

**The 11th Global COE International Symposium:
Bio-Environmental Chemistry**

December 19 - 21, 2011

**3rd Floor of Icho Kaikan
on Osaka University Suita Campus**

2-2 Yamadaoka, Suita-city, Osaka, Japan

Organization

SYMPOSIUM CHAIR

Shunichi Fukuzumi Professor, Department of Material and Life Science,
Graduate School of Engineering, Osaka University
Director, Global COE Program “Global Education and Research
Center for Bio-Environmental Chemistry,” Osaka University

ORGANIZING COMMITTEE

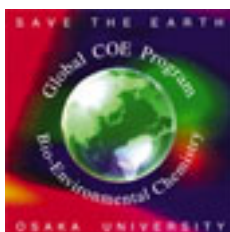
Kazuya Kikuchi Professor, Department of Material and Life Science,
Graduate School of Engineering, Osaka University

Koichi Fukase Professor, Department of Chemistry,
Graduate School of Science, Osaka University

Kei Ohkubo Associate Professor, Department of Material and Life Science,
Graduate School of Engineering, Osaka University

SPONSOR

Osaka University Global COE Program
“Global Education and Research Center for Bio-Environmental Chemistry”



“Global Education and Research Center for Bio-Environmental Chemistry”

The rapid consumption of fossil fuel has now caused unacceptable environmental problems such as the greenhouse effect, which could lead to disastrous climatic consequences. Thus, renewable, clean and safe energy resources are urgently required in order to solve global energy and environmental issues particularly after the nuclear power plant disaster in Fukushima on March 11, 2011. Among renewable energy resources, solar energy is by far the largest exploitable resource. At Osaka University, we extend and expand the previous COE program into a new Global COE program by establishing the Global Education and Research Center for Bio-Environmental Chemistry at Osaka University starting in 2007. The specific objective of the Global Education and Research Center for Bio-Environmental Chemistry at Osaka University is to establish a new integrated framework of not only pure and applied chemistry but also biotechnology focusing on energy conversion, environmentally benign synthesis, molecular information and dynamics, chemical biology and biotechnology. We are planning to achieve significant progress in these vital areas for sustainability by cooperating in these areas and by integrating the underpinning science. In short this is a "Save the Earth" project based on global research and education activities in Bio-Environmental Chemistry to slow and ultimately reverse the deterioration of our planet. We feel strongly that the education and research activities of young scientists from all over the world are particularly important to achieve our long-term objectives in the "Save the Earth" project. A series of international symposia on the "Save the Earth" project have so far been organized to facilitate international collaboration.



The Organizing Committee of 11th International Symposium on Bio-Environmental Chemistry cordially invites you to participate in the final symposium of our Global COE program, which will be ended in March 31, 2012. You will gain information regarding the most recent developments at the Global Education and Research Center for Bio-Environmental Chemistry. With your participation, we will have an opportunity to create personal friendship and exchange scientific ideas among chemists, in particular young researchers and students with the same aim.

We look forward to seeing you in Osaka in December, 2011.

Professor Shunichi Fukuzumi

A handwritten signature in black ink, appearing to read 'S. Fukuzumi'.

Department of Material and Life Science
Division of Advanced Science and Biotechnology
Graduate School of Engineering, Osaka University
Director, Global Education and Research Center for
Bio-Environmental Chemistry, Osaka University

Members of the Global COE Program

[Graduate School of Engineering]

Mitsuru AKASHI	Professor, Department of Applied Chemistry
Naoto CHATANI	Professor, Department of Applied Chemistry
Kiichi FUKUI	Professor, Department of Biotechnology
Shunichi FUKUZUMI	Professor, Department of Material and Life Science
Satoshi HARASHIMA	Professor, Department of Biotechnology
Takashi HAYASHI	Professor, Department of Applied Chemistry
Toshikazu HIRAO	Professor, Department of Applied Chemistry
Nobuhito IMANAKA	Professor, Department of Applied Chemistry
Yoshihisa INOUE	Professor, Department of Applied Chemistry
Nobuaki KAMBE	Professor, Department of Applied Chemistry
Shigenori KANAYA	Professor, Department of Material and Life Science
Kazuya KIKUCHI	Professor, Department of Material and Life Science
Susumu KUWABATA	Professor, Department of Applied Chemistry
Hiroshi UYAMA	Professor, Department of Applied Chemistry

[Graduate School of Science]

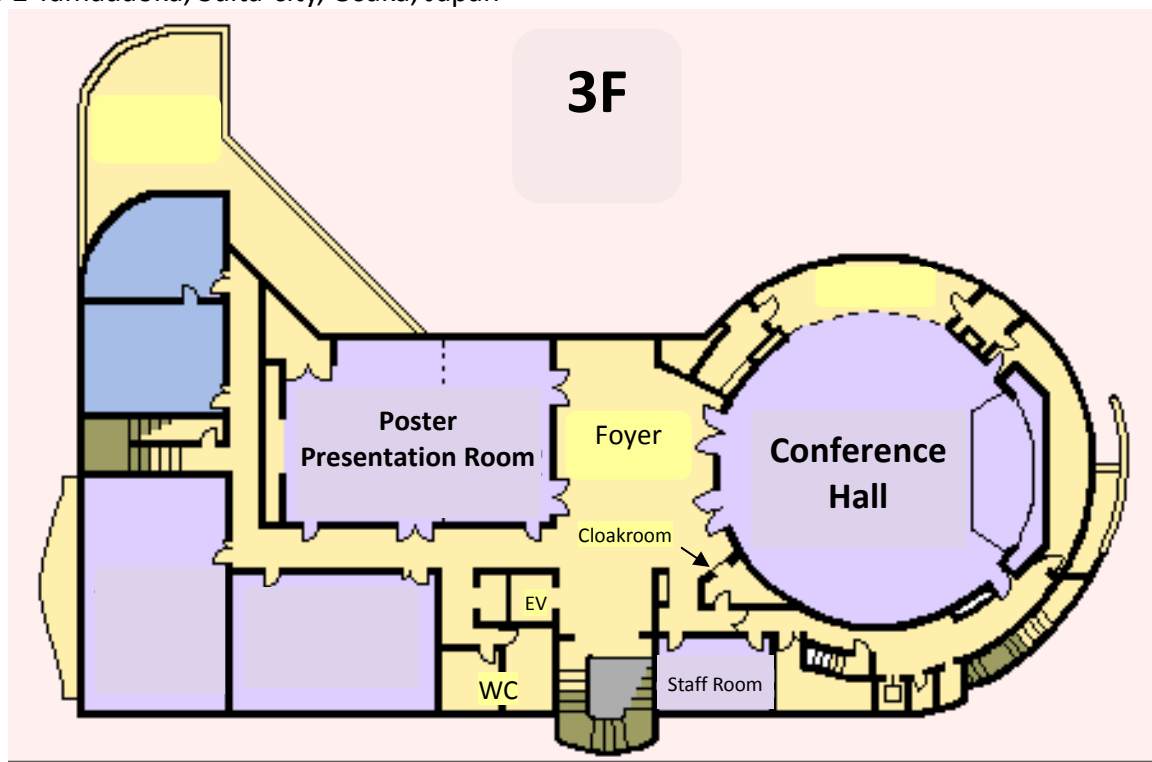
Sadahito AOSHIMA	Professor, Department of Macromolecular Science
Koichi FUKASE	Professor, Department of Chemistry
Akira HARADA	Professor, Department of Macromolecular Science
Akira INABA	Professor, Research Center for Molecular Thermodynamics
Takumi KONNO	Professor, Department of Chemistry
Toshiaki MUNAKATA	Professor, Department of Chemistry
Michio MURATA	Professor, Department of Chemistry
Yasuhiro NAKAZAWA	Professor, Department of Chemistry
Takahiro SATO	Professor, Department of Macromolecular Science

[Graduate School of Engineering Science]

Shigenori IWAI	Professor, Division of Chemistry
Kazushi MASHIMA	Professor, Division of Chemistry
Michio MATSUMURA	Professor, Research Center for Solar Energy Chemistry
Masayoshi NAKANO	Professor, Division of Chemical Engineering
Takeshi NAOTA	Professor, Division of Chemistry
Kazunari OGAKI	Professor, Division of Chemical Engineering
Yoshito TOBE	Professor, Division of Frontier Materials Science

Venue

3F, ICHO KAIKAN, OSAKA UNIVERSITY
2-2 Yamadaoka, Suita-city, Osaka, Japan



Scientific Program Information

ORAL PRESENTATIONS

Invited lecturers	40 minutes each including discussion
Osaka University Professors	30 minutes each including discussion
PhD Students	5 minutes each

POSTER SESSION

Monday, December 19	17:10 ~ 18:40
Tuesday, December 20	13:30 ~ 15:00

Social Events Information

BANQUET

Tuesday, December 20 19:00 ~

Hotel Hankyu Expo Park

1-5 Senri-Banpaku-Koen, Suita-City, Osaka, Japan

TEL +81-6-6878-5151

Program at a Glance

*Abbreviation used for description of presenter

[Lecturer]

IL: Invited Lecturer (Institute Name, Country)

L: Osaka University Professor (Graduate School of "Faculty")

Monday, Dec. 19, 2011

09:00 - 09:10	<i>Opening Remarks</i>		
09:10 - 09:50	Sylvie Begin-Colin	IL-1	Strasbourg, France
09:50 - 10:20	Yoshito Tobe	L- 1	Science Engineering
10:20 - 10:40	<i>Break</i>		
10:40 - 11:20	Pierre Braunstein	IL-2	Strasbourg, France
11:20 - 11:50	Kazuya Kikuchi	L- 2	Engineering
11:50 - 13:00	<i>Lunch Break</i>		
13:00 - 13:30	Michio Matsumura	L- 3	Research Center for Solar Energy Chemistry
13:30 - 14:00	Takumi Konno	L- 4	Science
14:00 - 14:20	<i>Break</i>		
14:20 - 16:20	SHORT ORAL PRESENTATION (19 PhD students)		
16:20 - 16:30	Photo Shoot		
16:30 - 18:00	POSTER SESSION		

Tuesday, Dec. 20, 2011

09:00 - 09:40	Chantal Daniel	IL-3	Strasbourg, France
09:40 - 10:10	Takahiro Sato	L- 5	Science
10:10 - 10:30	<i>Break</i>		
10:30 - 12:30	Short Oral Presentation (20 PhD students)		
12:30 - 13:30	<i>Lunch Break</i>		
13:30 - 15:00	POSTER SESSION		
15:00 - 15:30	Takashi Hayashi	L- 6	Engineering
15:30 - 16:10	Kenneth Karlin	IL-4	Johns Hopkins, USA
16:10 - 16:30	<i>Break</i>		
16:30 - 17:10	Luc Lebeau	IL-5	Strasbourg, France
17:10 - 17:40	Kiichi Fukui	L- 7	Engineering
17:40 - 18:20	John Arnold	IL-6	Barkeley, USA
19:00 -	<i>Banquet</i>		

Wednesday, Dec. 21, 2011

09:00 - 09:40	Jay Winkler	IL-7	California Institute of Technology, USA
09:40 - 10:10	Michio Murata	L- 8	Science
10:10 - 10:30	<i>Break</i>		
10:30 - 11:10	David Goldberg	IL-8	Johns Hopkins, USA
11:10 - 11:40	Susumu Kuwabata	L- 9	Engineering
11:40 - 12:20	Dean Toste	IL-9	Barkeley, USA
12:20 - 13:30	<i>Lunch Break</i>		
13:30 - 14:00	Kazushi Mashima	L- 10	Science
14:00 - 14:40	Michel Miesch	IL-10	Strasbourg, France
14:40 - 15:10	Nobuhito Imanaka	L- 11	Engineering
15:10 - 15:50	Don Tilley	IL-11	Barkeley, USA
15:50 - 16:10	<i>Break</i>		
16:10 - 16:40	Naoto Chatani	L- 12	Engineering
16:40 - 17:20	Jonathan Sessler	IL-12	Texas, USA
17:20 - 17:35	Award Ceremony for Student Presenters		
17:40 - 18:20	<i>Closing Remarks</i>		

Scientific Program

*Abbreviation used for description of presenter

[Lecturer]

IL: Invited Lecturer (Institute Name, Country)

L: Osaka University Professor (Graduate School of "Faculty")

[Short Oral Presentation]

S: Osaka University PhD Student (Graduate School of "Faculty")

S (I): Invited PhD Student (Institute Name, Country)

Monday, December 19, 2011

09:00 - 09:10 *Opening Remarks* **Kazuya KIKUCHI**

Chair: Takeshi NAOTA

09:10 - 09:50 Synthesis and functionalisation of iron oxide nanoparticles for spintronic and biomedical applications

IL-1: **Sylvie BEGIN-COLIN** (Strasbourg, France)

09:50 - 10:20 Two-Dimensional Porous Molecular Networks Formed by Self-Assembly via van der Waals Interactions

L- 1: **Yoshito TOBE** (Engineering Science)

10:20 - 10:40 --- *Break* ---

Chair: Shunichi FUKUZUMI

10:40 - 11:20 Zwitterionic Iminoquinonoid Ligands and their Metal Complexes

IL-2: **Pierre BRAUNSTEIN** (Strasbourg, France)

Chair: Mitsuru AKASHI

11:20 - 11:50 Design, Synthesis and Biological Application of in Vivo Imaging Probes with Tunable Chemical Switches

L- 2: **Kazuya KIKUCHI** (Engineering)

11:50 - 13:00 --- *Lunch Break* ---

Chair: Akira INABA

13:00 - 13:30 Interpenetration of Components across Interface of Organic Bilayer Solar Cells

L- 3: **Michio MATSUMURA** (Research Center for Solar Energy Chemistry)

13:30 - 14:00 Can We Create a Variety of Chiral Heterometallic Compounds from a Single Kind of Amino Acid?
L- 4: **Takumi KONNO** (Science)

14:00 - 14:20 --- Break ---

14:20 - 16:20 **SHORT ORAL PRESENTATION by PhD Students**

Group 1 Chair: Chien-Chih CHEN

Synthesis of Cage-Shaped Oligothiophenes

S- 1: **Kazuhiko ADACHI** (Science)

Cobalt-based Electrocatalyst for Water Splitting

S- 2(I): **Hyun S. AHN** (Berkeley, USA)

Palladium-Catalyzed Direct Ethynylation of Aliphatic Acid Derivatives

S- 3: **Yusuke ANO** (Engineering)

Electron Spin Embedded DNA Nanostructures for Spin-based Nanodevices

S- 4: **Hiroshi ATSUMI** (Science)

Ion-Mediated Electron Transfer Processes Involving Functionalized

Calix[4]Pyrroles: The Role of Donors, Acceptors, and Ions

S- 5 (I): **Christina DAVIS** (Texas, USA)

Group 2 Chair: Shuhei FUKUOKA

Electron Tunneling through a Four-Helix Bundle Cytochrome

S- 6 (I): **Nicole FORD** (CALTEC, USA)

Third-Order Nonlinear Optical Properties of Open-Shell Singlet Metal–Metal Bonded Systems

S- 7: **Hitoshi FUKUI** (Engineering Science)

Tuning the Nuclearity of Nickel Pyridine-Alcohol Complexes: from Catalysis to Molecular Magnetism

S- 8 (I): **Sophie HAMEURY** (Strasbourg, France)

A Ni^{II}Au^I Coordination System with Switchable Metalloring Structure

S- 9: **Yuji HASHIMOTO** (Science)

Zinc and Cobalt Complexes with Chelating Nitrogen Ligands as Catalysts for Transesterification

S-10: **Yukiko HAYASHI** (Engineering Science)

Group 3 Chair: Yasushi ISHIDO

Construction of Fluorescent Supramolecular Clusters with Remarkable Inclusion Ability Due to Their Awkward Shape

S-11: **Tomoaki HINOUE** (Engineering)

Effects of Protonation of a Saddle-Distorted Cobalt Phthalocyanine on the Catalytic Two-Electron Reduction of Dioxygen

S-12: **Tatsuhiko HONDA** (Engineering)

Transition Metal-Catalyzed Regioselective C-H Bond Functionalizations of Acridines Using Organozinc Reagents

S-13: **Isao HYODO** (Engineering)

Solid-phase Synthesis of Glycoconjugates

S-14: **Yuichiro KADONAGA** (Science)

Synthesis of Alkynylstannanes by Direct Coupling of Tributyltin Methoxide with Terminal Alkynes Using ZnBr₂ Catalyst

S-15: **Kensuke KIYOKAWA** (Engineering)

Group 4 Chair: Yuuki MATSUMOTO

Metabolic Profiling and Identification of the Genetic and Agricultural Origin of Angelica Root Samples

S-16: **Shizu KOBAYASHI** (Engineering)

Development of a Liquid Scintillation Detection System for Aqueous Chemistry of Superheavy Elements

S-17: **Yukiko KOMORI** (Science)

Development of ¹⁹F MRI Probes for Imaging Gene Expression

S-18: **Hisashi MATSUSHITA** (Engineering)

Theoretical Study on Interfacial Electronic Structure of Pentacene/C₆₀

S-19: **Takuya MINAMI** (Engineering Science)

16:20 - 16:30 Photo Shoot

17:10 - 18:40 POSTER SESSION

Tuesday, December 20, 2011

Chair: Yoshihisa INOUE

09:00 - 09:40 Photophysics and photochemistry of 2nd and 3rd row transition metal complexes: A quantum chemical study
IL-3: **Chantal DANIEL** (Strasbourg, France)

09:40 - 10:10 Phase-Separation Induced Circular Dichroism of Optically Active Polyfluorene Derivatives
L- 5: **Takahiro SATO** (Science)

10:10 - 10:30 --- Break ---

10:30 - 12:30 **SHORT ORAL PRESENTATION by PhD Students**

Group 5 Chair: Hajime SHIBATA

Mechanism Borderline between One-Step Hydrogen Atom Transfer and Stepwise Electron and Proton Transfer from Benzyl Alcohol Derivatives to Non-heme Oxoron(IV) Species Activated by Sc³⁺
S-20: **Yuma MORIMOTO** (Engineering)

Design of Cage-Shaped Triphenolic Ligand System Stabilizing Lithium Phenolates Bearing Hexagonal-Prismatic Li₆O₆ core
S-21: **Hideto NAKAJIMA** (Engineering)

Synthesis of (Arylimido)vanadium Compounds and their Application for Oxidative Coupling Reaction of Silyl Enol Ethers
S-22: **Masafumi NISHINA** (Engineering)

Selective Deoxygenation of Epoxides to Alkenes with H₂ Catalyzed by Supported Gold Nanoparticles
S-23: **Akifumi NOUJIMA** (Engineering Science)

MRI Contrast Agents Based on pH-Responsive Core-Shell Nanoparticles for r₂/r₁ Ratiometric pH Imaging
S-24: **Satoshi OKADA** (Engineering)

Group 6 Chair: Yu SHINKE

Synthesis of Chiral Benzosiloles via the Rhodium-Catalyzed Enantioselective Activation of a Carbon-Silicon Bond
S-25: **Masahiro ONOE** (Engineering)

Chemical Insights in to the Reactivity of 1:1 Copper/Dioxygen Adducts
S-26 (I): **Ryan PETERSON** (Johns Hopkins, USA)

Generation and Reactivity of High-Valent $Mn^V(O)$ and $Mn^V(O) \pi$ -Cation Radical Complexes

S-27 (I): **Katharine A. PROKOP** (Johns Hopkins, USA)

Highly Crystalline Self-Assembled Nanofibers Based on Dehydrobenzoannulene Derivatives with Methyl Ester Groups

S-28: **Hajime SHIGEMITSU** (Engineering)

Interaction of Single-Strand RNAs with Lipid Membrane \sim Regulation of *in vitro* Gene Expression \sim

S-29: **Keishi SUGA** (Engineering Science)

Group 7 Chair: Toru UTSUNOMIYA

Highly Sensitive Cyanide Anion Detection with a Coumarin–Spiropyran Conjugate as a Fluorescent Receptor

S-30: **Shigehiro SUMIYA** (Engineering Science)

2D Assemblies of Magnetic Iron Oxide Nanoparticles via Click Chemistry

S-31 (I): **Delphine TOULEMON** (Strasbourg, France)

Application of Gas Hydrates to the Hydrogen Storage Material

S-32: **Takaaki TSUDA** (Engineering Science)

Accelerated Maturation of Tk-subtilisin by the Mutation at the C-terminus of Propeptide

S-33: **Ryo UEHARA** (Engineering)

Non-precious Metal Catalysts for Fuel Cells: Electrochemical Dioxygen Activation by First Row Transition Metal Polypyridyl Complexes

S-34 (I): **Ashleigh WARD** (Berkley, USA)

Group 8 Chair: Hayato YOSHIMITSU

Hierarchical Construction and Luminescent Properties of Guest-dependent Porous Structures with Ammonium Sulfonates

S-35: **Atsushi YAMAMOTO** (Engineering)

Coupling Reaction of 2,6-lutidine with Internal Alkynes Catalyzed by Hafniumalkyl Complexes

S-36: **Koji YAMAMOTO** (Engineering Science)

Open-Shell Characters and Second Hyperpolarizabilities for Hexagonal Graphene Nanoflakes with Antidot Structures

S-37: **Kyohei YONEDA** (Engineering Science)

Preparation of Pt nanoparticles by Room-Temperature Ionic Liquid
Sputtering Method and Its Application to Functional Catalyst
S-38: **Kazuki YOSHII** (Engineering)

Development of Labeling Method for Cell-Surface Protein with Fluorescent
Nanoparticles
S-39: **Akimasa YOSHIMURA** (Engineering)

12:30 - 13:30 --- *Lunch Break* ---

13:30 - 15:00 **POSTER SESSION**

Chair: Shinobu ITOH

15:00 - 15:30 Modification and Functionalization of Hemoproteins
L- 6: **Takashi HAYASHI** (Engineering)

15:30 - 16:10 Heme-Copper O₂ and •NO Adducts and Chemistry: Bioinorganic Aspects
IL-4: **Kenneth KARLIN** (Johns Hopkins, USA)

16:10 - 16:30 --- *Break* ---

Chair: Shigenori KANAYA

16:30 - 17:10 Cationic Lipid-Detergent Conjugates as New Reagents for siRNA Delivery
IL-5: **Luc LEBEAU** (Strasbourg, France)

17:10 - 17:40 Global Greening: Toward Low Carbon Society
L- 7: **Kiichi FUKUI** (Engineering)

Chair: Kazushi MASHIMA

17:40 - 18:20 Catalytic Hydrogenation with Early Transition Metal Imido Complexes:
Unusual Structural and Mechanistic Findings
IL-6: **John ARNOLD** (Berkeley, USA)

19:30 - --- *Banquet* ---

Wednesday, December 21, 2011

Chair: Koichi FUKASE

09:00 - 09:40 Electronic Coupling in Long-Range Electron Transfer
IL-7: **Jay WINKLER** (CALTEC, USA)

09:40 - 10:10 Lipid-induced Molecular Interactions in Membrane: A Molecular Structural Perspective
L- 8: **Michio MURATA** (Science)

10:10 - 10:30 --- *Break* ---

Chair: Toshikazu HIRAO

10:30 - 11:10 High-Valent Metal-Oxo Corrolazines in Hydrogen-Atom-Transfer and Oxygen-Atom-Transfer
IL-8: **David GOLDBERG** (Johns Hopkins, USA)

11:10 - 11:40 Utilization of Room-Temperature Ionic Liquid as a New Medium under Vacuum Conditions
L- 9: **Susumu KUWABATA** (Engineering)

11:40 - 12:20 Concepts and Catalysts for Selective Reactions of C-C Multiple Bonds
IL-9: **Dean TOSTE** (Berkeley, USA)

12:20 - 13:30 --- *Lunch Break* ---

Chair: Hiroshi UYAMA

13:30 - 14:00 Asymmetric Hydrogenation of 2-Substituted Quinoxalines Catalyzed by Iridium—Diphosphine Ligand: Autoinductive Dual Mechanism
L-10: **Kazushi MASHIMA** (Engineering Science)

14:00 - 14:40 Synthesis of Hoodigogenin A, Aglycone of Natural Appetite Suppressant Glycosteroids Extracted from *Hoodia gordonii*
IL-10: **Michel MIESCH** (Strasbourg, France)

Chair: Nobuaki KAMBE

14:40 - 15:10 Nitrogen Monoxide Direct Decomposition on C-type Cubic Rare Earth Oxide Catalysts
L-11: **Nobuhito IMANAKA** (Engineering)

15:10 - 15:50 Sustainability in Catalytic Chemistry: The Case of Hydrosilylation
IL-11: **Don TILLEY** (Berkeley, USA)

15:50 - 16:10

--- *Break* ---

Chair: Akira HARADA

16:10 - 16:40 **Transformation of Unactivated C(sp³)-H Bonds**

L-12: **Naoto CHATANI** (Engineering)

16:40 - 17:20 Pyrrole-based Anion Recognition

IL-12: **Jonathan SESSLER** (Texas, USA)

17:20 - 17:35 **Award Ceremony for PhD Student Presenters**

17:35 - 17:45 *Closing Remarks* **Shunichi FUKUZUMI**

Short Oral Presentations

Poster Presentations

Monday, December 19, 2011

- S- 1 Synthesis of Cage-Shaped Oligothiophenes
Kazuhiko ADACHI (Science)
- S- 2 (I) Cobalt-based Electrocatalyst for Water Splitting
Hyun S. AHN (Berkley, USA)
- S- 3 Palladium-Catalyzed Direct Ethynylation of Aliphatic Acid Derivatives
Yusuke ANO (Engineering)
- S- 4 Electron Spin Embedded DNA Nanostructures for Spin-based Nanodevices
Hiroshi ATSUMI (Science)
- S- 5 (I) Ion-Mediated Electron Transfer Processes Involving Functionalized Calix[4]Pyrroles:
The Role of Donors, Acceptors, and Ions
Christina DAVIS (Texas, USA)
- S- 6 (I) Electron Tunneling through a Four-Helix Bundle Cytochrome
Nicole FORD (CALTEC, USA)
- S- 7 Third-Order Nonlinear Optical Properties of Open-Shell Singlet Metal–Metal Bonded
Systems
Hitoshi FUKUI (Engineering Science)
- S- 8 (I) Tuning the Nuclearity of Nickel Pyridine-Alcohol Complexes: from Catalysis to
Molecular Magnetism
Sophie HAMEURY (Strasbourg, France)
- S- 9 A Ni^{II}/Au^I Coordination System with Switchable Metalloring Structure
Yuji HASHIMOTO (Science)
- S-10 Zinc and Cobalt Complexes with Chelating Nitrogen Ligands as Catalysts for
Transesterification
Yukiko HAYASHI (Engineering Science)
- S-11 Construction of Fluorescent Supramolecular Clusters with Remarkable Inclusion
Ability Due to Their Awkward Shape
Tomoaki HINOUE (Engineering)
- S-12 Effects of Protonation of a Saddle-Distorted Cobalt Phthalocyanine on the Catalytic
Two-Electron Reduction of Dioxygen
Tatsuhiko HONDA (Engineering)
- S-13 Transition Metal-Catalyzed Regioselective C-H Bond Functionalizations of Acridines
Using Organozinc Reagents
Isao HYODO (Engineering)
- S-14 Solid-phase Synthesis of Glycoconjugates
Yuichiro KADONAGA (Science)

S-15 Synthesis of Alkynylstannanes by Direct Coupling of Tributyltin Methoxide with Terminal Alkynes Using ZnBr₂ Catalyst
Kensuke KIYOKAWA (Engineering)

S-16 Metabolic Profiling and Identification of the Genetic and Agricultural Origin of Angelica Root Samples
Shizu KOBAYASHI (Engineering)

S-17 Development of a Liquid Scintillation Detection System for Aqueous Chemistry of Superheavy Elements
Yukiko KOMORI (Science)

S-18 Development of ¹⁹F MRI Probes for Imaging Gene Expression
Hisashi MATSUSHITA (Engineering)

S-19 Theoretical Study on Interfacial Electronic Structure of Pentacene/C₆₀
Takuya MINAMI (Engineering Science)

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P- 1 Identification and Phylogenetic Assessment of *Ty1-copia* Retrotransposons in Genome of *Jatropha curcas* L.
Atefeh ALIPOUR (Engineering)

P- 2 Visualization of the Hormone Activity Using *Daphnia magna*
Miki ASADA (Engineering)

P- 3 Solid-State Fluorescent Properties of Photo- and Thermal-responsive Liquid-Crystalline 4-alkoxynitrostilbene Derivatives
Chien-Chih CHEN (Engineering)

P- 4 Catalytic Insertion of Terminal Alkynes into C-H Bond of 2-Phenylpyridine by Iridium Complexes
Gyeongshin CHOI (Engineering Science)

P- 5 Synthesis of Fluorescence Probes for Elucidation of the Immunostimulating Mechanisms through Intracellular Proteins Nod1/Nod2
Katsumasa FUJIKI (Science)

P- 6 Thermodynamic Study of Novel Molecular Magnets which Have Crystallographic Chirality
Shuhei FUKUOKA (Science)

P- 7 Regio- and Stereoselective Iodosulfonylation of olefins with Iodine and Arylsulfinate in Aqueous Media
Junpei HAYAKAWA (Engineering)

- P- 8 Nickel-Catalyzed Selective Crossed Tishchenko Reaction of Aliphatic Aldehydes with Aromatic Aldehydes
Yoichi HOSHIMOTO (Engineering)
- P- 9 Precision Synthesis and Selective Degradation of Alternating Copolymers from Naturally-Occurring Aldehydes with Vinyl Ethers Toward Chemically Recyclable Polymers
Yasushi ISHIDO (Science)
- P-10 Control of Cellular Functions and Fabrication of Layered Tissues by Preparation of Nanofilms on Cell Surface
Koji KADOWAKI (Engineering)
- P-11 Construction, Direct Observation and Electrochemistry of Self-assembled Hemoprotein Modified on a Gold Electrode
Yasuaki KAKIKURA (Engineering)
- P-12 Synthesis and Characterization of 1,4-Diaza-1,3-butadiene Complexes of Barium, Strontium, and Calcium
Hiroshi KANEKO (Engineering Science)
- P-13 C₁-Symmetric Rh-Phebox Complexes Catalyzed Asymmetric Alkynylation of α -Ketoester
Takahito KAWABATA (Engineering Science)
- P-14 Dendritic Nanoreactor Encapsulating Subnano Pd Clusters for Allylic Substitution Reaction by Dual Substrates Activation
Takayuki KIBATA (Engineering Science)
- P-15 Development of Polar Lipid Profiling Method by Supercritical Fluid Chromatography /Mass Spectrometry (SFC/MS)
Jae Won LEE (Engineering)
- P-16 Chiral Recognition of Trinuclear Complex-cations by L-Cysteinate Pentanuclear Complex-anions
Pei-Shan LEE (Science)
- P-17 Aggregation of an S-Bridged Au^I₄Co^{III}₂ Complex with D-Penicillamate
Raeun LEE (Science)
- P-18 Morphology of Electrochemically Deposited Copper Layers for Fabrication of Thin Film Solar Cells with a CuInS₂ Photoabsorber
Sunmin LEE (Engineering Science)
- P-19 Inclusion Behaviors and Molecular Recognitions of Cholic Acid Derivatives
Wen-Tzu LIU (Engineering)

- P-20 Development of Dendritic Polyamine Catalyst for Michael Reaction
Zen MAENO (Engineering Science)
- P-21 Construction of a Metabolic Profiling Method for Carotenoid Oxidation Products Using Supercritical Fluid Chromatography Coupled with Tandem Mass Spectrometry
Atsuki MATSUBARA (Engineering)
- P-22 Thermodynamic Properties of Mixed-Gas Hydrate –Systems of Carbon Dioxide+Cyclopentane Derivatives–
Yuuki MATSUMOTO (Engineering Science)
- P-23 Ligand-Controlled Catalytic Cross-Pinacol Coupling
Akihiro MIYASAKA (Engineering)
- P-24 Catalytic Stereoselective Aziridination of Electron-deficient Olefins Using *N*-Haloamide Salts
Yuta MURAKAMI (Engineering)
- P-25 Highly Selective and Efficient Synthesis of Aziridinofullerenes and Azafulleroids via *N*-Halogenation of Amides
Toshiki NAGAMACHI (Engineering)
- P-26 Asymmetric Autoinduction in Asymmetric Hydrogenation of 2-Substituted Quinoxaline Catalyzed by Chiral Iridium Dinuclear Complexes
Takuto NAGANO (Engineering Science)
- P-27 Platinum Catalyzed Intramolecular Direct Amination of Allylic Alcohols
Yasuhito NAKAHARA (Engineering Science)
- P-28 Nickel-Catalyzed [2 + 2 + 2] Cycloaddition reaction of Enones and Alkynes
Akira NISHIMURA (Engineering)
- P-29 Regulation of Intracellular Localization and Transcriptional Activity of Gln3 by Protein Phosphatase Siw14 in *Saccharomyces cerevisiae*
Minori NUMAMOTO (Engineering)

Short Oral Presentations

Poster Presentations

Tuesday, December 20, 2011

- S-20 Mechanism Borderline between One-Step Hydrogen Atom Transfer and Stepwise Electron and Proton Transfer from Benzyl Alcohol Derivatives to Non-heme Oxoron(IV) Species Activated by Sc^{3+}
Yuma MORIMOTO (Engineering)
- S-21 Design of Cage-Shaped Triphenolic Ligand System Stabilizing Lithium Phenolates Bearing Hexagonal-Prismatic Li_6O_6 core
Hideto NAKAJIMA (Engineering)
- S-22 Synthesis of (Arylimido)vanadium Compounds and their Application for Oxidative Coupling Reaction of Silyl Enol Ethers
Masafumi NISHINA (Engineering)
- S-23 Selective Deoxygenation of Epoxides to Alkenes with H_2 Catalyzed by Supported Gold Nanoparticles
Akifumi NOUJIMA (Engineering Science)
- S-24 MRI Contrast Agents Based on pH-Responsive Core-Shell Nanoparticles for r_2/r_1 Ratiometric pH Imaging
Satoshi OKADA (Engineering)
- S-25 Synthesis of Chiral Benzosiloles via the Rhodium-Catalyzed Enantioselective Activation of a Carbon-Silicon Bond
Masahiro ONOE (Engineering)
- S-26 (I) Chemical Insights in to the Reactivity of 1:1 Copper/Dioxygen Adducts
Ryan PETERSON (Johns Hopkins, USA)
- S- 27 (I) Generation and Reactivity of High-Valent $\text{Mn}^{\text{V}}(\text{O})$ and $\text{Mn}^{\text{V}}(\text{O}) \pi$ -Cation Radical Complexes
Katharine A. PROKOP (Johns Hopkins, USA)
- S- 28 Highly Crystalline Self-Assembled Nanofibers Based on Dehydrobenzoannulene Derivatives with Methyl Ester Groups
Hajime SHIGEMITSU (Engineering)
- S- 29 Interaction of Single-Strand RNAs with Lipid Membrane \sim Regulation of *in vitro* Gene Expression \sim
Keishi SUGA (Engineering Science)
- S- 30 Highly Sensitive Cyanide Anion Detection with a Coumarin–Spiropyran Conjugate as a Fluorescent Receptor
Shigehiro SUMIYA (Engineering Science)
- S- 31 (I) 2D Assemblies of Magnetic Iron Oxide Nanoparticles via Click Chemistry
Delphine TOULEMON (Strasbourg, France)

- S- 32 Application of Gas Hydrates to the Hydrogen Storage Material
Takaaki TSUDA (Engineering Science)
- S- 33 Accelerated Maturation of Tk-subtilisin by the Mutation at the C-terminus of Propeptide
Ryo UEHARA (Engineering)
- S- 34 (I) Non-precious Metal Catalysts for Fuel Cells: Electrochemical Dioxygen Activation by First Row Transition Metal Polypyridyl Complexes
Ashleigh WARD (Berkley, USA)
- S- 35 Hierarchical Construction and Luminescent Properties of Guest-dependent Porous Structures with Ammonium Sulfonates
Atsushi YAMAMOTO (Engineering)
- S- 36 Coupling Reaction of 2,6-lutidine with Internal Alkynes Catalyzed by Hafniumalkyl Complexes
Koji YAMAMOTO (Engineering Science)
- S- 37 Open-Shell Characters and Second Hyperpolarizabilities for Hexagonal Graphene Nanoflakes with Antidot Structures
Kyohei YONEDA (Engineering Science)
- S- 38 Preparation of Pt nanoparticles by Room-Temperature Ionic Liquid Sputtering Method and Its Application to Functional Catalyst
Kazuki YOSHII (Engineering)
- S- 39 Development of Labeling Method for Cell-Surface Protein with Fluorescent Nanoparticles
Akimasa YOSHIMURA (Engineering)
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- P- 30 Direct Transformation from Esters to β -Oxycarbonyl Compounds: An Alternative Method for the Mukaiyama Aldol Reaction
Yoshihiro INAMOTO (Engineering)
- P- 31 Charge Transport and Hall Effect in Organic Single-Crystal Field-Effect Transistors under High Pressure
Yugo OKADA (Science)
- P- 32 Crystal Structure and Spectroscopic Studies of Hemerythrin-like Protein from Perspective of its Large-ligand Binding Tunnel
Yasunori OKAMOTO (Engineering)
- P- 33 Preparation and Characterization of a Novel Poly- γ -Glutamic Acid (γ -PGA) monolith
Sung-Bin PARK (Engineering)

- P- 34 Redox-active α -Diimine Tantalum Complexes and One Electron Transfer Reaction Mediated by the Ligand-centered Redox Reaction
Teruhiko SAITO (Engineering Science)
- P- 35 Handedness and Polarity Control in Ammonium Carboxylates
Toshiyuki SASAKI (Engineering)
- P- 36 Analysis of the Biologically Active Conformation of Bafilomycin A₁ Binding to V₀ Subunit c of V-ATPase
Hajime SHIBATA (Science)
- P- 37 Hydrophobic DNA Interacting with Liposome
Tomonori SHIBATA (Science)
- P- 38 Living Cationic Polymerization of Vinylnaphthalene Derivatives
Yu SHINKE (Science)
- P- 39 Quantitative Evaluation of Human Retinal Pigment Epithelial cells in Confluent States
Rie SONOI (Engineering)
- P- 40 Isomerization of Allylic Alcohols Catalyzed by Silica-Supported Monomeric Vanadium Species
Shoichiro SUEOKA (Engineering Science)
- P- 41 Visible Light-induced Partial Oxidation of Cyclohexane on WO₃ Loaded with Pt Nanoparticles
Yoshitsune SUGANO (Engineering Science)
- P- 42 Excimer Formation in Crystalline Organic Salts Composed of 9,10-Bisaminophenylanthracene and Mineral Acids
Misa SUGINO (Engineering)
- P- 43 Electrochemical Micromachining of Si Using Anodized Needle Electrodes
Tomohiko SUGITA (Engineering Science)
- P- 44 Highly Efficient Semihydrogenation of Alkynes using Pd/SiO₂-DMSO Catalyst System
Yusuke TAKAHASHI (Engineering Science)
- P- 45 Metal-Crossing between Thiolato-Bridged Tetragold(I) and Tetrasilver(I) Metallorings
Yusuke TAKINO (Science)
- P- 46 Nickel-Catalyzed Cycloaddition Reactions via Cyclic Nickelenolate Complex
Takashi TAMAKI (Engineering)
- P- 47 Synthesis, Structure, and Electrochemical Property of Tetraplatinum Clusters Having Ferrocenecarboxylate Ligands
Shinji TANAKA (Engineering Science)

- P- 48 Reactivity of A Mononuclear Copper(II)-Alkylperoxo Complex
Tetsuro TANO (Engineering)
- P- 49 Development of a Novel Data Processing System for Non-targeted Gas
Chromatography/mass Spectrometry-based Metabolomics
Hiroshi TSUGAWA (Engineering)
- P- 50 Direct Decomposition of NO on C-type Cubic Y₂O₃-Tb₄O₇-BaO
Soichiro TSUJIMOTO (Engineering)
- P- 51 Visible Light-Induced Partial Oxidation of Cyclohexane by Cr/Ti/Si Ternary Mixed
Oxides with Molecular Oxygen
Daijiro TSUKAMOTO (Engineering Science)
- P- 52 Synthesis of Oriented ZnO Nanocrystals by Low-temperature Method
Naoyuki UENO (Engineering Science)
- P- 53 Sulfur Dioxide Gas Sensor Based on Zr⁴⁺ Ion Conducting Solid Electrolyte with
Lanthanum Oxysulfate Based Auxiliary Sensing Electrode
Yasuhisa UNEME (Engineering)
- P- 54 Electrochemical Activity of Graphite Electrode Functionalized by Phenalenyl
Derivative in Aqueous Solution
Toru UTSUNOMIYA (Engineering Science)
- P- 55 Peptidoglycan (PGN) Fragments Library for Exploring Recognition Proteins of Host
Immune System (Science)
Ning WANG
- P- 56 Synthesis and Properties of Triangulene-based Neutral π -Radical Having
Electron-accepting Groups
Hideki WASA (Science)
- P- 57 Metabolite Profiling of Soy Sauce Using Gas Chromatography with Time-of-Flight
Mass Spectrometry and Analysis of Correlation with Quantitative Descriptive Analysis
Shinya YAMAMOTO (Engineering)
- P- 58 Synthesis and Self-Assembly of Block Copolymers with UCST-type Thermoresponsive
Segment
Hayato YOSHIMITSU (Science)
- P- 59 Effect of Ultrasonication Pulses on Formation and Fragmentation of β_2 -microglobulin
Amyloid Fibrils
Yuichi YOSHIMURA (Science)
- P- 60 Preparation and Characterization of Nanoparticles Formation through
Stereocomplexation of Amphiphilic Copolymers
Ye ZHU (Engineering)

Presentation Abstracts
of GCOE Fellows who are absent

- S- 40 Preparation of Artificial Metalloenzymes towards Stereoselective Polymerizations
Kazuki FUKUMOTO (Engineering)
- S- 41 Chirality Organization and Stabilization of Redox Species of Polyaniline-Unit Molecules through Intramolecular Hydrogen Bonds of Amino Acid Moieties
Satoshi OHMURA (Engineering)
- P- 61 Toward the Synthesis of Heptazethrene Derivative
Daijiro HIBI (Engineering Science)
- P- 62 Expression of Membrane Disruptive Activity due to Density Control of Sheddable PEG Brush on the Surface of Peptide Naospheres
Msahiro MATSUMOTO (Engineering)
- P- 63 $\text{InI}_3/\text{Me}_3\text{SiI}$ -Catalyzed Direct Alkylation of Enol Acetates Using Alkyl Acetates or Alkyl Ethers
Yoshiharu ONISHI (Engineering)