

The 9th Japan-China Joint Symposium on Functional Supramolecular Architectures

24-26 February, 2016 at IMS, Okazaki, Japan

Funded by

Institute for Molecular Science (IMS)
Ritsumeikan University
Kyoto University



Organization Committee Members

Hiromitsu MAEDA (*Ritsumeikan University, Japan*)

Shu SEKI (*Kyoto University, Japan*)

Donglin JIANG (*IMS & Japan Advanced Institute of Advanced
Science and Technology, Japan*)

Zhishan BO (*Beijing Normal University, P. R. China*)

Program

February 23 (Tuesday)

14:00-17:30 Registration at the Hall of Okazaki Conference Center

18:00-20:00 Welcome Reception at Okazaki Conference Center

February 24 (Wednesday)

8:55 Opening Remark by Donglin Jiang

Chairperson: Hiromitsu Maeda (9:00 ~ 10:30)

9:00 ~ 9:30 **Xinchen Wang** (Fuzhou University)
Photocatalytic Water Splitting by Graphitic Carbon Nitride Polymers

9:30 ~ 10:00 **Masato Ikeda** (Gifu University)
Biomolecule Responsive Supramolecular Hydrogel-Enzyme Hybrids

10:00 ~ 10:30 **Zhishan Bo** (Beijing Normal University)
Highly Efficient Planar Perovskite Solar Cells via Modification of c-TiO₂ Surface with Self-Assembled Fullerene Derivative Monolayer

10:30 ~ 10:50 Coffee Break

Chairperson: Zhishan Bo (10:50 ~ 12:20)

10:50 ~ 11:20 **Tomoki Ogoshi** (Kanazawa University)
Pillar[n]arene-Based Supramolecular Assemblies in Bulk State

11:20 ~ 11:50 **Bien Tan** (Huazhong University of Science and Technology)
Soluble Hypercrosslinked Polymers from Single Polymer Folding

11:50 ~ 12:20 **Shigehisa Akine** (Kanazawa University)
Helix Inversion of Helical Multinuclear Complexes Controlled by Molecular Recognition

12:20~ 13:30 Photo and Lunch

Chairperson: **Tomoki Ogoshi** (13:30 ~ 15:30)

13:30 ~ 14:00 **Shuichi Hiraoka** (The University of Tokyo)
Self-Assembly Process of Coordination Capsules and Cages

14:00 ~ 14:30 **Mingjie Liu** (Beihang University)
Bioinspired Functional Hydrogels Embedded with Semiconducting Nanosheets

14:30 ~ 15:00 **Shiki Yagai** (Chiba University)
Metastable Molecular Assemblies: an Entrance to Dynamic Materials

15:00 ~ 15:30 **Yuanzhi Tan** (Xiamen University)
Molecular Carbon Nano-materials

15:30 ~ 15:50 *Coffee Break*

Chairperson: **Bien Tan** (15:30 ~ 18:20)

15:50 ~ 16:20 **Itaru Osaka** (Riken)
Control of Electronic and Ordering Structures in π -Conjugated Polymers for High-Performance Organic Electronic Devices

16:20 ~ 16:50 **Weiwei Li** (Institute of Chemistry, CAS)
Semi-crystalline Diketopyrrolopyrrole Polymers for Field-Effect Transistors and Polymer Solar Cells

16:50 ~ 17:20 **Gaku Fukuhara** (Osaka University)
Supramolecular Allosteric Amplification-Sensing with Polymer Hosts

17:20 ~ 17:50 **Wenke Zhang** (Jilin University)
The Study of Polymer Interactions in Supramolecular Assemblies Using Single-molecule Force Spectroscopy

18:30 ~ 20:30 *Dinner and Poster Session*

February 25 (Thursday)

Chairperson: **Shuichi Hiraoka** (9:00 ~ 10:30)

9:00 ~ 9:30 **Donglin Jiang** (JAIST)
Structural Diversity of Covalent Organic Frameworks

9:30 ~ 10:00 **Tsuneaki Sakurai** (Kyoto University)
Noncontact Evaluation of Carrier Transport Property for Designed π -Electronic Molecular Assembly

10:00 ~ 10:30 **Zhen Li** (Wuhan University)
The Modification of the Functionality of π -Molecules through the Structural Adjustment

10:30 ~ 10:50 *Coffee Break*

Chairperson: **Zhen Li** (10:50 ~ 12:20)

10:50 ~ 11:20 **Atsushi Wakamiya** (Kyoto University)
Molecular Design for p-Type Buffer Materials toward Highly Efficient Perovskite Solar Cells

11:20 ~ 11:50 **Jia Guo** (Fudan University)
Polymer Frameworks Constructing Functional Composite Microspheres

11:50 ~ 12:20 **Tsuyohiko Fujigaya** (Kyushu University)
Bottom-up Functionalization of Carbon Nanotube for Highly Durable Electrocatalyst

12:20 ~ 13:30 *Lunch and Poster Session*

Chairperson: **Atsushi Wakamiya** (13:30 ~ 15:30)

13:30 ~ 14:00 **Hiromitsu Maeda** (Ritsumeikan University)
 π -Electronic Ion-Pairing Supramolecular Assemblies

14:00 ~ 14:30 **Wenhua Li** (Beijing Normal University)
Colloidal Synthesis of Functional Nanomaterials and Their Optoelectronic Application

- 14:30 ~ 15:00 **Yanhong Xu** (Jilin Normal University)
*Designed Synthesis and Multifunctional Application Studies of
Conjugated Microporous Polymers*
- 15:00 ~ 15:30 **Yulan Chen** (Tianjin University)
*Bischler-Napieralski Cyclization towards 1,10-phenanthroline-analogous
S,N-heteroacenes*
- 15:30 ~ 15:50 *Coffee Break*
- Chairperson:* **Stefan Kaskel** (15:30 ~ 17:50)
- 15:50 ~ 16:20 **Yasuhiro Ishida** (Riken)
*Single-crystal-like Soft Materials: Magnetic Orientation of
Three-dimensional Polymer Networks*
- 16:20 ~ 16:50 **Shijie Ren** (Sichuan University)
*Functional Conjugated Microporous Polymers: Preparation and
Application*
- 16:50 ~ 17:20 **Yoshinori Takashima** (Osaka University)
*Stimuli Responsive Supramolecular Materials Formed from Host and
Guest Polymers*
- 17:20 ~ 17:50 **Long Chen** (Tianjin University)
Synthesis and Self-Organization of Large Polyaromatic Hydrocarbons
- 18:30 ~ 20:30 *Banquet*

February 26 (Friday)

Chairperson: **Yasuhiro Ishida** (9:00 ~ 10:30)

9:00 ~ 9:30 **Stefan Kaskel** (Technische Universität Dresden)
Supramolecular Assembly of Highly Porous Materials

9:30 ~ 10:00 **Feng Shi** (Beijing University of Chemical Technology)
Precise Macroscopic Supramolecular Assembly and Applications

10:00 ~ 10:30 **Yuh Hijikata** (Nagoya University)
Theoretical Approaches for Dynamic Self-Assembly Materials

10:30 ~ 10:50 *Coffee Break*

Chairperson: **Long Chen** (10:50 ~ 11:20)

10:50 ~ 11:20 **Huanli Dong** (Institute of Chemistry, CAS)
*High Mobility Emissive Organic Semiconductor: Design, Synthesis
and Device Applications*

Closing Remark Zhishan Bo

Poster Section (Presentation on 24 February 18:00~20:00)

Poster 1

Cuihong Li (Beijing Normal University)

Non-fullerene Electron Acceptors for Wide Band Gap Polymer Organic Solar Cells

Poster 2

Ayako Baba, Tatsuo Kojima, and Shuichi Hiraoka (Graduate School of Arts and Sciences, The University of Tokyo, Japan)

Self-assembly Mechanism of Pt(II)-linked Coordination Macrocycles

Poster 3

Hiromitsu Maeda and **Atsuko Kuno** (College of Pharmaceutical Sciences, Ritsumeikan University, Japan)

Synthesis of Amide-Contained Anion-Responsive π -Electronic Molecules

Poster 4

Cheng Gu¹ and Donglin Jiang^{1,2} (¹Institute for Molecular Science, National Institutes of Natural Sciences, Japan and ²Field of Energy and Environment, School of Materials Science, Japan Advanced Institute of Science and Technology)

Highly Photofunctional Porous Organic Polymer Films

Poster 5

Shumpei Kai, Tatsuo Kojima, and Shuichi Hiraoka (Department of Basic Science, The University of Tokyo, Japan)

The Self-assembly Mechanism of Pd₂L₄ Coordination Cages

Poster 6

Enquan Jin^{1,2} and Donglin Jiang^{1,3*} (¹Institute for Molecular Science, National Institutes of Natural Sciences, Japan; ²Department of Structural Molecular Science, School of Physics, Sokendai, Japan and ³Field of Energy and Environment, School of Materials Science, Japan Advanced Institute of Science and Technology)

sp²-Carbon-Based Covalent Organic Framework

Poster 7

Masanori Nakagawa, Tatsuo Kojima, and Shuichi Hiraoka (Department of Basic Science, The University of Tokyo, Japan)

Self-assembly Process of Pd₂L₄ Cage Complex Constructed from U-shaped Rigid Ditopic Ligand

Poster 8

Sasanka Dalapati¹ and Donglin Jiang^{1,2*} (¹Institute for Molecular Science, Japan and ²School of Materials Science, Japan Advanced Institute of Science and Technology)

An alternative to the Aggregation Induced Emission

Poster 9

Naomi Orito, Tsuneaki Sakurai, and Shu Seki (Department of Molecular Engineering, Graduate School of Engineering, Kyoto University, Kyotodaigaku-katsura, Japan)

Development of Electroactive Foldamers Composed of Planar π -Conjugated Systems and Flexible Chains

Poster 10

Ning Huang¹ and Donglin Jiang^{1,2*} (¹Institute for Molecular Science, National Institutes of Natural Sciences, Japan; ²Field of Energy and Environment, School of Materials Science, Japan Advanced Institute of Science and Technology)

Tailor-Made Pore Surface Engineering in Covalent Organic Frameworks for Performance Screening

Poster 11

Ryohei Yamakado and Hiromitsu Maeda (College of Pharmaceutical Sciences, Ritsumeikan University, Kusatsu, Japan)

Ion-Pairing Assemblies Based on Various Receptor–Anion Complexes

Poster 12

Qing Xu^{1,2} and Donglin Jiang^{1,3*} (¹Institute for Molecular Science, National Institutes of Natural Sciences, Japan; ²Department of Structural Molecular Science, School of Physics, Sokendai, Japan and ³Field of Energy and Environment, School of Materials Science, Japan Advanced Institute of Science and Technology)

Carbonized Covalent Organic Frameworks for Oxygen Reduction Reaction

Poster 13

Hiromitsu Maeda and **Shunsuke Kaname** (College of Pharmaceutical Sciences, Ritsumeikan University, Kusatsu, Japan)

Synthesis of Cyclic Anion-Responsive π -Electronic Molecules and Their Assemblies

Poster 14

Ping Wang^{1,2} and Donglin Jiang^{1,3*} (¹Institute for Molecular Science, National Institutes of Natural Sciences, Japan; ²Department of Structural Molecular Science, School of Physics, Sokendai, Japan and ³Field of Energy and Environment,

School of Materials Science, Japan Advanced Institute of Science and Technology)

Design and Synthesis of Triangular Covalent Organic Framework

Poster 15

Wakana Naito and Hiromitsu Maeda (College of Pharmaceutical Sciences, Ritsumeikan University, Kusatsu, Japan)

Chirality Induction of π -Electronic Systems by Inner Modifications

Poster 16

Shanshan Tao^{1,2} and Donglin Jiang^{1,3*} (¹Institute for Molecular Science, National Institutes of Natural Sciences, Japan; ²Department of Structural Molecular Science, School of Physics, Sokendai, Japan and ³Field of Energy and Environment, School of Materials Science, Japan Advanced Institute of Science and Technology)

Proton Conduction in Crystalline, Mesoporous, Covalent Organic Frameworks

Poster 17

Yohei Haketa, Yuya Bando, and Hiromitsu Maeda (College of Pharmaceutical Sciences, Ritsumeikan University, Kusatsu, Japan)

Ion-Pairing Assemblies Based on π -Electronic Anions

Poster 18

Lipeng Zhai^{1,2} and Donglin Jiang^{1,3*} (¹Institute for Molecular Science, National Institutes of Natural Sciences, Japan; ²Department of Structural Molecular Science, School of Physics, Sokendai, Japan and ³Field of Energy and Environment, School of Materials Science, Japan Advanced Institute of Science and Technology)

Covalent Organic Frameworks for Carbon Dioxide Capture

Poster 19

Yuya Matsuta, Daisuke Sakamaki, and Shu Seki (Department of Molecular Engineering, Graduate School of Engineering, Kyoto University, Kyotodaigaku-katsura, Japan)

Synthesis and Electronic Properties of Triphenylamine Derivatives with Small Internal Reorganization Energy Stemming from Nonbonding Character in Frontier Orbitals