



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1回国際シンポジウム



University of Tsukuba

University of Tsukuba, Strategic Initiative (A), CCFM

# 1<sup>st</sup> International Symposium on Creation of Functional Materials

— Hybridization between Main Group Element Chemistry  
and  $\pi$ -Electron Chemistry —

**December 17 (Sat) 9:00 – 18 (Sun) 16:00, 2011**

## Plenary Lecture

Sumio Iijima (Meijo Univ. & AIST)

## Keynote Lectures

Dirk Guldi (Univ. Erlangen–Nuremberg, Germany)

Andreas Hirsch (Univ. Erlangen–Nuremberg, Germany)

Yong Hae Kim (Korean Acad. Sci. & KAIST, Korea)

Eiichi Nakamura (Univ. Tokyo)

Maurizio Prato (Univ. Trieste, Italy)

Shangfeng Yang (Univ. Sci. Tech. China, China)

## Invited Lectures

Hisashi Fujihara (Kinki Univ.)

Kei Goto (Tokyo Tech)

Junji Ichikawa (Univ. Tsukuba)

Naokazu Kano (Univ. Tokyo)

Kenji Kobayashi (Shizuoka Univ.)

Takahiko Kojima (Univ. Tsukuba)

Yutaka Maeda (Tokyo Gakugei Univ.)

Kentaro Tashiro (NIMS)

Toshiharu Teranishi (Kyoto Univ.)

Norihiro Tokitoh (Kyoto Univ.)

Shigehiro Yamaguchi (Nagoya Univ.)

Yasuhiko Yamamoto (Univ. Tsukuba)

講演会場：筑波大学学生会館国際会議室

ポスター会場：筑波大学学生会館総合交流館

懇親会：12月17日(土) 18:30–20:30 学生会館レストランプラザ

主催：筑波大学戦略イニシアティブ(A)「機能物質創製研究拠点」

協賛：文科省科研費新学術領域研究「高次 $\pi$ 空間の創発と機能開発」総括班、  
筑波大学TARAセンター、第3回つくば国際ミニシンポジウム実行委員会

問合せ：赤阪 健 (TARAセンター) akasaka@tara.tsukuba.ac.jp

ホームページ：<http://www.chem.tsukuba.ac.jp/ccfm/>

## \*\*\* Program \*\*\*

### December 17 (Sat)

- 9:00-9:10      Opening Remarks: Takeshi Akasaka (CCFM Project Leader)  
Masafumi Akahira (Vice President of University of Tsukuba)  
*Chair: Takayuki Kawashima (Gakushuin University)*
- 9:10-10:05    **PL Sumio Iijima** (National Institute of Advanced Industrial Science and Technology & Meijo University, Japan)  
Nano-carbon Materials: Modification, Characterization and Applications
- 10:05-10:40   **IL-1 Shigehiro Yamaguchi** (Nagoya University & JST-CREST, Japan)  
Boracycle-Based  $\pi$ -Conjugated Molecules
- 10:40-11:00    Coffee Break  
*Chair: Masayuki Takeuchi (National Institute for Materials Science)*
- 11:00-11:30   **IL-2 Kentaro Tashiro** (National Institute for Materials Science, Japan)  
Challenges at Boundaries
- 11:30-12:15   **KL-1 Maurizio Prato** (University of Trieste, Italy)  
Functionalization of Carbon Nanotubes for Energy Conversion and Nanomedicine
- 12:15-13:30    Lunch  
*Chair: Kentaro Tashiro (National Institute for Materials Science)*
- 13:30-14:00   **IL-3 Toshiharu Teranishi** (Kyoto University & JST-CREST, Japan)  
Macrocyclic  $\pi$ -Conjugated Ligand-protected Au Nanoparticles for Single Electron Devices
- 14:00-14:30   **IL-4 Yutaka Maeda** (Tokyo Gakugei University, Japan)  
Dispersion, Separation, and Functionalization of Single-walled Carbon Nanotubes  
*Chair: Hideo Kigoshi (University of Tsukuba)*
- 14:30-15:05   **IL-5 Kei Goto** (Tokyo Institute of Technology, Japan)  
Modeling of Reactive Species Derived from Cysteine and Selenocysteine Residues by Utilizing a Phenylene-based Molecular Cavity
- 15:05-15:50   **KL-2 Shangfeng Yang** (Hefei National Laboratory for Physical Sciences at Microscale & University of Science and Technology of China, China)  
Exploring Novel Endohedral Clusterfullerenes
- 15:50-16:10    Coffee Break  
*Chair: Akira Sekiguchi (University of Tsukuba)*
- 16:10-16:45   **IL-6 Naokazu Kano** (The University of Tokyo, Japan)  
Control of Optical Property of Some Fluorescent Azobenzenes

16:45-17:30 **KL-3 Eiichi Nakamura** (The University of Tokyo, Japan)  
Organo Electronics Research Guided by New Reactions and New Molecules  
*Chair: Hiroki Oshio (University of Tsukuba)*

17:30-18:40 **Poster Session**

18:50-20:50 **Banquet**

## December 18 (Sun)

*Chair: Toshio Shimizu (Tokyo Metropolitan University)*

9:00-9:30 **IL-7 Yasuhiko Yamamoto** (University of Tsukuba, Japan)  
Molecular Mechanism Responsible for the Control of Functional Properties of  
Oxygen Storage Hemoprotein Myoglobin

9:30-10:00 **IL-8 Junji Ichikawa** (University of Tsukuba, Japan)  
Electrophilic Cyclization of Fluoro Alkenes Directed toward PAH Synthesis

10:00-10:45 **KL-4 Yong Hae Kim** (Korea Advanced Institute of Science and Technology, Korea)  
Stereoselective Coupling Mediated by Samarium Diiodide

10:45-11:05 Coffee Break

*Chair: Tatsuo Arai (University of Tsukuba)*

11:05-11:40 **IL-9 Kenji Kobayashi** (Shizuoka University, Japan)  
Heteroatom-Functionalized Acenes

11:40-12:25 **KL-5 Dirk M. Guldi** (University of Erlangen-Nürnberg, Germany)  
Towards Long-Lived Radical Ion Pairs in Carbon Nanostructures—Empty Fullerenes  
versus Endohedral Metallofullerenes

12:25-13:25 Lunch

*Chair: Mao Minoura (Kitasato University)*

13:25-13:55 **IL-10 Takahiko Kojima** (University of Tsukuba, Japan)  
Photoinduced Electron Transfer in Supramolecular and Molecular Assemblies of  
Saddle-Distorted Porphyrins

13:55-14:30 **IL-11 Hisashi Fujihara** (Kinki University, Japan)  
Multifunctional Hybrid Nanotubes of  $\pi$ -Conjugated Polythiophene and Metal  
Nanoparticles

*Chair: Tatsuya Nabeshima (University of Tsukuba)*

14:30-15:05 **IL-12 Norihiro Tokitoh** (Kyoto University, Japan)  
New Aspects in the Chemistry of Low-coordinated Compounds of Heavier Group 14  
Elements

15:05-15:50 **KL-6 Andreas Hirsch** (University of Erlangen-Nürnberg, Germany)  
Functionalization of Synthetic Carbon Allotropes

15:50-15:55 Closing Remarks: Tatsuya Nabeshima (University of Tsukuba)

## Timetable for 1st International Symposium on CCFM (December 17–18, 2011, Tsukuba)

December 17 (Sat)	December 18 (Sun)
9:00	9:00
Opening remarks (10)	IL-7 (30) Y. Yamamoto
9:10	9:30
PL (55) S. Iijima	IL-8 (30) J. Ichikawa
10:05	10:00
IL-1 (35) S. Yamaguchi	KL-4 (45) Y. H. Kim
10:40	10:45
Coffee break (20)	Coffee break (20)
11:00	11:05
IL-2 (30) K. Tashiro	IL-9 (35) K. Kobayashi
11:30	11:40
KL-1 (45) M. Prato	KL-5 (45) D. Guldi
12:15	12:25
Picture-taking & Lunch (75)	Lunch (60)
13:30	13:25
IL-3 (30) T. Teranishi	IL-10 (30) T. Kojima
14:00	13:55
IL-4 (30) Y. Maeda	IL-11 (35) H. Fujihara
14:30	14:30
IL-5 (35) K. Goto	IL-12 (35) N. Tokitoh
15:05	15:05
KL-2 (45) S. Yang	KL-6 (45) A. Hirsch
15:50	15:50
Coffee break (20)	Closing remarks (5)
16:10	15:55
IL-6 (35) N. Kano	
16:45	
KL-3 (45) E. Nakamura	
17:30	
Poster Session (70)	
18:40	
18:50	
Banquet (120)	
20:50	