

# Scientific Program

Wednesday, May 10

11:30 - 11:40 **Opening Address**

11:40 - 11:45 **Welcoming Address**

11:45 - 12:00 **Congratulatory Address**

Eric van Kooij, Counsellor Innovation, Science and Technology  
(Embassy of the Kingdom of the Netherlands)

## Invited Lecture

*Chair: Jun Ishihara*

12:00 - 12:30 **3-IL-5 Koichi Fukase** (Osaka University)

Synthetic Studies of Glycans towards Immunoregulation

12:30 - 13:00 **3-IL-6 Zachary Armstrong** (Leiden University)

Structure-Based Analysis of Inhibitors for Human Heparanase

*Chair: Adriaan J. Minnaard*

13:00 - 13:30 **I-IL-1 Naoto Chatani** (Osaka University)

Transition-Metal-free *ortho*-C-H Borylation of Benzaldehydes with  
BBr<sub>3</sub> Using an Imine as a Transient Directing Group

13:30 - 14:00 **I-IL-2 Johannes E. M. N. Klein** (University of Groningen)

From Closed-Shell Gold Complexes to Radical Reactivity: Breaking  
X-H Bonds via PCET

14:00 - 14:30 **I-IL-3 Masahiro Miura** (Osaka University)

Catalytic Synthesis of Polycyclic Heteroaromatics through C-H Bond  
Activation

14:30 - 15:00 Coffee break

*Chair: Osamu Onomura*

- 15:00 - 15:30    **I-IL -4    Munetaka Akita** (Tokyo Institute of Technology)  
Molecular Wire and Switch Based on Carbon-rich Organometallics
- 15:30 - 16:00    **I-IL -5    Kim Bonger** (Radboud University)  
Chemo(enzymatic) strategies for cell selective targeting
- 16:00 - 16:30    **I-IL -6    Yasuhiro Uozumi** (Institute for Molecular Science)  
Electrophilic Addition to Carbonyls via “Umpoled” Carbinol Anions  
Generated through Successive Electron Transfer under Photocatalytic  
Conditions
- 16:30 - 17:00    Coffee break

*Chair: Jeroen Codée*

- 17:00 - 17:30    **1-IL-7    Loai K. E. A. Abdelmohsen**  
(Eindhoven University of Technology)  
Exploiting Dynamicity to Induce Motility: Motion of Membranized  
Coacervate Motors
- 17:30 - 18:00    **I-IL -8    Hiroyasu Yamaguchi** (Osaka University)  
Exploring Functions Based on Molecular Recognition - Collaboration  
of Biomolecules and Artificial Molecules -
- 18:00 - 18:30    **I-IL -9    Adriaan J. Minnaard** (University of Groningen)  
All Creatures Great and Small; Synthesis-driven Natural Products  
Chemistry
- 18:30 - 18:50    **I-IL -10    Jun Ishihara** (Nagasaki University)  
Recent Advances in the Total Synthesis of Macrocyclic Natural  
Products
- 19:00 - 20:30    **Welcome Reception and Poster session** (Lounge)
- Poster presentation time**
- 19:00 - 19:45    Odd numbers
- 19:45 - 20:30    Even numbers

**Thursday, May 11**

**Session A: Digitalization-driven Transformative Organic Synthesis**

*Chair: Yasuhiro Uozumi*

- 09:00 - 09:30 **2-IL -1 Takashi Ohshima** (Kyushu University)  
Digitalization-driven Transformative Organic Synthesis (Digi-TOS)
- 09:30 - 10:00 **2-IL -2 Romano V. A. Orru** (Maastricht University)  
One-pot Cascade Methodologies in Sustainable Organic Synthesis
- 10:00 - 10:20 **2-IL -3 Junichiro Yamaguchi** (Waseda University)  
Breaking C-F Bonds: Novel Strategies Using Polar and Radical Reactions
- 10:20 - 10:50 Coffee break

*Chair: Takashi Ohshima*

- 10:50 - 11:10 **2-IL -4 Takanori Iwasaki** (The University of Tokyo)  
Chemoselectivity Change in Catalytic Hydrogenolysis: Ureas to Formamides and Amines
- 11:10 - 11:40 **2-IL -5 Robert Pollice** (University of Groningen)  
Artificial Molecular Design
- 11:40 - 12:00 **2-IL -6 Akira Yada**  
(National Institute of Advanced Industrial Science and Technology)  
Machine Learning Approach for Predicting Catalytic Reaction Accounting for Reaction Time
- 12:00 - 13:00 Lunch

**Session B:** Biophysical Chemistry for Material Symbiosis  
Elucidation of the mechanism for dimensional response genome  
across species regulated by nucleic acid structures

*Chair: Shigeki Sasaki*

- 13:00 - 13:20 **2-IL -7 Asako Yamayoshi** (Nagasaki University)  
Novel symbiotic exosome-hijacking drug delivery system targeting  
exosomal-microRNAs
- 13:20 - 13:50 **2-IL -8 Annemieke Aartsma-Rus**  
(Leiden University Medical Center)  
Oligonucleotide therapy for rare genetic diseases
- 13:50 - 14:10 **2-IL -9 Yusuke Ohba** (Hokkaido University)  
Imaging of cellular responses—dynamics of plasma membrane and  
ions—to viruses and extracellular materials
- 14:10 - 14:30 **2-IL -10 Mitsuhiro Ebara** (National Institute for Materials Science)  
Apoptotic Cell-inspired Polymers
- 14:30 - 15:00 Coffee break

*Chair: Asako Yamayoshi*

- 15:00 - 15:20 **2-IL -11 Naoki Makita** (Sumitomo Pharma Co, Ltd.)  
Oligonucleotide drug delivery: Achievements, Drawbacks, and Future
- 15:20 - 15:50 **2-IL -12 Willem Velema** (Radboud University Nijmegen)  
Chemical Tools for Nucleic Acids
- 15:50 - 16:10 **2-IL -13 Hisae Tateishi-Karimata** (Konan University)  
Regulation of gene expression in human and plant cells regulated by  
nucleic acid structures
- 16:10 - 16:30 **2-IL -14 Tamaki Endoh** (Konan University)  
DNA/RNA-immobilizing microsphere particles for selecting functional  
nucleic acids
- 16:30 - 17:00 Coffee break

*Chair: Annemieke Aartsma-Rus*

- 17:00 – 17:20    **2-IL -15 Shigeru Kawakami** (Nagasaki University)  
Development of ligand modified nanoparticles for targeted drug delivery of nucleic acid
- 17:20 - 17:50    **2-IL -16 Kevin Neumann** (Radboud University )  
*Click'n lock*: Dynamic modification of biomolecules with on demand locking enabled by Tetrazine-Thiol-Exchange (TeTEx)
- 17:50 - 18:20    **2-IL -17 Itaru Hamachi** (Kyoto University)  
Neurotransmitter receptor labeling in live brain by ligand-directed chemistry
- 19:00 - 21:00    **Banquet** (the Global View Nagasaki)

## Friday, May 12

*Chair: Kim Bonger*

- 09:00 - 09:30    **3-IL-1    Patricia Y. W. Dankers**  
(Eindhoven University of Technology)  
Engineering Bio-communication into Supramolecular Polymer  
Hydrogels
- 09:30 - 09:50    **3-IL-2    Toshiyuki Yokoi** (Tokyo Institute of Technology)  
Zeolite Catalysis for Carbon Neutrality
- 09:50 - 10:20    **3-IL-3    Mario van der Stelt** (Leiden University)  
Controlling and Visualizing Lipid Signaling in the Brain
- 10:20 - 10:50    Coffee break

*Chair: Jun Ishihara*

- 10:50 - 11:20    **3-IL-4    Jeroen Codée** (Leiden University)  
Structure-Reactivity-Stereoselectivity Mapping in the Assembly of  
Oligosaccharides

### **Gratama Lecture**

*Chair: Koichi Fukase*

- 11:20 - 12:20    **I-PL-1    Hermen Overkleeft** (Leiden University)
- 12:20 - 12:50    Closing Address

## Poster Session (Wednesday, May 10, 19:00-20:30)

Presentation numbers by student are underlined.

19:00 - 19:45    Odd numbers  
19:45 - 20:30    Even numbers

### **P-01** Ryuichi Nishiyori (Nagasaki University)

Catalytic Asymmetric CO<sub>2</sub> Utilization Reaction for the Enantioselective Synthesis of Chiral 2-Oxazolidinones

### **P-02** Taiki Mori (Nagasaki University)

Asymmetric Synthesis of  $\alpha$ -Spiro- $\gamma$ -lactones and  $\alpha$ -Substituted  $\gamma$ -Lactones via Chiral Bifunctional Sulfide-Catalyzed Bromolactonizations

### **P-03** Yusei Hisata (Osaka University)

In Silico Design of Triarylboranes for Catalytic Reductive Alkylation of Amino Acids

### **P-04** Ken Okuno (Nagasaki University)

Kinetic Resolution of  $\alpha$ -Allyl- $\alpha$ -Propargyl Carboxylic Acids with Chiral Bifunctional Sulfide Catalyst

### **P-05** Akihiro Iyoshi (Nagasaki University)

Stereoselective glycosidation of D-fructofuranose and its synthetic application

### **P-06** Yutaka Mondori (Osaka University)

Nickel Complexes Bearing Triarylboranes and *N*-Phosphine Oxide-Substituted Imidazolinylienes

### **P-07** Kazuya Kamata (Nagasaki University)

One-Pot Synthesis of Carbonylated Difluoromethyl Group-Containing Heterocycles with Electrochemical Oxidation

### **P-08** Ahmed Nabil Tolba (National Institute for Materials Sciences)

Smart enrichment and purification strategy of viremia in real SARS-CoV-2 biological samples from 166 patients to avoid misdiagnosis of PCR

### **P-09** Taishu Iwase (National Institute for Materials Sciences)

Design of Antibody Polymer Conjugates (APCs) Using Apoptotic Cell Membrane Mimetic Polymers

### **P-10** Yu Mikame (Nagasaki University)

Development of novel psoralen-introduced triplex-forming oligonucleotides to expand the triplex target site

**P-11 Juki Nakao** (Nagasaki University)

Novel Psoralen NHS Esters as Versatile Tools in the Development of Photo-reactive Oligonucleotides

**P-12 Keiichiro Iizumi** (Waseda University)

Denitrative Cyanation of Nitroarenes and Organocyanides by a Palladium Catalyst

**P-13 Ryota Tajima** (Waseda University)

Radical–Radical Coupling of Alkyl Chlorides Using Photoredox and Zirconocene Catalysis

**P-14 Shota Oyama** (Nagasaki University)

Development of a highly functionalized exosome-hijacking DDS using an avidin-biotin system

**P-15 Moeka Hata** (Nagasaki University)

Development of Chemically Modified Dendrimers for mRNA Delivery

**P-16 Koichi Shiraishi** (Jikei University School of Medicine)

Finding a missing link for understanding of anti-PEG antibody elicitation

**P-17 Atsushi Ueda** (Nagasaki University)

Stereocontrolled Synthesis of 5-thiosucrose with regioselective protection of D-allulofuranose

**P-18 Chisato Terada** (Nagasaki University)

BROTHERS™ platform for antisense oligonucleotides to mitigate off-target interactions

**P-19 Makoto Sako** (Osaka University)

Axially Chiral Borinic Acid Catalysts: Design, Synthesis, and Application to Alkylative Desymmetrization of 1,2-Diols

**P-20 Masaharu Takatsuki** (Osaka University)

Heteroannulation of Bicyclobutane Derivatives via Au-catalyzed Hydration/intramolecular cyclization Sequence: Synthesis of Spiro-heterocyclic Cyclobutanes

**P-21 Kaho Oh** (Nagasaki University)

In vivo genome editing approach with ligand targeting

**P-22 Kazuhiro Takeda** (Shizuoka University)

Prediction Method for Reaction Yield of Halogenation of Polyfluoronaphthalene Using Generative AI Techniques



- P-23 Keita Komine** (Nagasaki University)  
Synthetic Studies on Lyconesidine A Based on Three-Component Radical Coupling
- P-24 Md. Khalid Imrul** (Osaka university)  
Electrochemical Sequential Synthesis of Hetero[7]helicenes, Dehydro-hetero[7]helicenes and Hetero[8]circulenes
- P-25 Sota Tamaki** (Osaka university)  
Homolysis of Cerium(IV)–Carboxylate Covalent Bonds under Photo-irradiation for Decarboxylative Oxygenation of Carboxylic Acids
- P-26 Atsushi Shimoyama** (Osaka university)  
Chemical Synthesis of Symbiotic Bacterial Lipid A for Safe Vaccine Adjuvant Development
- P-27 Yoshiyuki Manabe** (Osaka university)  
Synthetic Approach for Elucidating Cell Surface Glycan Functions
- P-28 Davie Kenneth** (Osaka university)  
Synthesis of *Alcaligenes faecalis* Monophosphoryl Lipid As and Lipid A Conjugate with Tumor-Associated Carbohydrate Tn Antigen
- P-29 Jeesoo Choi** (Kyushu University)  
Evaluation of functional group compatibility in ammonium salt-accelerated amide cleavage reaction and the development of novel additives that accelerate the reaction
- P-30 Hidetoshi Noda** (BIKAKEN)  
Locking the Conformation of a Paddlewheel Rhodium Complex: Design, Synthesis, and Applications in Catalytic Nitrene Transfers
- P-31 Tomohiro Tsutsumi** (Nagasaki University)  
Synthetic Studies on Pyrroindomycin A
- P-32 Takuya Akiyama** (Osaka University)  
Synthesis of *N*-Doped  $\pi$ -Conjugated Material Precursors from Azobenzene and Diarylacetylenes Catalyzed by Bis(imido)tungsten Complexes
- P-33 Ishii Tatsunosuke** (Kyushu University)  
Catalytic  $\beta$ -Amination of  $\alpha$ -Amino Acid Derivatives
- P-34 Tomoki Nagaoka** (Osaka Metropolitan University)  
Diphenylbicyclooctadienedione: Development of a Cross-conjugated Molecule  
Development of a Cross-conjugated Molecule with a Wide  $S_1$ – $T_1$  Energy Gap

**P-35 Saeesh R. Mangaonkar (Hokkaido University)**

Investigating the Reactivity of CO<sub>2</sub> Radical Anion with (Hetero)aromatics under Photoredox/HAT Catalytic Conditions

**P-36 Myu Fukuoka (Konan University)**

Characterization for thermal stability of DNA G-quadruplexes adsorbed on metal-organic gels

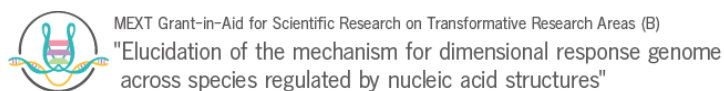
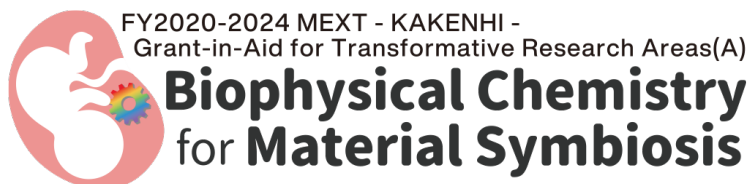
**P-37 Sena Toyofuku (Nagasaki University)**

Cu-Catalyzed Preparation of Oxaborole via Alkynylborate and Their Synthetic Utility

## ACKNOWLEDGMENTS

The Organizing Committee of the 7th Gratama Workshop 2023 acknowledges with gratitude the following organizations whose generosity has made this Symposium possible:

### KAKENHI



### The Uehara Memorial Foundation



### Toshiaki Ogasawara Memorial Foundation



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株式会社 テクノ・スズタ