



H23年度 筑波大学戦略イニシアティブ(A)
「機能物質創製研究拠点」
第2回国際シンポジウム



University of Tsukuba

2nd International Symposium on Creation of Functional Materials

— Coordination Chemistry at the Front —

Strategic Initiative (A), University of Tsukuba

February 9 (Thu) 9:00 – 10 (Fri) 17:30, 2012

Plenary Lecture

Susumu Kitagawa (Kyoto Univ.)

Keynote Lectures

Cameron J. Kepert (Univ. of Sydney)

Hiroshi Kitagawa (Kyoto Univ.)

Hua Chun Zeng (Nat. Univ. of Singapore)

Kei Murakoshi (Hokkaido Univ.)

Masahiro Yamashita (Tohoku Univ.)

Tai-Chu Lau (City Univ. of Hong Kong)

Eugenio Coronado (Univ. of Valencia)

Hiroshi Nishihara (Univ. of Tokyo)

Jaeheung Cho (Ewha Womans Univ.)

Makoto Fujita (Univ. of Tokyo)

Shunichi Fukuzumi (Osaka Univ.)

Tatsuya Tsukuda (Hokkaido Univ.)

Invited Lectures

Akira Sekiguchi (Univ. of Tsukuba)

Masayuki Takeuchi (NIMS)

Tatsuo Arai (Univ. of Tsukuba)

Masanori Sakamoto (Univ. of Tsukuba)

Shigehisa Akine (Univ. of Tsukuba)

Kazuya Saito (Univ. of Tsukuba)

Takeshi Akasaka (Univ. of Tsukuba)

Kohei Fuchibe (Univ. of Tsukuba)

Masayuki Nihei (Univ. of Tsukuba)

Tomoya Ishizuka (Univ. of Tsukuba)

Venues : University Hall and Gallery

Banquet: February 9th (Thu), 18:30-20:30 at Restaurant Plaza

Sponsor : CCFM (Center for Creation of Functional Materials)

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Hiroki Oshio oshio@chem.tsukuba.ac.jp

Home page: <http://www.chem.tsukuba.ac.jp/ccfm/>

Program

9th February (Thu)

9:00-9:10 Opening Remarks

Hiroki Oshio (Univ. of Tsukuba)

Masafumi Akahira (Vice President of University of Tsukuba)

Chair: Takahiko Kojima

9:10-9:50 **KL-1 Eugenio Coronado** (University of Valencia)

Magnetic Molecules and Hybrid Materials for Molecular Spintronics

9:50-10:30 **KL-2 Masahiro Yamashita** (Tohoku University)

Quantum Molecular Spintronics Based on Single-Molecule Magnets

10:30-10:50 *Coffee Break*

10:50-11:20 **IL-1 Akira Sekiguchi** (University of Tsukuba)

A New π -Bonded Molecule: Disilyne $\text{RSi}\equiv\text{SiR}$ with a Silicon-Silicon Triple Bond and Its Unusual Reactivity

11:20-11:40 **IL-2 Shigehisa Akine** (University of Tsukuba)

Strategic and Dynamic Helicity Control of Single-Helical Metal Complexes

11:40-12:20 **KL-3 Makoto Fujita** (The University of Tokyo)

Emergent Self-assembly of Coordination Polyhedra

12:20-13:20 *Lunch*

Chair: Hiroshi Kitagawa

13:20-13:50 **IL-3 Tatsuo Arai** (University of Tsukuba)

Development of dendrimers with characteristic photochemical properties

13:50-14:10 **IL-4 Masanori Sakamoto** (University of Tsukuba)

Ultrafast Charge Separation/Recombination of Porphyrin Face-Coordinated Au Cluster

14:10-14:50 **KL-4 Cameron J. Kepert** (University of Sydney)

Combining Multiple Functions within Coordination Framework Materials

14:50-15:10 *Coffee Break*

Chair: Kazuya Saito

15:10-15:50 **KL-5 Hiroshi Kitagawa** (Kyoto University)

Solid-State Protonics in Nano-Materials

15:50-16:20 **IL-5 Masayuki Takeuchi** (National Institute for Materials Science)

Supramolecular Approach toward the Alignment of Conjugated Molecules and Polymers

Chair: Hiroki Oshio

16:20-17:10 **PL-1 Susumu Kitagawa** (Kyoto University)
Evolution of Porous Coordination Polymers/Metal-Organic Frameworks

17:10 **Photo**

Chair: Tatsuo Arai

17:10-18:10 **Poster Session**

18:30-20:30 **Banquet**

10th February (Fri)

Chair: Hiroshi Nishihara

9:00-9:40 **KL-6 Jaeheung Cho** (Ewha Womans University)
Metal-Active Oxygen Complexes in Biomimetic Electrophilic and Nucleophilic Reactions

9:40-10:20 **KL-7 Shunichi Fukuzumi** (Osaka University)
Functional Materials for Artificial Photosynthesis

10:20-10:40 **IL-6 Kohei Fuchibe** (University of Tsukuba)
Synthesis of F-PAHs by In(III)-Catalyzed Domino Cyclization–Ring Expansion of
1,1-Difluoroallenes

10:40-11:00 **Coffee Break**

Chair: Masahiro Yamashita

11:00-11:40 **KL-8 Hiroshi Nishihara** (The University of Tokyo)
Surface Coordination Programming for Molecular Electronics

11:40-12:20 **KL-9 Tai-Chu Lau** (City University of Hong Kong)
Reactivity and Applications of Nitrido Complexes of Ruthenium, Osmium and Manganese

12:20-13:20 **Lunch**

Chair: Masayuki Takeuchi

13:20-14:00 **KL-10 Kei Murakoshi** (Hokkaido University)
Towards Control of Plasmon-Induced Photochemical Reactions at the Single Molecule Level

14:00-14:30 **IL-7 Takeshi Akasaka** (University of Tsukuba)
New Vistas in Chemistry of Synthetic Carbon Allotropes: Organic Nanomaterials based on
Endohedral Metallofullerenes

14:30-14:50 **IL-8 Tomoya Ishizuka** (University of Tsukuba)
“Proton-Coupled Electron Shuttling” in a Ruthenium-Copper Heterodinuclear Complex

14:50-15:30 **KL-11 Tatsuya Tsukuda** (The University of Tokyo)
Atomically Precise Synthesis of Gold-based Clusters: Effect of Size and Composition on
Aerobic Oxidation Catalysis

15:30-15:50 *Coffee Break*

Chair: Toshiharu Teranishi

15:50-16:20 **IL-9 Kazuya Saito** (University of Tsukuba)
Molecular Dynamics and Functionality of Bulk Substances: Some Examples in the Case of
Alkyl Chain

16:20-16:40 **IL-10 Masayuki Nihei** (University of Tsukuba)
Controlled Electron Transfers in Cyanide-bridged Multi-nuclear Complexes

16:40-17:20 **KL-12 Hua Chun Zeng** (National University of Singapore)
Complex Nanomaterials: Structural and Chemical Transformations

17:20-17:25 Closing Remarks
Takeshi Akasaka (CCFM Project Leader, Univ. of Tsukuba)

戦略A国際会議 Program

		Thu., Feb. 9th, 2012		Fri., Feb. 10th, 2012		
8	30				8	30
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9	0	Opening Remarks			9	0
	10			KL-6 Jaeheung Cho		10
	20	KL-1 Eugenio Coronado				20
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	50			KL-7 Shunichi Fukuzumi		50
10	0	KL-2 Masahiro Yamashita			10	0
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	20			IL-6 Kohei Fuchibe		20
	30	coffee break				30
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11	0	IL-1 Akira Sekiguchi			11	0
	10			KL-8 Hiroshi Nishihara		10
	20	IL-2 Shigehisa Akine				20
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	30	IL-3 Tatsuo Arai		KL-10 Kei Murakoshi		30
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	50	IL-4 Masanori Sakamoto				50
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	10			IL-7 Takeshi Akasaka		10
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16	0	IL-5 Masayuki Takeuchi		IL-9 Kazuya Saito	16	0
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	20			IL-10 Masayuki Nihei		20
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	10			Closing Remarks		10
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	30	Photo & Poster Session				30
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