, H. Oyama⁽²⁾, K. Kitagawa⁽¹⁾
 (1) Nagoya University, Japan
 (2) Nagoya Industrial Science Research Institute, Japan
- OS2-P-6**
 " Two Dimensional Spectrometric Observation of a Methane -Air Premixed Flame "
 T. Nishimura, H. Oyama, K. Matsumoto, K. Choi, K. Kitagawa
 Nagoya University, Japan
- OS2-P-7**
 " Visualization of Chemical Species Distribution in Hydrogen-Oxygen Premixed Flame "
 Y. Sawa⁽¹⁾, H. Oyama⁽²⁾, K. Matsumoto⁽¹⁾, K. Kitagawa⁽¹⁾
 (1) Nagoya University, Japan
 (2) Nagoya Industrial Science Research Institute, Japan
- OS2-P-8**
 " Two Dimensional Spectrometric Observation of Inductively Coupled Plasma "
 Z. Cui⁽¹⁾, H. Oyama⁽²⁾, H. Tang⁽¹⁾, K. Matsumoto⁽¹⁾, K. Kitagawa⁽¹⁾
- OS2-P-9**
 " Effect of Gas Constitution on Output Characteristic of PEFC "
 E. Hattori, T. Hosoya, H. Oyama, Y. Muroga, K. Matsumoto, K. Kitagawa
 Nagoya University, Japan
- OS2-P-10**
 " Enhancement of Desorption Rate of Water from Zeolite by Microwave Irradiation for Adsorption type Humidifier "
 M. Saitake, M. Kubota, F. Watanabe, H. Matsuda
 Nagoya University, Japan
- OS2-P-11**
 " Environmentally Conscious Design from Operating Co-generation Systems and Power Plants "
 N. Maruyama, Y. Sadamichi, A. Widiyanto, S. Kato
 Mie University, Japan
- OS2-P-12**
 " Experimental and Numerical Study on Combustion Characteristics of Dimethyl Ether/Air Mixture under Fuel-Rich Condition "
 M. Yasunaga, Y. Kojima, Y. Hasegawa, T. Nakagawa, K. Kitagawa
 Nagoya University, Japan
- OS2-P-13**
 " Preparation of Activated Carbon from Carbonaceous Materials by KOH Chemical Activation for Adsorption Heat Pump "
 T. Kawano, M. Kubota, F. Watanabe, H. Matsuda
 Nagoya University, Japan
- OS2-P-14**
 " Thermophotovoltaic Power Generation by Super-Adiabatic Combustion in Porous Quartz Glass "
 T. Kumano, K. Hanamura
 Tokyo Institute of Technology, Japan
- OS2-P-15**
 " Numerical Simulation of Turbulent Reactive Jet by PDF Method "
 T. Kubo, Y. Sakai, T. Kazama
 Nagoya University, Japan
- OS2-P-16**
 " Combustion Diagnostics with Acetone-OH Simultaneous PLIF "
 S. Manome⁽¹⁾, Y. Nakamura⁽²⁾, H. Yamashita⁽¹⁾, N. Hayashi⁽¹⁾
 (1) Nagoya University, Japan
 (2) Hokkaido University, Japan
- OS2-P-17**
 " Experimental Study on Combustion Phenomenon Using Mixture of Waste Vegetable Oil and Waste-Water Ground fed to the Fermentation Process"

- S. Torii⁽¹⁾, T. Yano⁽²⁾, N. Iino⁽²⁾
 (1) Kumamoto University, Japan
 (2) Kagoshima University, Japan
- OS2-P-18**
 " Study on PAHs Reduction Mechanism by Using Partial Premixed Flames "
 D. Ishii⁽¹⁾, Y. Nakamura⁽²⁾, S. Satake⁽¹⁾, H. Yamashita⁽¹⁾
 (1) Nagoya University, Japan
 (2) Hokkaido University, Japan
- OS2-P-19**
 " Double Diffusive Convection in Environment "
 H. Kawata, K. Kamakura
 Toyama National College of Technology, Japan
- OS2-P-20**
 " Effect of Perforated Plate in Thermally Layered Storage Tank "
 S. Kishimoto, T. Nakahara
 Aichi Institute of Technology, Japan
- OS2-P-21**
 " Manufacture of a Cross Type Heat Exchanger Manufacture Machine by a Fold-Up Formula System and Research of Its Heating Surface Form "
 Y. Sumihiro, T. Nakahara
 Aichi Institute of Technology, Japan
- OS2-P-22**
 " Steam-Driven Water-Piston Engine "
 T. Hu, Y. Kashiwagi, M. Uchida, Y. Momose, T. Hasegawa, K. Kitagawa
 Nagoya University, Japan
- OS3-P-1**
 " Thermoelectric properties of Cu- or Ni-doped Co₃O₄ "
 T. Takeuchi, K. Iwasaki, T. Matsui, T. Nagasaki, Y. Arita
 Nagoya University, Japan
- OS3-P-2**
 " Electrical Conductivity and Seebeck Coefficient of Sr-Co-O Single Crystal "
 T. Murase, K. Iwasaki, T. Matsui, T. Nagasaki, Y. Arita
 Nagoya University, Japan
- OS3-P-3**
 " Fabrication of Segmented n-type CoSb₃/Bi₂Te₃ Thermoelectric Module and Its Performance "
 T. Muto, T. Itoh, N. Kanetake, K. Kitagawa
 Nagoya University, Japan
- OS3-P-4**
 " Effects of Secondary Phases for Thermoelectric Properties of Ru₂Si₃ "
 H. Kawai, Y. Arita, K. Iwasaki, T. Matsui
 Nagoya University, Japan
- OS3-P-5**
 " Power Factor of La(Fe,Ni)O₃ "
 K. Iwasaki, T. Ito, T. Matsui, T. Nagasaki, Y. Arita
 Nagoya University, Japan
- OS8-P-1**
 " Rescue Number for Soil (RNSOIL), a Useful Risk-Economic Index, for the Evaluation of Remediation Technologies of Contaminated Site in Research and Developments "
 Y. Inoue, A. Katayama
 Nagoya University, Japan
- OS8-P-2**
 " A Study on Perspectives of Waste Disposal Facilities in Seoul for Sustainable Development "
 Da-Mi Moon
 Nagoya University, Japan
- OS8-P-3**
 " Aerobic/Anaerobic Biodegradation of Phenol Derivatives in Various Paddy Soils "
 A. Shibata, Y. Inoue, A. Katayama
 Nagoya University, Japan
- OS8-P-4**
 " Sustenance and Characterization of Anaerobic Biodegradation of Polychlorinated Biphenyls "
 D. Baba, A. Katayama
 Nagoya University, Japan
- OS8-P-5**
 " Evaluation of Eco-Industrial Development Based on Advanced Loop-Closing Technology and Infrastructure in Steel Industry by Using Waste I-O Analysis "
 N. Yoshida⁽¹⁾, Y. Yamamoto⁽²⁾, T. Morioka⁽²⁾
 (1) Wakayama University, Japan
 (2) Osaka University, Japan
- OS9-P-1**
 " Structural, Magnetic and Electrical Characterization of High-Density Fe and Fe-Co alloy Cluster-Assembled Films by Energetic Cluster Deposition "
 D. L. Peng, H. Yamada, K. Sumiyama, T. Hihara, T. Uchida
 Nagoya Institute of Technology, Japan
- OS9-P-2**
 " Chemical Synthesis of Size- and Shape-Controlled Iron Nanoparticles toward Self-Assembly "
 S. Yamamuro, T. Ando, S. Sadamasa, C. Narita, M. Yukitoki, K. Sumiyama
 Nagoya Institute of Technology, Japan
- OS9-P-3**
 " Electrical Conductivity Measurement of Carbon Micro-Coil "
 Y. Kajihara⁽¹⁾, T. Hihara⁽¹⁾, K. Sumiyama⁽¹⁾, S. Motojima⁽²⁾
 (1) Nagoya Institute of Technology, Japan
 (2) Gifu University, Japan

OS9-P-4

" Effect of Supports on Micro Catalytic Reactor "

H. Yamada⁽¹⁾, H. Shimizu⁽¹⁾, A. Kanemoto⁽¹⁾,
T. Tagawa⁽¹⁾, Y. Wu⁽¹⁾, Y. Miyata⁽²⁾

(1) Nagoya University, Japan

(2) Nagoya Municipal Industrial Research Institute,
Japan

OS9-P-5

" Memorizing Surface potential on an
Amino-terminated Self-Assembled Monolayer with
Atomic Force Microscopy "

S.H. Lee, T. Ishizaki, N. Saito, O. Takai
Nagoya University, Japan

OS9-P-6

" Surface Potential Imaging of Self-Organized DNAs "

K. Ishida, T. Ishizaki, N. Saito, O. Takai
Nagoya University, Japan

OS9-P-7

" Large-scale Micropatterning of Mesostructured Silica
Films Through a Spatially-defined Surface
Modification Technique "

A. Hozumi⁽¹⁾, S. Kojima⁽²⁾, T. Seki⁽²⁾, Y. Yokogawa⁽¹⁾,
T. Kameyama⁽¹⁾

(1) National Institute of Advanced Industrial Science
and Technology, Japan

(2) Nagoya University, Japan

OS9-P-8

" Immobilization of Bacteria onto the Artificial
Siderophore-Modified Substrate "

T. Inomata, K. Matsumoto, Y. Funahashi, T. Ozawa, K.
Jitsukawa, H. Masuda

Nagoya Institute of Technology, Japan

OS9-P-9

" Metallophthalocyanine Complex Encapsulated in the
Faujasite Zeolite "

N. Ohata, Y. Ito, H. Kitamura, Y. Funahashi, T. Ozawa,
H. Masuda

Nagoya Institute of Technology, Japan

OS9-P-10

" Surface Functionalization for Improved Cell
Adhesion and Proliferation "

Y. Wu, M. Kariyazaki, N. Saito, A. Ito, H. Honda,
O. Takai

Nagoya University, Japan

OS9-P-11

" Fabrication of Au Nano-Line on Organosilane
Self-Assembled Monolayers Using Scanning Probe
Nanolithography "

T. Ishizaki, S.H. Lee, N. Saito, O. Takai
Nagoya University, Japan

OS9-P-12

" Direct Metal Drawing-Induced Nanostructures Made
of Gold Using Scanning Probe Microscopy and its
Application "

T. Ishizaki, S.H. Lee, N. Saito, O. Takai
Nagoya University, Japan

OS9-P-13

" The Effect of Surface-Active Agent in Tin Oxide
Preparation through Electrodposition "

T. Uehara, T. Ishizaki, N. Saito, O. Takai
Nagoya University, Japan

Noyori Conference Hall

18:30 - 20:00

Reception

ISETS05

International Symposium on EcoTopia Science 2005

August 8 (Mon) - 9 (Tue), 2005
Integrated Building (IB), Nagoya University,

Organized by EcoTopia Science Institute, Nagoya University

Tuesday, August 9, 2005

Conference Hall

9:00 - 10:00

Plenary Lecture 2

Chair : H. Itoh (Nagoya University)

" Waste Management for Sustainable Society "
Prof. M. Tanaka
Okayama University, Japan

10:10 - 11:30

OS2 Advanced Energy System (4)

Chair : W. Permchart (King Mongkut's Institute of Technology Ladkrabang)

OS2-4-1

" Steam Gasification of Biomass on Porous Ni Catalyst "
K. Hanamura
Tokyo Institute of Technology, Japan

OS2-4-2

" High Efficient Energy Use by Dimethyl Ether (DME) "
T. Nakagawa⁽¹⁾, N. Kobayashi⁽²⁾, K. Kitagawa⁽²⁾
(1) JFE Holdings, Inc., Japan
(2) Nagoya University, Japan

OS2-4-3

" Different Configurations of the Zecomix High Efficiency Zero Emission Hydrogen and Power Plant "
A. Calabrò, P. Deiana, P. Fiorini, S. Stendardo, G. Girardi
ENEA-Italian Agency for NewTechnologies, Energy and Enviroment, Italy

OS2-4-4

" An Efficiency Formula for a Hydrodynamic Vortex Separator "
D. A. Egarr, T. O'Doherty, M. Faram, N. Syred
Cardiff University, UK

18:00 - 18:20

Closing Ceremony

Room A (IB071)

13:00 - 15:20

OS2 Advanced Energy System (5)
- HTS Power Applications -

Chair : K. Hamajima (Tohoku University)

OS2-5-1 **Keynote Lecture**

" The New Generation of Superconductor Equipment for the Electric Power Grid "
A. P. Malozemoff
American Superconductor Corporation, USA

OS2-5-2

" Low-cost and High-power-density Resistive Fault-current Limiting Elements Using High-temperature Superconducting Thin Films and Au-Ag Alloy Shunt Layers "
H. Yamasaki, M. Furuse, K. Arai, K. Kaiho, Y. Nakagawa
National Institute of Advanced Industrial Science and Technology, Japan

OS2-5-3

" Development of SMES for Bridging Instantaneous Voltage Dips "
S. Nagaya⁽¹⁾, N. Hirano⁽¹⁾, H. Moriguchi⁽¹⁾, E. Adachi⁽¹⁾, H. Nakabayashi⁽¹⁾, K. Shikimachi⁽¹⁾, S. Hanai⁽²⁾, J. Inagaki⁽²⁾, A. Kawaguchi⁽²⁾, S. Kawashima⁽²⁾, T. Ito⁽²⁾
(1) Chubu Electric Power Co., Inc., Japan
(2) Toshiba Corporation, Japan

OS2-5-4

" Technical Feasibility of Superconducting Fault Current Limiting Transformer in Future Electric Power Network "
H. Kojima⁽¹⁾, C. Kurupakorn⁽¹⁾, N. Hayakawa⁽¹⁾, M. Goto⁽¹⁾, N. Kashima⁽²⁾, S. Nagaya⁽²⁾, H. Okubo⁽¹⁾
(1) Nagoya University, Japan
(2) Chubu Electric Power Co., Inc., Japan

OS2-5-5

" Demonstration Tests of 500 m Long HTS Power Cable for Electric Power Transmission System with High Efficiency "
T. Takahashi⁽¹⁾, M. Ichikawa⁽¹⁾, H. Suzuki⁽¹⁾, M. Yagi⁽²⁾, S. Mukoyama⁽²⁾, A. Kimura⁽³⁾, A. Ichinose⁽³⁾, S. Akita⁽¹⁾

- (1) Central Research Institute of Electric Power Industry, Japan
- (2) The Furukawa Electric Co., Ltd., Japan
- (3) Super-GM, Japan

OS2-5-6

" Transmission Level Applications of Superconducting Fault Current Limiters "

M. Noe⁽¹⁾, M. Steurer⁽²⁾

- (1) Forschungszentrum Karlsruhe, Institut für Technische Physik, Germany
- (2) Florida State University, USA

15:40 - 18:00

OS2 Advanced Energy System (6)

- Environment-friendly Electric Power Equipment -

Chair : M. Yashima (Central Research Institute of Electric Power Industry)

OS2-6-1

" Development of Medium Voltage Solid Insulated Switchgear "

T. Shioiri

Toshiba Corporation, Japan

OS2-6-2

" Electrical Insulation Techniques in Vacuum for Environment-friendly High Voltage Electric Power Equipment "

K. Kato, H. Okubo

Nagoya University, Japan

OS2-6-3

" Development of Vacuum Insulation Technology and Its Application to Medium Voltage Electrical Power Apparatus "

S. Sato, H. Koga, K. Koyama

Mitsubishi Electric Corporation, Japan

OS2-6-4

" Effect of Magnetic Flux Around Ring Electrode on Current Interrupting Performance of Rotary-arc Type Load-break Switch Filled with CO₂

Y. Yokomizu⁽¹⁾, T. Matsumura⁽¹⁾, A. Ishikawa⁽²⁾, T. Furuhashi⁽³⁾, K. Mitsukuchi⁽³⁾

- (1) Nagoya University, Japan
- (2) Chubu Electric Power Co., Inc., Japan
- (3) Energy Support Corporation, Japan

OS2-6-5

" Partial Discharge and Breakdown Properties of CO₂ and SF₆ Gas Mixture as an Environmentally-benign Gas "

M. Hikita, S. Ohtsuka

Kyushu Institute of Technology, Japan

OS2-6-6

" Development of SF₆-free 72 kV GIS "

T. Rokunohe⁽¹⁾, Y. Yagihashi⁽¹⁾, F. Endo⁽²⁾, K. Aoyagi⁽³⁾, H. Saitoh⁽³⁾, T. Oomori⁽³⁾

- (1) Hitachi, Ltd. Power & Industrial Systems R&D

Laboratory, Japan

(2) Nagoya University, Japan

(3) Japan AE Power Systems Corporation, Japan

OS2-6-7

" Proposal of All Solid Insulated Substation as a Next Generation Electric Power Transmission and Distribution "

T. Takahashi, T. Takahashi, Y. Mizutani, T. Okamoto
Central Research Institute of Electric Power Industry, Japan

Room B (IB015)

10:10 - 11:30

OS1 Renewable Energy (4)

- Hydro, Tidal, Wind Energy -

Chair : Y. Hasegawa (Nagoya University)

OS1-4-1

" New Type Hydroelectric Units to Exploit Renewable Energy "

A. Inagaki⁽¹⁾, T. Kanemoto⁽²⁾, D. Tanaka⁽¹⁾

- (1) DMW Corporation, Japan
- (2) Kyushu Institute of Technology, Japan

OS1-4-2

" Computational Study of Tidal Turbines for Extracting Energy from the Tides "

D. A. Egarr, T. O'Doherty, S. Morris
Cardiff University, UK

OS1-4-3

" Investigation of Turbulent Wind Characteristics over Complex Terrain by Field Measurements and Wind Tunnel Testing "

H. Imamura, Y. Hasegawa, H. Suzuki, K. Hatabara, A. Kuwayama, Y. Majima, Y. Furusawa, K. Kikuyama
Nagoya University, Japan

OS1-4-4

" A Low-Reynolds-Number One-Equation Turbulence Model for Prediction of Local Wind over Complex Terrain "

Xin Wu, H. Hattori, Y. Nagano
Nagoya Institute of Technology, Japan

13:00 - 14:20

OS1 Renewable Energy (5)

- Wind Energy -

Chair : H. Imamura (College Master Hand, Inc)

OS1-5-1

" Measurement of Pressure Distribution on Oscillating Airfoil "

T. Maeda, Y. Kamada, S. Suzuki
Mie University, Japan

OS1-5-2
" Numerical Analysis of Tower Effect on Aerodynamic Force for Horizontal Axis Wind Turbine Rotor "
J. Murata, Y. Hasegawa, H. Imamura, S. Hotta
Nagoya University, Japan

OS1-5-3
" Development of Nosecone Wind Turbine in Diffuser Casing "
T. Maeda, Y. Kamada, H. Tamura
Mie University, Japan

OS1-5-4
" Intelligent Wind Turbine Generator with Tandem Rotors and Armatures "
A. M. Galal, T. Kanemoto, Y. Inada, Y. Konno
Kyushu Institute of Technology, Japan

Room C (IB014)

10:10 - 11:30

OS9 Innovative Production System by Nanotechnology (4)

Chair : N. Saito (Nagoya University)

OS9-4-1
" Resistless Patterning and Micromachining Using a Fluorine Laser "
F. A. Nae, N. Saito, O. Takai
Nagoya University, Japan

OS9-4-2
" Nano/microreactor Chip Technologies for Innovative Creation of Highly-Functional Biomolecules "
T. Ichiki^(1,2), Y. Hosoi⁽¹⁾, N. Nemoto⁽³⁾, T. Akagi⁽¹⁾
(1) University of Tokyo, Japan
(2) PRESTO, Japan Science and Technology Agency, Japan
(3) National Institute of Advanced Industrial Science and Technology, Japan

OS9-4-3
" Nanobiodevice as a Novel Bio-Tool for Future Personalized Medicine "
Y. Baba
Nagoya University, Japan

OS9-4-4
" Biomimetic Nanotechnology "
O. Takai
Nagoya University, Japan

13:00 - 15:20

OS6 Waste and Emission Management (1)

Chair : T. Fujisawa (Nagoya University)

OS6-1-1 **Keynote Lecture**
" Material-lease Recycling "
K. Halada
National Institute for Materials Science, Japan

OS6-1-2
" Desulfurization of Coke Oven Gas from Coking of Coking-Coal Blended with Sorbent and Organic Solid Wastes "
R. Zhao, S. Ye, Y. Xie, Y. Chen
Chinese Academy of Sciences, China

OS6-1-3
" The De-hydrogen Sulfied Characteristic by the Activated Coke Produced from Ligneous Waste "
M. Sakabe⁽¹⁾, K. Kanagawa⁽¹⁾, N. Kobayashi⁽¹⁾, J. Kobayashi⁽²⁾, G. Piao⁽³⁾, S. Hatano⁽¹⁾, Y. Itaya⁽¹⁾, S. Mori⁽²⁾
(1) Nagoya University, Japan
(2) Center for Cooperative Research in Advanced Science and Technology, Japan
(3) Nagoya Urban Industries Promotion Corporation, Japan

OS6-1-4
" Reaction between CO₂ and Waste Cement under Wet Grinding "
S. Yokoyama, S. H. B. Shahidan, Y. Nagao, M. Kawakami
Toyohashi University of Technology, Japan

OS6-1-5
" Decomposition of Fluoride Greenhouse Gases by Non-Thermal Plasma in H-Rich Atmosphere "
T. Fujita⁽¹⁾, Y. Kojima⁽¹⁾, H. Matsuda⁽¹⁾, K. Ushiroebisu⁽²⁾, L. Huang⁽³⁾
(1) Nagoya University, Japan
(2) Sinto V-Cerax, Ltd., Japan
(3) Zhejiang University of Technology, China

OS6-1-6
" Adsorptive Removal of Fluoride and Phosphate from Water by Zeolite in Single and Binary Component Systems "
M. S. Onyango, Y. Kojima, M. Kubota, H. Matsuda
Nagoya University, Japan

15:40 - 17:20

OS6 Waste and Emission Management (2)

Chair : Y. Arita (Nagoya University)

OS6-2-1
" Reaction Mechanism and Pathway for Hydrothermal Electrolysis of Organic Compounds "
M. Goto, K. Yamamoto, M. Sasaki
Kumamoto University, Japan

OS6-2-2
" Effect of Operational Conditions on Hydrogen Fermentation Characteristics from Organic Wastewater by Using Granular Sludge "
K. Yasuda, Y. Kato, A. Sano, M. Kinbara, Y. Bando, M. Nakamura
Nagoya University, Japan

OS6-2-3

" Tungsten and Cobalt Recovery from Used WC-Co Cutting Tools by Hydrothermal Treatment "
R. Sasai, F. Inagaki, H. Itoh
Nagoya University, Japan

OS6-2-4

" Studies on Sulfurization of Zn(OH)₂ to ZnS in aqueous solution of Na₂S "
D. Kuchar⁽¹⁾, T. Fukuta⁽²⁾, Y. Kojima⁽¹⁾, H. Matsuda⁽¹⁾
(1) Nagoya University, Japan
(2) Sanshin MFG. Co., Ltd., Japan

OS6-2-5

" Pyrolysis Study of PVC and PET in the Presence of Metal Oxides "
O. Terakado, M. Hirasawa
Tohoku University, Japan

Room D (IB013)

10:10 - 11:30

OS4 Nanomaterials for Energy and Environment (4)

Chair : Y. Inoue (Nagoya University)

OS4-4-1

" Size Separation of Carbon Nanotubes for Biomedical Applications "
K. Tohji⁽¹⁾, Y. Sato⁽¹⁾, A. Yokoyama⁽²⁾, K. Shibata⁽²⁾,
S. Ogino⁽¹⁾, K. Tamura⁽²⁾, T. Akasaka⁽²⁾, M. Uo⁽²⁾,
K. Motomiya⁽¹⁾, B. Jeyadevan⁽¹⁾, R. Hatakeyama⁽¹⁾,
F. Watari⁽²⁾
(1) Tohoku University, Japan
(2) Hokkaido University, Japan

OS4-4-2

" Water-Soluble Hat-Stacked Carbon Nanofibers for Biomedical Applications "
Y. Sato⁽¹⁾, K. Shibata⁽²⁾, F. Bunshi⁽²⁾, A. Yokoyama⁽²⁾,
S. Ogino⁽¹⁾, K. Tamura⁽²⁾, T. Akasaka⁽²⁾, M. Uo⁽²⁾,
K. Motomiya⁽¹⁾, B. Jeyadevan⁽¹⁾, R. Hatakeyama⁽¹⁾,
F. Watari⁽²⁾, K. Tohji⁽¹⁾
(1) Tohoku University, Japan
(2) Hokkaido University, Japan

OS4-4-3

" Biochemical and Pathological Response of Human Macrophage to Micro/Nano Particles "
K. Tamura, N. Takashi, M. Uo, T. Akasaka, Y. Totsuka,
F. Watari
Hokkaido University, Japan

OS4-4-4

" Nano-Fabrications by Artificial Peptides and Proteins "
K. Sano, K. Shiba
Japanese Foundation for Cancer Research, Japan

13:00 - 15:20

OS7 Social Energy System

Chair : M. Katayama (Nagoya University)

OS7-1-1 Keynote Lecture

" Introduction of REPLI Project for Efficient Energy Management with Communication "
G. Bumiller⁽¹⁾, T. Sauter⁽²⁾
(1) iAd GmbH, Großhabersdorf, Germany
(2) Austrian Academy of Sciences, Austria

OS7-1-2

" "Energy Chain", A New Concept in Evaluating Future Energy Conservation and Greenhouse Abatement Alternatives and Effectiveness "
K. Hashimoto, T. Takahashi, M. Saikawa
Central Research Institute of Electric Power Industry, Japan

OS7-1-3

" Evaluation of Energy Systems by Considering Changes in Energy Transmission Infrastructure "
T. Kato, N. Tsujimoto, Y. Suzuoki, A. Ishikawa
Nagoya University, Japan

OS7-1-4

" A Comparison between Loop and Radial Configuration of FRIENDS "
Y. Mishima, T. Satoh, K. Nara
Ibaraki University, Japan

OS7-1-5

" How to Set the Energy Saving Consensus at Nagoya University - Introduction of Interactive 'eco-QC' through Online - "
Y. Arayama, Y. Doi, S. Watanabe, D. Yu
Nagoya University, Japan

OS7-1-6

" Social Psychological Approach to Implementation of Social Policy for Energy Management System "
K. Karasawa
Nagoya University, Japan

15:40 - 17:40

OS3 Advanced Energy Materials

Chair : T. Itoh (Nagoya University)

OS3-1-1 Keynote Lecture

" Thermoelectric Modules for High Temperature Waste Heat "
R. Funahashi^(1,2), T. Mihara⁽¹⁾, M. Mikami^(1,2),
S. Urata⁽¹⁾, N. Ando⁽¹⁾
(1) National Institute of Advanced Industrial Science and Technology, Japan
(2) CREST, Japan Science and Technology Agency, Japan

Chair : R. Funahashi (National Institute of Advanced Industrial Science and Technology)

OS3-1-2

" Syntheses of Fe and La Doped CoSb₃ Thermoelectric Compounds by Pulse Discharge Sintering "

T. Itoh, E. Hattori, K. Kitagawa
Nagoya University, Japan

OS3-1-3

" Characterization of MnSi_{1.7} Powder Prepared by Gas Atomization "

M. Hashii⁽¹⁾, N. Kanetake⁽²⁾

(1) Nagoya Municipal Industrial Research Institute,
Japan

(2) Nagoya University, Japan

OS3-1-4

" Powder Recovery from Y-TZP Ceramics Using Hydrothermal Treatment "

M. Kamiya⁽¹⁾, Y. Mori⁽¹⁾, T. Kojima⁽²⁾, R. Sasai⁽¹⁾,
H. Itoh⁽¹⁾

(1) Nagoya University, Japan

(2) Chiba University, Japan

OS3-1-5

" Temperature Dependent Thermal Conductivity of Nano-rods-in-oil Nanofluids "

Z. Han, B. Yang

University of Maryland, USA

Room E (IB011)

10:10 - 11:30

OS5 Green Production (1)

Chair : K. Suzuki (Nagoya University)

OS5-1-1 **Keynote Lecture**

" Ordered Mesoporous Materials as Catalysts for 'Green' Synthesis of Fine Chemicals "

S. Sivasanker

National Chemical Laboratory, India

OS5-1-2

" Construction of the Bio-Mimetic Reaction Site in Ordered Mesoporous Phenylene Silica (ph-HMM) "

M. Ohashi, S. Inagaki

Toyota Central R&D Labs., Inc., Japan

OS5-1-3

" Design of Functionalized Hydrotalcite Catalysts for Carbon–Carbon Bond Formations and Aerobic Oxidations "

K. Ebitani, K. Motokura, K. Mori, T. Mizugaki, K. Kaneda

Osaka University, Japan

13:00 - 15:20

OS5 Green Production (2)

Chair : T. Tagawa (Nagoya University)

OS5-2-1 **Keynote Lecture**

" Advances in Green Chemical Engineering and Process Technology "

H. Liu, J. Chen, Y. Zhang, S. Zhang

Chinese Academy of Sciences, China

OS5-2-2

" Promotion Effect of Hydrogen on Catalytic Performances of Supported Metal (Ag, Pt, Ir) Catalysts in Selective Catalytic Reaction of NO "

A. Satsuma, J. Shibata, K. Shimizu, H. Yoshida,

T. Hattori

Nagoya University, Japan

OS5-2-3

" Rare Earth Metal Triflate Catalyzed Chloromethylation of Aromatic Hydrocarbons "

T. Kishida⁽¹⁾, T. Yamauchi⁽¹⁾, K. Komura⁽²⁾,

Y. Kubota⁽²⁾, Y. Sugi⁽²⁾

(1) Nissei Kagaku Kogyosho, Japan

(2) Gifu University, Japan

Chair : A. Satsuma (Nagoya University)

OS5-2-4

" Catalyst Performance of Calcium-Ferrite Based Compounds for Oxidation of Propylene in the Motor-Bicycle Exhaust "

D. Hirabayashi, T. Yoshikawa, K. Mochizuki,

Y. Kojima, K. Suzuki

Nagoya University, Japan

OS5-2-5

" Photocatalytic Aerobic Oxidation of Neat Alkanes over Supported Vanadium Oxides "

T. Tanaka, K. Teramura, T. Hosokawa, T. Ohuchi

Kyoto University, Japan

OS5-2-6

" General Aspects of Photoactive Sites on Silica-Based Photocatalysts for Direct Conversion of Methane "

L. Yuliati, H. Ito, H. Yoshida

Nagoya University, Japan

15:40 - 18:00

OS5 Green Production (3)

Chair : H. Yoshida (Nagoya University)

OS5-3-1

" Photocatalytic Water Splitting on Ni-Intercalated Layered Perovskite Tantalate H₂La₂/3Ta₂O₇ "

K. Shimizu⁽¹⁾, S. Itoh⁽²⁾, K. Toda⁽²⁾

(1) Nagoya University, Japan

(2) Niigata University, Japan

OS5-3-2

" Preparation of Visible Light Responsive TiO₂ Thin Film Photocatalysts by Magnetron Sputtering Method and Their Photocatalytic Activities "

M. Matsuoka⁽¹⁾, M. Kitano⁽¹⁾, M. Takeuchi⁽¹⁾, M. Anpo⁽¹⁾, J. M. Thomas⁽²⁾

(1) Osaka Prefecture University, Japan

(2) The Royal Institution of Great Britain, UK

OS5-3-3

" Enhancement of Photocatalytic Activity of NiO-Loaded TiO₂ by N Ion Irradiation "

N. Matsunami⁽¹⁾, K. Hirooka⁽¹⁾, S. Ninad⁽¹⁾, O. Fukuoka⁽¹⁾, T. Shimura⁽¹⁾, M. Tazawa⁽²⁾

(1) Nagoya University, Japan

(2) National Institute of Advanced Industrial Science and Technology, Japan

OS5-3-4

" Development of Green Gas Supply System for Zero-emission Plasma Nan-processing "

S. Takahashi⁽¹⁾, S. Den⁽¹⁾, T. Katagiri⁽¹⁾, K. Yamakawa⁽¹⁾, H. Kano⁽²⁾, M. Hori⁽³⁾

(1) Katagiri Engineering Co. Ltd, Japan

(2) NU-EcoEngineering Co. Ltd, Japan

(3) Nagoya University, Japan

Chair : N. Isu (INAX Corp.)

OS5-3-5

" Fundamental Study on a Low-Emission Type Building Material "

Y. Nishigaki⁽¹⁾, K. Suzuki⁽²⁾, T. Kameyama⁽³⁾

(1) Gifu Prefectural Government, Japan

(2) Nagoya University, Japan

(3) National Institute of Advanced Industrial Science and Technology, Japan

OS5-3-6

" High Temperature Oxidation-Resistance Inorganic Coating Used for Steel Slab "

L. Wei⁽¹⁾, S. Ye⁽¹⁾, R. Liu⁽²⁾, X. Yang⁽²⁾, Z. Cai^(1,2), P. Liu⁽¹⁾, Y. Chen⁽¹⁾, Y. Xie⁽¹⁾

(1) Chinese Academy of Sciences, China

(2) Jinan Iron and Steel Group Co., China

OS5-3-7

" Multi-Objective Approach for Supporting Design-for-Disassembly towards Efficient Material Re-utilization "

Y. Shimizu, Y. Yamada, N. Desmira

Toyohashi University of Technology, Japan

Lobby (1st Floor)

10:10 - 17:00

Poster Presentation 2

OS3-P-6

" Preparation of a Novel Zeolite-Based Water Adsorbent for Adsorption Heat Pump and Desiccant Air-Conditioning System "

S. Shimooka, M. Iwade, K. Oshima, M. Yamazaki, T. Takewaki, H. Kakiuchi

Mitsubishi Chemical Group, Science and Technology Research Center, Japan

OS3-P-7

" Water uptake and infrared absorption in La₂Zr_{1.95}M_{0.05}O_{7-α} (M = In, Yb, Er and Y) "

T. Ito, T. Nagasaki, K. Iwasaki, M. Yoshino, T. Matsui
Nagoya University, Japan

OS3-P-8

" Studies on a New PCM Based on Trimethylolethane Trihydrate-Urea Mixture for Cold Heat Storage "

H. Hidaka⁽¹⁾, M. Yamazaki⁽¹⁾, M. Yabe⁽¹⁾,

H. Kakiuchi⁽¹⁾, F. Watanabe⁽²⁾, H. Matsuda⁽²⁾

(1) Mitsubishi Chemical Group Science and Technology Research Center, Japan

(2) Nagoya University

OS4-P-1

" Size-Focusing of Semiconductor Nanocrystals Observed by MALDI-TOF Mass Spectroscopy "

T. Kuzuya, Y. Tai, S. Yamamuro, K. Sumiyama
Nagoya Institute of Technology, Japan

OS4-P-2

" Synthesis and FET Properties of Alkyl Substituted HBCs "

H. Takeuchi, T. Mori, Y. Kikuzawa

Toyota Central R & D Labs., Inc., Japan

OS4-P-3

" Electron Holography Study of III-Nitride Semiconductors on Si Substrate "

S. Tanaka, A. Naito, R. Iwasaki, M. Ichihashi

Nagoya University, Japan

OS4-P-4

" Application of Non-Crystalline Nano-Tube Imogolite as Heat Exchange Adsorbents of the Heat Pump System "

M. Suzuki, J. Honda, K. Inukai, M. Maeda

National Institute of Advanced Industrial Science and Technology, Japan

OS4-P-5

" Three-Dimensional Analysis of Catalytic Platinum Supercrystals by Transmission Electron Tomography "

J. Yamasaki⁽¹⁾, A. Ohno⁽¹⁾, M. Makihara⁽¹⁾,

O. Terasaki⁽²⁾, N. Tanaka⁽¹⁾

(1) Nagoya University, Japan

(2) University of Stockholm, Sweden

- OS4-P-6**
 " Functions of Artificial Glyco-Polymer/CNTs Conjugates "
 T. Akasaka⁽¹⁾, M. Uo⁽¹⁾, F. Watari⁽¹⁾, Y. Sato⁽²⁾, K. Tohji⁽²⁾
 (1) Hokkaido University, Japan
 (2) Tohoku University, Japan
- OS4-P-7**
 " EC Properties of Biomimetic InN Films Prepared by Oblique-angle Sputter Deposition "
 J. Yamazaki, T. Kuranaga, Y. Inoue, O. Takai
 Nagoya University, Japan
- OS4-P-8**
 " A Local Structure of Ni Impurity in Carbon Nanotube Studied by XAFS and Multiple Scattering Analysis "
 K. Asakura, W-J. Chun, M. Ushiro, K. Uno, T. Fujikawa, Y. Sato, K. Tohji, F. Watari
 Hokkaido University, Japan
- OS4-P-9**
 " Carbon Nanotubes as Scaffolds for Cell Culture "
 N. Aoki⁽¹⁾, A. Yokoyama⁽¹⁾, T. Akasaka⁽¹⁾, M. Uo⁽¹⁾, Y. Sato⁽²⁾, K. Tohji⁽²⁾, F. Watari⁽¹⁾
 (1) Hokkaido University, Japan
 (2) Tohoku University, Japan
- OS4-P-10**
 " Tissue Response to Carbon Nanosubstances: Comparison between Carbon Nanotubes and Hat-Stacked Carbon Nanofibers with Transmission Electron Microscopy "
 A. Yokoyama⁽¹⁾, Y. Sato⁽²⁾, Y. Nodasaka⁽¹⁾, S. Yamamoto⁽¹⁾, N. Aoki⁽¹⁾, M. Shindoh⁽¹⁾, T. Kohgo⁽¹⁾, T. Akasaka⁽¹⁾, M. Uo⁽¹⁾, K. Tohji⁽²⁾, F. Watari⁽¹⁾
 (1) Hokkaido University, Japan
 (2) Tohoku University, Japan
- OS4-P-11**
 " Sintering Behavior of Nanometer-size CeO₂ Powders "
 M. Ozawa
 Nagoya Institute of Technology, Japan
- OS4-P-12**
 " Synthesis and Characterization of Metal-doped ZnO Particle/Organic Hybrid "
 M. Kachi, W. Sakamoto, T. Yogo
 Nagoya University, Japan
- OS4-P-13**
 " In Situ Synthesis of MnFe₂O₄ Particle/Organic Hybrid Material "
 T. Hosoya, W. Sakamoto, T. Yogo
 Nagoya University, Japan
- OS4-P-14**
 " Synthesis of Nano-Sized SnO₂ Particle /Organic Hybrid "
- D. Yamamoto, W. Sakamoto, T. Yogo
 Nagoya University, Japan
- OS4-P-15**
 " Study on the Resolution of Pore Structure Analysis by Means of Helium Adsorption under Cryogenic Condition "
 K. Tsuduki, J. Kobayashi, N. Kobayashi
 Nagoya University, Japan
- OS4-P-16**
 " Low Temperature Synthesis of ZnO Thin Films through Photocalcination "
 J. Hieda, N. Saito, O. Takai
 Nagoya University, Japan
- OS4-P-17**
 " XAFS Analysis of Rarely Contained Metallic Elements in Biological Tissues "
 M. Uo, K. Asakura, A. Yokoyama, K. Tamura, Y. Totsuka, T. Akasaka, F. Watari
 Hokkaido University, Japan
- OS4-P-18**
 " Bioassay Methods for Cytotoxicity of Nanoparticles in Aquatic Environment by Using Paramecium "
 N. Haga, K. Haneda
 Senshu University, Japan
- OS4-P-19**
 " Fabrication and Properties Sintered Carbon Nanotubes "
 W. Wang⁽¹⁾, A. Yokoyama⁽¹⁾, M. Omori⁽²⁾, S. Liao⁽¹⁾, T. Akasaka⁽¹⁾, M. Uo⁽¹⁾, F. Watari⁽¹⁾
 (1) Hokkaido University, Japan
 (2) Tohoku University, Japan
- OS4-P-20**
 " Synthesis of Hydrophobic Hard Films by Plasma-Enhanced CVD with Novel Organosilicon Reactants "
 E. Oriyama⁽¹⁾, T. Yoshida⁽¹⁾, Y. Inoue⁽¹⁾, O. Takai⁽¹⁾, D. Hara⁽²⁾, K. Yoshida⁽²⁾
 (1) Nagoya University, Japan
 (2) TOSOH Corp., Japan
- OS4-P-21**
 " Effects of Cell Growth and Function by Addition of Carbon Nanotubes and Nano/Micro Particles on Mammalian Cells in Culture "
 M. Ibi, A. Ishisaki, Y. Sato, K. Toji, A. Nakashima, A. Yokoyama, M. Tamura
 Hokkaido University, Japan
- OS4-P-22**
 " Two-Dimensional Micrometer-Sized Silicon Nanosheets Derived from CaSi₂ "
 H. Nakano, M. Ishii, H. Nakamura
 Toyota Central R&D Labs., Inc., Japan
- OS4-P-23**
 " Biosynthesis of Gold Nanoparticles Using the Anaerobic Bacterium, Shewanella Algae "

Y. Konishi, T. Tsukiyama, K. Ohno, N. Saitoh,
T. Nomura, S. Nagamine
Osaka Prefecture University, Japan

OS4-P-24

" Increase of Oxygen Vacancies and Change of Crystal Structures in Photo-Decomposition Process of TiO₂ Thin Films Detected in Dedicated In-Situ TEM "
K. Yoshida, J. Yamasaki, N. Tanaka
Nagoya University, Japan

OS4-P-25

" Production and Nano Level Structure Analysis of High Purity Rutile TiO₂ Thin Films by Pulse Laser Deposition Method "
T. Nanbara, K. Yoshida, J. Yamasaki, N. Tanaka
Nagoya University, Japan

OS5-P-1

" Chlorine Free Friedel-Crafts Acylation of Benzene with Acid Anhydride on Insoluble Heteropoly Acid Catalyst "
T. Tagawa, J. Amemiya, H. Yamada
Nagoya University, Japan

OS5-P-2

" Fixation of Iodine Gas for Trans Uranium Waste Disposal "
M. Suzuki⁽¹⁾, D. Hirabayashi⁽²⁾, K. Suzuki⁽²⁾
(1) National Institute of Advanced Industrial Science and Technology, Japan
(2) Nagoya University, Japan

OS5-P-3

" Prevention of Photocatalytic Deterioration in Organic Material by Using TiO₂ Pillared Clay for Composition of TiO₂ Photocatalyst and Organic Material "
C. Ooka⁽¹⁾, K. Iida⁽¹⁾, M. Harada⁽¹⁾, K. Hirano⁽¹⁾,
Y. Nishi⁽¹⁾, M. Kawaguchi⁽²⁾, T. Hibino⁽²⁾,
S. Takenaka⁽²⁾, T. Hattori⁽²⁾
(1) Nagoya Municipal Industrial Research Institute, Japan
(2) Daito ME Co., Ltd., Japan

OS5-P-4

" Oxidative Destruction of Hydrocarbons over a New Zeolite-like Ca₁₂Al₁₀Si₄O₃₅ Crystal with Occluding O₂- and O₂₂- Radicals in Nanopores "
K. Suzuki⁽¹⁾, S. Fujita⁽¹⁾, T. Mori⁽²⁾,
D. Hirabayashi⁽³⁾, H. Masuda⁽⁴⁾
(1) National Institute of Advanced Industrial Science and Technology, Japan
(2) Hirosaki University, Japan
(3) Nagoya University, Japan
(4) Nagoya Institute of Technology, Japan

OS5-P-5

" Oxidative Decomposition of Propylene over Direct Synthesized Ca₁₂Al₁₀Si₄O₃₅ Catalysts "
K. Mochizuki, D. Hirabayashi, Y. Kojima, K. Suzuki
Nagoya University, Japan

OS5-P-6

" Hydrothermally Solidified Mesoporous Material from Water Purification Sludge "
N. Isu, H. Maenami
INAX Corp., Japan

OS5-P-7

" Producing Plastic Substitute from Bamboo for Sustainable Development "
O. Yamashita, H. Yokochi, H. Imanishi, K. Kanayama
Nagoya University, Japan

OS6-P-1

" High Grade Recycling of Magnesium Alloy Machined Chips "
M. Inoue, M. Shima, M. Iwai
Toyama National College of Technology, Japan

OS6-P-2

" A Study of Adsorber Specification of Compact Adsorption Refrigerator for Automobiles "
S. Inoue, S. Inoue, N. Kobayashi
Denso Corporation, Japan

OS6-P-3

" Research on Improvement in a Performance of an Adsorption Refrigerator (The Effect of Multistage Adsorption in High Ambient Temperature) "
S. Inoue, S. Inoue, N. Kobayashi
Denso Corporation, Japan

OS6-P-4

" Effect of Coexisting Gas of H₂O and CO₂ on Dry HCl Sorption on CaO and Na₂CO₃ Sorbent "
S. Ando⁽¹⁾, Y. Inoue⁽¹⁾, N. Tanahashi⁽²⁾, Y. Kojima⁽¹⁾,
H. Matsuda⁽¹⁾
(1) Nagoya University, Japan
(2) Chubu Electric Power Co., Inc., Japan

OS6-P-5

" Removal of Copper from Plating Wastewater by Precipitation with H₂S "
H. Kondo⁽¹⁾, T. Fukuta⁽²⁾, Y. Kojima⁽¹⁾, H. Matsuda⁽¹⁾
(1) Nagoya University, Japan
(2) Sanshin MFG. Co., Ltd., Japan

OS6-P-6

" Resource Recovery Treatment by Solubilization of Waste Sludge "
T. Nomura, S. Araki, T. Nagao, Y. Konishi
Osaka Prefecture University, Japan

OS6-P-7

" Adhesion of Methanogens to Support Materials "
T. Nagao, T. Nomura, Y. Konishi
Osaka Prefecture University, Japan

OS6-P-8

" Mechanical Separation of Copper from PVC Coated Lead Wire by Rolling "
S. Yokoyama, H. Hashimoto, M. Kawakami, S. Maki
Toyoashi University of Technology, Japan

OS6-P-9

" Adsorption Reaction of CO₂ to CaO and Waste Cement under Dry Grinding "

S. Yokoyama, N. H. B. M. Nor, Y. Nagao, S. Motozuka, M. Kawakami
Toyoashi University of Technology, Japan

OS6-P-10

" Volatilization Behavior of Heavy Metals from Solid Wastes by Chlorination Reaction "

T. Kawachi⁽¹⁾, S. Mizuno⁽¹⁾, K. Nakayama⁽²⁾, F. Watanabe⁽¹⁾, Y. Kojima⁽¹⁾, H. Matsuda⁽¹⁾
(1) Nagoya University, Japan
(2) Sintokogio, Ltd., Japan

OS6-P-11

" Effect of Silica-Aluminum-Iron Oxides on Reductive Decomposition of Gypsum "

N. Mihara, Y. Kojima, H. Matsuda
Nagoya University, Japan

OS6-P-12

" Improvement of Methane Fermentation Using Immobilized Methanogens on Support Materials "

H. Tokumoto, K. Nishiguchi, H. Yoshida
Osaka Prefecture University, Japan

OS6-P-13

" High Speed and Efficient Methane Fermentation Process for Excess Sludge Treated by Sub-Critical Water Hydrolysis Technique "

H. Tokumoto, R. Isii, H. Yoshida
Osaka Prefecture University, Japan

OS6-P-14

" Sonication of Organochlorinated Herbicide Adsorbed on Model Soil "

Y. Kojima⁽¹⁾, Y. Hagi⁽¹⁾, T. Fujita⁽¹⁾, E. P. Ona⁽¹⁾, D. Hirabayashi⁽¹⁾, K. Suzuki⁽¹⁾, H. Matsuda⁽¹⁾, Y. Asakura⁽²⁾
(1) Nagoya University, Japan
(2) Honda Electronics Co., Ltd., Japan

OS6-P-15

" Development of a High Performance Cake-less Continuous Filtration System "

J. Tsubaki⁽¹⁾, T. Mori⁽¹⁾, B. Ochirhuyag⁽¹⁾, K. Ato⁽¹⁾, H. Choi⁽²⁾, T. Sugimoto⁽³⁾
(1) Nagoya University, Japan
(2) Nagoya Industrial Science Research Institute, Chubu TLO, Japan
(3) Chuo Kakohki Co., Ltd., Japan

OS7-P-1

" Development of Optimal Control System for Energy Saving in Factories Using Energy-Flow-Integration Method "

H. Uchigasaki⁽¹⁾, Y. Harada⁽¹⁾, M. Mori⁽¹⁾, H. Kudo⁽²⁾
(1) Hitachi, Ltd., Japan
(2) The Energy Conservation Center, Japan

Conference Hall

18:00 - 18:20

Closing Ceremony