

# Program

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## November 12 (Mon)

### Room A

16:00-16:30 *Opening Ceremony*

*Chair: Michinori Suginome*

Opening Remarks/Addresses

16:30-16:45 *IKCOC Prize Ceremony*

**Prize Winner: Klaus Müllen**

*Presenter: Zen-ichi Yoshida*

16:45-17:45 **OL** *Opening Lecture (IKCOC Prize Lecture)*

**Klaus Müllen**

Carbon Nanostructures by Design – the Future is not Black

*Chair: Koichi Komatsu*

18:00-20:00 *Reception (Rooms B and C)*

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## November 13 (Tue)

### Room A

9:00-10:00 **PL-1 David Milstein**

Design and Applications of Environmentally Benign Catalytic Reactions

*Chair: Michinori Suginome*

–Coffee Break–

10:30-11:10 **IL-01 Tomislav Rovis**

Controlling Catalysis with Visible Light

*Chair: Joost NH Reek*

11:10-11:50 **IL-02 Benjamin List**

Very Strong and Confined Acids Enable a General Approach to Asymmetric

Lewis Acid Catalysis

*Chair: Satoshi Minakata*

11:50-12:30 **IL-03 Helma Wennemers**

Asymmetric Catalysis with Peptides and More

*Chair: Yasuhiro Uozumi*

–Lunch–

14:00-14:40 **IL-04 Michael M. Haley**  
Synthesis and Optoelectronic Properties of Quinoidal Electron-Accepting  
Organic Semiconductors  
*Chair: Takashi Kubo*

14:40-15:20 **IL-05 Ben Zhong Tang**  
Polymer Synthesis for AIE-Active Materials  
*Chair: Shigehiro Yamaguchi*

15:20-16:00 **IL-06 Michal Hocek**  
Enzymatic Synthesis of Base-Modified Nucleic Acids for Diagnostics and  
Chemical Biology  
*Chair: Hiroshi Sugiyama*

16:00-16:40 **IL-07 Geert-Jan Boons**  
Complex Glycans in Health and Disease  
*Chair: Yukari Fujimoto*

## **Room B**

*Chair: Kenji Matsuda*

10:30-10:45 **OP-01 Sachie Arae, Shota Beppu, Takahiro Kawatsu, Kazunobu Igawa,  
Katsuhiko Tomooka, Ryo Irie**  
Catalytic Enantioselective Hydroarylation of Alkynes for Asymmetric  
Synthesis of Axially Chiral Benzo[*a*]carbazoles

10:45-11:00 **OP-02 Qiang Chen, Klaus Müllen, Akimitsu Narita**  
Synthesis of Dibenzo[*hi,st*]ovalene as Highly Luminescent Nanographene  
with Zigzag Edges

11:00-11:15 **OP-03 Koichi Mitsudo, Keisuke Shigemori, Seiji Suga**  
Synthesis and Properties of Dithieno-fused 1,4-Azaborines

11:15-11:30 **OP-04 Aiko Fukazawa, Yusuke Toda, Masahiro Hayakawa, Anna Sekioka,  
Hiroyuki Ishii, Toshihiro Okamoto, Jun Takeya, Yuh Hijikata,  
Shigehiro Yamaguchi**  
End-Capping  $\pi$ -Conjugated Systems with Medium-Sized Sulfur-Containing  
Rings towards Solution-Processable Air-Stable Semiconductors

*Chair: Akihiro Orita*

11:30-11:45 **OP-05 Yosuke Tani, Takuji Ogawa**  
A Rigid  $\pi$ -system That Shows Enhanced Emission in the Solid-state;  
Versatile Synthesis and Photoluminescence of Ester-bridged Stilbenes

11:45-12:00 **OP-06 Yasunori Minami, Yuta Noguchi, Tamejiro Hiyama**  
Facile Synthesis of Benzosiloles: Palladium-catalyzed C–H bond Activation  
and Intramolecular *anti*-Hydroarylation

- 12:00-12:15 **OP-07** **Takumi Nakazato, Yasutaka Nakamura, Takuto Kamatsuka, Junichi Inoue, Tsuneaki Sakurai, Shu Seki, Hiroshi Shinokubo, Yoshihiro Miyake**  
Reductive Aromatization of Arylene Diimides to 2,7-Diazapyrenes and 2,9-Diazaperopyrenes
- 12:15-12:30 **OP-08** **Daniel T. Payne, Whitney A. Webre, Wipakorn Jevasuwan, Yoshitaka Matsushita, Niangyon Zhu, Zdenek Futera, Naoki Fukata, Jan Labuta, John S. Fossey, Francis D'Souza, Katsuhiko Ariga, Wolfgang Schmitt, Jonathan P. Hill**  
Oxidation-Induced Isomerisation and Hemiquinhydrone Complex Formation of Anti-Oxidant-Substituted Resorcinarenes
- Lunch–*
- Chair: Tetsuro Shinada*
- 14:00-14:15 **OP-09** **Marcus Baumann, Ian R. Baxendale**  
Large Scale Continuous Flow Synthesis of Drug-Like Building Blocks
- 14:15-14:30 **OP-10** **Jun Shimokawa, Kazuya Douki, Masato Kitamura**  
Short Synthesis of Phalarine Core Structure
- 14:30-14:45 **OP-11** **Masaru Enomoto, Kazuki Kurasawa, Eunsang Kwon, Shigefumi Kuwahara**  
Bioinspired Total Synthesis of Delitschiapyrone A
- 14:45-15:00 **OP-12** **Chihiro Tsukano, Takayoshi Heike, Kazuya Nishibayashi Tagwa A. Mohammed, Yoshiji Takemoto**  
Total Synthesis of (±)-Shagene B
- 15:00-15:15 **OP-13** **Masahiro Uwamori, Ryunosuke Osada, Ryoji Sugiyama, Masahisa Nakada**  
First Enantioselective Total Synthesis of Cotylenin A
- Chair: Artur M. S. Silva*
- 15:15-15:30 **OP-14** **Kyalo Stephen Kanyiva, Daisuke Hamada, Sohei Makino, Hideaki Takano, Takanori Shibata**  
Silver-Catalyzed Decarboxylative Synthesis of Oxindoles, Pyrroloindolines and Coumarins From  $\alpha$ -Amino Acid Precursors
- 15:30-15:45 **OP-15** **Tetsuaki Fujihara, Ayumi Sawada, Tatsuya Yamaguchi, Yasushi Tsuji**  
Copper-Catalyzed Borylative and Silylative Transformation of Allenes
- 15:45-16:00 **OP-16** **Yu Shibata, Ken Tanaka**  
Effects of Functionalized Cp Ligands for Rhodium-Catalyzed C–H Bond Functionalizations
- 16:00-16:15 **OP-17** **Itaru Nakamura, Yasuhiro Ishida, Masahiro Terada**  
Copper-Catalyzed Domino [1,3]/[1,2] Rearrangement for the Efficient Synthesis of Multisubstituted ortho-Anisidines
- 16:15-16:30 **OP-18** **Joost NH Reek**  
Supramolecular substrate orientation to control selectivity in transition metal catalysis

16:40-18:40 Poster Session 1 (Room C and Room D)  
**PA(C)-01-PA(C)-85 (Room C)**  
**PA(D)-01-PA(D)-46 (Room D)**

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## November 14 (Wed)

### Room A

- 9:00-9:40 **IL-08 Martin D. Burke**  
Democratizing Synthesis  
*Chair: Tohru Oishi*
- 9:40-10:20 **IL-09 Nobuyoshi Yasuda**  
The Art of Process Chemistry  
*Chair: Katsuhiko Tomooka*
- 10:20-11:00 **IL-10 Chihaya Adachi**  
Exciton management in OLEDs and future organic laser diodes  
*Chair: Peter Bäuerle*
- Coffee Break–

### Room B

- Chair: Hiroshi Shinokubo*
- 9:00-9:15 **OP-19 Hayato Tsuji, Ouyang Chun, Kohei Hashimoto, Eiichi Nakamura, Yutaka Majima**  
Long-range Coherent Resonant Tunneling through Rigid Planar Carbon-bridged Oligo(phenylenevinylene)
- 9:15-9:30 **OP-20 Kazukuni Tahara, Toru Ishikawa, Yuki Kubo, Brandon E. Hirsch, Steven De Feyter, Yoshito Tobe**  
Self-Assembled Monolayers as Templates for Nanopatterned Chemical Functionalization of Graphitic Surfaces
- 9:30-9:45 **OP-21 Sara Kusumoto, Sadegh Mahvidi, Sakiko Takeuchi, Tetsuya Nakagawa, Yasushi Yokoyama**  
All-Optical Switching in the Photochromic Behavior of Diarylethenes
- 9:45-10:00 **OP-22 Takashi Hirose, Yusuke Nakakuki, Kenji Matsuda**  
Development of the Basic Structures of Helically Twisted Polycyclic Aromatic Hydrocarbons
- 10:00-10:15 **OP-23 Koji Miki, Kenzo Saiki, Tomokazu Umeyama, Jinseok Baek, Takeru Noda, Hiroshi Imahori, Yuta Sato, Kazu Suenaga, Kouichi Ohe**  
Tube-Ring Interaction: Complexation of Single-Walled Carbon Nanotubes with [n]Cycloparaphenyleneacetylenes

*Chair: Ming-Chang Yeh*

10:15-10:30 **OP-24** **Anastasios Polyzos**

Light Driven Palladium Catalysis: Enabling Directed  
C(sp<sup>3</sup>)-H Functionalisation

10:30-10:45 **OP-25** **Mamoru Tobisu**

Nickel-Mediated Decarbonylation and Decarboxylation of Simple  
Carbonyl Compounds

10:45-11:00 **OP-26** **Yusuke Makida, Yuki Nakayama, Masahiro Saita, Ryoichi Kuwano**

Switchable Chemoselectivity in Asymmetric Hydrogenation of Azaindoles

*–Coffee Break–*

11:30-13:30 Poster Session 2 (Room C and Room D)

**PB(C)-01–PB(C)-84 (Room C)**

**PB(D)-01–PB(D)-46 (Room D)**

*–Lunch–*

14:00-

*–Excursion–*

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## **November 15 (Thu)**

### **Room A**

9:00-10:00 **PL-2** **Michael Grätzel**

Molecular Photovoltaics and Perovskite Solar Cells

*Chair: Yoshito Tobe*

*–Coffee Break–*

10:30-11:10 **IL-11** **Qi-Lin Zhou**

Privileged Chiral Spiro Catalysts

*Chair: Sensuke Ogoshi*

11:10-11:50 **IL-12** **Michael J. Krische**

Hydrogen-Mediated C-C Bond Formation

*Chair: Kouichi Ohe*

11:50-12:30 **IL-13** **Cathleen M. Crudden**

Advances in the Suzuki-Miyaura Cross-Coupling

*Chair: Seijiro Matsubara*

*–Lunch–*

13:40-14:20 **IL-14 Peter R. Schreiner**

Understanding London Dispersion Effects in Molecular Materials  
*Chair: Masahiro Murakami*

14:20-15:00 **IL-15 Craig Hawker**

The Power of Organic Chemistry in Functional Polymer Synthesis  
*Chair: Kohtaro Osakada*

–Coffee Break–

*Chair: Shigeru Yamago*

15:30-15:45 **OP-40 Norbert Krause**

Water as Reaction Medium for Sustainable Gold Catalysis

15:45-16:00 **OP-41 Masahiro Terada, Yusuke Ota, Azusa Kondoh**

Enantioselective Intramolecular Nicholas Reaction Catalyzed by Chiral Phosphoric Acid: Enantio-convergent Synthesis of Seven-membered Cyclic Ethers from Racemic Diols

16:00-16:15 **OP-42 Kazuaki Ishihara**

Rational Design of High-Performance Catalysts Based on Acid–Base Combination Chemistry

16:15-16:30 **OP-43 E. Mena-Osteritz, P. Bäuerle**

Synthetic approaches towards 2D- and 3D-thiophene-based nanomaterials

16:30-16:45 **OP-44 Toshio Nishikawa, Misaki Niki, Yushi Hirata, Atsuo Nakazaki, Hirokazu Kawagishi**

Collective Synthesis of Chaxines, Novel Steroidal Natural Products Isolated from Chinese Edible Mushroom

## Room B

*Chair: Kiyosei Takasu*

10:30-10:45 **OP-27 Yen-Cheng Lin, Yi-Ting Lai, Wen-Wei Chang, Li-Ching Lin, Chih-Chien Chu**

Targeted photoresponsive carbazole-coumarin nanoconjugates for efficient combination therapy in Leukemia cancer cells

10:45-11:00 **OP-28 Ambara R. Pradipta, Katsunori Tanaka**

Synthetic Chemistry for Clinical Trials: Azide-Acrolein Click Reaction for Intraoperative Diagnosis of Breast Cancer Patients

11:00-11:15 **OP-29 Kenzo Yamatsugu, Shigehiro A. Kawashima, Motomu Kanai**

Synthetic Histone Acylation with Chemical Catalysts

11:15-11:30 **OP-30 Ralf Schwörer, Darshita Budhadev, Martin A. Fascione, Peter C. Tyler**

Automated Synthesis of Heparan Sulfates: Potential Alzheimer's Therapeutics

*Chair: Hidetoshi Tokuyama*

- 11:30-11:45 **OP-31** **Yoshiyuki Manabe, Masahiro Nagasaki, Hiroki Shomura, Naoya Minamoto, Soichiro Okamura, Shuto Miyake, Kanae Hatano, Kazuya Kabayama, Koichi Fukase**  
Syntheses of complex type *N*-glycans and live cell imaging of their protein conjugates
- 11:45-12:00 **OP-32** **Lennart Brewitz, Anthony Tumber, Christopher J. Schofield**  
Synthesis of Novel 2-Oxoglutarate Analogues as Potent Inhibitors of AspH
- 12:00-12:15 **OP-33** **Yuta Maki, Ryo Okamoto, Masayuki Izumi, Yasuhiro Kajihara**  
Semisynthesis of Complex-Type Triantennary Oligosaccharide and Its Application to Glycoprotein Synthesis
- 12:15-12:30 **OP-34** **Tohru Oishi**  
Structure-Activity Relationship Studies of Maitotoxin Based on the Chemical Synthesis of Partial Structures

*–Lunch–*

*Chair: Yujiro Hayashi*

- 13:40-13:55 **OP-35** **Toshimichi Ohmura, Takeru Torigoe, Satoshi Kusaka, Kaito Yagi, Michinori Suginome**  
Synthesis of *O*- and *N*-Heterocycles through Iridium-Catalyzed Intramolecular C(sp<sup>3</sup>)-H Addition
- 13:55-14:10 **OP-36** **Kazuhiko Semba, Ryohei Kameyama, Hong Zheng, Shigeyoshi Sakaki, Yoshiaki Nakao**  
Reductive Cross-Coupling of Carbon-Carbon Unsaturated Compounds and Aryl Halides by Cooperative Palladium/Copper Catalysis
- 14:10-14:25 **OP-37** **Yoshiya Fukumoto**  
Rhenium-Catalyzed Reaction of Terminal Alkynes with Imines Leading to *N*-Alkylideneallylamines
- 14:25-14:40 **OP-38** **Hayato Tsurugi, Mariko Inoue, Abhinanda Kundu, Haruki Nagae, Kazushi Mashima**  
*Ortho*-C-H Bond Aminoalkylation of Pyridine Derivatives Catalyzed by Yttrium Complexes with *N,N'*-Diarylethylenediamido Ligands
- 14:40-14:55 **OP-39** **Ken-ichi Fujita, Masato Kuwahara, Masaaki Nishioka, Masato Yoshida**  
Iridium Complex-Catalyzed Synthesis of Acetic Acid Based on Dehydrogenation of an Ethanol-Water Solution

*–Coffee Break–*

*Chair: Ryoichi Kuwano*

- 15:30-15:45 **OP-45** **Kotohiro Nomura, Sapanna Chaimongkolkunasin, Xiaohua Hou**  
(Imido)vanadium(V)-Alkylidene Complexes as New Thermally Robust, Efficient Catalysts for Ring-Opening Metathesis Polymerization of Cyclic Olefins

- 15:45-16:00 **OP-46** Masahito Murai, **Kazuhiko Takai**  
Rhenium-Catalyzed *anti*-Markovnikov Addition Reaction of Carbon Nucleophiles to Unactivated Terminal Acetylenes
- 16:00-16:15 **OP-47** Takashi Nishikata  
Cu-catalyzed Radicals-Organometallics Combined Reaction System To Load A Fourth Substituent On The Carbon
- 16:15-16:30 **OP-48** **Kazumasa Kitahara**, **Ryouta Kawanishi**, **Mei Kee Kam**, **Seiji Iwasa**, Kazutaka Shibatomi  
Enantioselective Decarboxylative Halogenation of  $\beta$ -Keto Acids
- 16:30-16:45 **OP-49** **Yi Ning Ji Chen**, **Hongming Li**, **Alan M. Hyde**, Qinghao Chen, **Kevin M. Belyk**, **Katrina W. Lexa**, **Jingjun Yin**, **Edward C. Sherer**, **R. Thomas Williamson**, **Andrew Brunskill**, **Sumei Ren**, **Louis-Charles Campeau**, **Ian W. Davies**, **Rebecca T. Ruck**  
Rational Pre-catalyst Design for Bis-phosphine Mono-oxide Pd-catalyzed Asymmetric C-N Coupling
- 16:45-18:45 Poster Session 3 (Room C and Room D)  
**PC(C)-01–PC(C)-84 (Room C)**  
**PC(D)-01–PC(D)-46 (Room D)**
- 19:00-21:00 *Banquet (Room A)*

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## November 16 (Fri)

### Room A

- 9:00-9:40 **IL-16** **Harry L. Anderson**  
The biggest aromatic rings? Exploring the synthesis and properties of large  $\pi$ -conjugated macrocycles  
*Chair: Takashi Hayashi*
- 9:40-10:20 **IL-17** **Tom W. Muir**  
Houdini Proteins: Discovery and Applications of Ultrafast Inteins  
*Chair: Kazuya Kikuchi*
- 10:20-11:00 **IL-18** **Young-Tae Chang**  
Fluorescent imaging probe development for live cells in the body  
*Chair: Itaru Hamachi*
- Coffee Break–
- 11:30-12:30 **PL-3** **K.C. Nicolaou**  
The Art and Science of Total Synthesis and Its Impact on Biology and Medicine: From the Fundamentals to the Translational



*Chair: Masakatsu Shibasaki*

12:30-13:00

**Closing Remarks**

## **Room B**

*Chair: Masaki Shimizu*

9:00-9:15

**OP-50 Manuel Alcarazo**

Electrophilic Cyanation and Alkynylation Reagents Based on Sulfur Platforms

9:15-9:30

**OP-51 Keisuke Asano, Shunsuke Einaru, Kenta Shitamichi, Tagui Nagano, Akira Matsumoto, Seiji Matsubara**

*trans*-Cyclooctenes as Halolactonization Catalysts

9:30-9:45

**OP-52 Yuuki Fujita, Gen Onodera, Tsutomu Fukuda, Masanari Kimura**

Cu-Catalyzed Stereoselective Formation of  $\alpha,\beta$ -Unsaturated Carbonyls via Alkynylborates

9:45-10:00

**OP-53 Tomohiko Shirai, Yasunori Yamamoto**

Cationic Iridium/S-Me-BIPAM-Catalyzed Direct Asymmetric Intermolecular Hydroarylation of Bicycloalkenes

*Chair: Mikiko Sodeoka*

10:00-10:15

**OP-54 Gavin Chit Tsui**

Turning Waste Into Value: New Trifluoromethylation Reactions with Fluoroform-Derived  $\text{CuCF}_3$

10:15-10:30

**OP-55 Kazuhiro Okamoto, Takuya Shimbayashi, Daiki Nakamoto, Gaku Matsushita, Kouichi Ohe**

Radical Reactions initiated by Iron Catalyst and Oxime Esters

10:30-10:45

**OP-56 Koji Hirano, Akihiro Matsude, Atifah Najib, Sho Tabuchi, Masahiro Miura**

Palladium-Catalyzed Asymmetric Benzylic Substitution of Secondary Benzyl Carbonates

10:45-11:00

**OP-57 Kazuishi Fukuda, Ryosuke Yamada, Nobuharu Iwasawa, Jun Takaya**

Ru-Catalyzed C-H Borylation of Arylphosphines: A Powerful Tool for Modification of Phosphine Ligands