

# THE 123RD ICR ANNUAL SYMPOSIUM

(1 December 2023)

## ORAL PRESENTATION

OKAZAKI, Daiki (Laser Matter Interaction Science)  
“Development of Mid-Infrared Femtosecond Lasers and Their Applications”

YAMAUCHI, Mitsuaki (Organoelement Chemistry)  
“Construction of Highly Ordered Quantum Dots and Organic Molecules with a Supramolecular Approach”

KINOSE, Yuji (Chemistry of Polymer Materials)  
“Anchoring Property on Zero Azimuthal Anchoring Surface”

### — ICR Award for Young Scientists —

TRUONG, Minh Anh (Molecular Aggregates)  
“Tripodal Triazatruxene Derivative as a Face-on Oriented Hole-Collecting Monolayer for Efficient and Stable Inverted Perovskite Solar Cells”

MENG, Lingjie (Chemical Life Science)  
“Mirusviruses Link Herpesviruses to Giant Viruses”

### — ICR Award for Graduate Students —

CHO, Kenichi (Nanophotonics)  
“Exciton-Phonon and Trion-Phonon Couplings Revealed by Photoluminescence Spectroscopy of Single CsPbBr<sub>3</sub> Perovskite Nanocrystals”

ZHANG, Zhenya (Nanophotonics)  
“Generation of Third-Harmonic Spin Oscillation from Strong Spin Precession Induced by Terahertz Magnetic near Fields”

TOH, Kohei (Chemical Biology)  
“Chemoproteomic Identification of Blue-Light-Damaged Proteins”

### — ICR Grants for Promoting Integrated Research —

HISATOMI, Ryusuke (Nanospintronics)  
“Study of Phonon Angular Momentum Using Impulsive Stimulated Raman Scattering”

ABO, Masahiro (Chemical Biology)  
“Development of Chemical Tools for Magnetic Manipulation of Biomolecules”

TAKAHATA, Ryo (Advanced Inorganic Synthesis); ISOZAKI, Katsuhiro (Synthetic Organotransformation)  
“Development of a Connection-Number-Controlling Method for Nanoparticles”

HIKIDA, Hiroyuki (Chemical Life Science)  
“Transcriptome Analysis in Virus-Infected Non-Model Organisms”

TRUONG, Minh Anh (Molecular Aggregates)  
“Elucidating the Structure of Hole Collecting Monolayer in Perovskite Solar Cell”

## POSTER PRESENTATIONS

**[LW]** : Laboratory Whole Presentation

**[LT]** : Laboratory Topic

**[GE]** : General Presentation

### — Organoelement Chemistry —

**[LW]** “Research Topics of Organoelement Chemistry Laboratory”

**[GE]** NISHINO, Ryohei; TOKITOH, Norihiro; YAMADA, Hiroko; MIZUHATA, Yoshiyuki  
“Development of a Single Germanium Atom Transfer Reagent”

### — Structural Organic Chemistry —

**[LW]** “Recent Research Activities in Structural Organic Chemistry”

**[GE]** HU, Weizhe; MURATA, Yasujiro; HIROSE, Takashi  
“Non-Linear Molecular Spring Properties of a Dibenzo[*c,u*][7] helicene Derivative Derived from Intramolecular Non-Covalent Interactions”

### — Synthetic Organic Chemistry —

**[GE]** NAKAGAWA, Masanari; NAGAO, Kazunori; OHMIYA, Hirohisa  
“A Light-Driven Hybrid Catalysis Enabling Construction of Azetidine via C-H Bond Activation”

### — Advanced Inorganic Synthesis —

**[LW]** “Research Topics of Advanced Inorganic Synthesis”

**[GE]** ZHU, Lingkai; SARUYAMA, Masaki; TERANISHI, Toshiharu  
“Synthesis of 3D Ag Nanoparticle Superlattices and Their Structure-Specific Functions”

### — Chemistry of Polymer Materials —

**[LW]** “Recent Researches in Chemistry of Polymer Materials Laboratory”

**[GE]** SEIKE, Yuki; KINOSE, Yuji; TSUJII, Yoshinobu  
“Synthesis of Concentrated Polymer Brushes with Larger Thickness via Improved Livingness in Surface-Initiated Controlled Radical Polymerization”

— **Polymer Controlled Synthesis** —

**GE** TONG, Tianxiang; KIBUNE, Masato; TOSAKA, Masatoshi; MATSUMIYA, Yumi; WATANABE, Hiroshi; YAMAGO, Shigeru  
“Synthesis of Structurally Controlled Dendritic Hyperbranched Polyacrylates by TERP and Their Rheological Properties”

**GE** MARU, Kosuke; ZHENG, Leshang; KAYAHARA, Eiichi; YAMAGO, Shigeru  
“Synthesis of Cyclic  $\pi$ -conjugated Oligomers by the Insertion of Alkynes and Isocyanides into Cycloparaphenylene Metal Complexes”

— **Inorganic Photonics Materials** —

**LW** “Research Introduction of Inorganic Photonics Materials”

— **Nanospintronics** —

**GE** KAWARAZAKI, Ryo  
“Spin Injection into a Superconductor without Inversion Symmetry”

**GE** TAGA, Kotaro; KOMIYAMA, Haruka; MATSUMOTO, Hiroki; HISATOMI, Ryusuke; NARITA, Hideki; KARUBE, Shutaro; MORIYAMA, Takahiro; SHIOTA, Yoichi; ONO, Teruo  
“Frequency and Magnetic Field Angle Dependences of the Coupling between Spin Wave and Surface Acoustic Wave in NiFe Thin Film”

— **Biofunctional Design-Chemistry** —

**LW** “Recent Research in the Laboratory of Biofunctional Design-Chemistry”

**GE** ASAMI, Yuri; OTONARI, Kenko; IMANISHI, Miki; FUTAKI, Shiroh  
“Sequence-Specific Manipulation of RNA Methylation by Engineering of an RNA Demethylase, ALKBH5”

— **Chemistry of Molecular Biocatalysts** —

**LW** “Introduction of Chemistry of Molecular Biocatalysts Laboratory”

— **Molecular Biology** —

**LW** “Research of Molecular Biology Laboratory”

— **Chemical Biology** —

**LW** “Create New World of Bioactive Synthetic Molecules”

— **Molecular Materials Chemistry** —

**LW** “Molecular Materials Chemistry”

**GE** ISHIHARA, Kuraudo; KAJI, Hironori  
“Molecular Orientation and Mobility Prediction of Organic Deposited Films by Multiscale Simulation”

— **Hydrospheric Environment Analytical Chemistry** —

**LW** “Reveal the Ocean by Using Trace Elements and Their Isotopes”

**GE** UEKI, Ryuta; ZHENG, Linjie; TAKANO, Shotaro; SOHRIN, Yoshiki  
“Distribution of Zirconium, Hafnium, Niobium, and Tantalum in the Indian Ocean”

— **Chemistry for Functionalized Surfaces** —

**GE** ARAKI, Taisuke; SAKO, Nobuaki; SHIOYA, Nobutaka; YAJIMA, Tomoko; HASEGAWA, Takeshi  
“Understanding of Physical Properties of Perfluoroalkanes by Infrared Spectroscopy Using Recrystallized Compounds”

**GE** SUGIMOTO, Emi; SHIOYA, Nobutaka; OKA, Takayuki; HASEGAWA, Takeshi  
“Control of Crystal Orientation of Organic Semiconductors with Alkyl Side Chains in Thin Films by Low-Temperature Deposition”

— **Molecular Microbial Science** —

**GE** INOUE, Hiromu; KAWANO, Kenichi; KAWAMOTO, Jun; OGAWA, Takuya; KURIHARA, Tatsuo  
“Diversity of Bacterial Extracellular Membrane Vesicles Determined by Nucleic Acid Content and the Genes Involved in Their Production”

— **Polymer Materials Science** —

**LW** “Polymer Materials Science”

— **Molecular Rheology** —

**LW** “Molecular Rheology Laboratory”

— **Molecular Aggregates** —

**LW** “Research in Molecular Aggregation Analysis Laboratory”

**GE** MURDEY, Richard; MATSUSHIGE, Yuko; OHASHI, Noboru; TRUONG, Minh Anh; NAKAMURA, Tomoya; WAKAMIYA, Atsushi  
“Accelerated Testing of Perovskite Solar Cells”

— **Particle Beam Science** —

**LW** “Particle Beam Science Lab.”

— **Laser Matter Interaction Science** —

**LW** “Introduction of the Laser Matter Interaction Science Laboratory”

— **Electron Microscopy and Crystal Chemistry** —

[LW] “Research Activities in Division of Electron Microscopy and Crystal Chemistry”

— **Atomic and Molecular Structures** —

[LW] “Introduction of Atomic and Molecular Structures Laboratory”

— **Synthetic Organotransformation** —

[LW] “Introduction of Synthetic Organotransformation Laboratory”

— **Advanced Solid State Chemistry** —

[LW] “Research Reports in Advanced Solid State Chemistry”

— **Organometallic Chemistry** —

[LW] “Recent Research Topics of Organometallic Chemistry Group”

— **Nanophotonics** —

[LW] “Recent Research Topics of Nanophotonics Group”

— **Mathematical Bioinformatics** —

[LT] MU, Lixuan; SONG, Jiangning; MORI, Tomoya; AKUTSU, Tatsuya  
“DiCleave: a Deep Learning Model for Predicting Human Dicer Cleavage Sites”

— **Bio-knowledge Engineering** —

[LT] NGUYEN, Can Hao  
“Theoretical Study of Convex Clustering Algorithm”