

THE 118TH ICR ANNUAL SYMPOSIUM

(30 November 2018)

ORAL PRESENTATION

UEDA, Yoshihiro (Synthetic Organic Chemistry)
“Total Synthesis of Natural Glycosides Based on Site-Selective Functionalization of Unprotected Carbohydrates”

TAKANO, Shotaro (Hydrospheric Environment Analytical Chemistry)
“Development of a New Method for Simultaneous Analysis of Ni, Cu and Zn Isotope Ratios in Seawater and Its Application to Chemical Oceanography”

HASHIDA, Masaki (Laser Matter Interaction Science)
“Surface Nanostructures Induced by Short Laser Pulse and Its Applications”

SAKAKIBARA, Keita (Chemistry of Polymer Materials)
“Development of Soft and Resilient Tribology (SRT) Systems”

KAYAHARA, Eiichi (Polymer Controlled Synthesis)
“Synthesis of New Cyclic Curved π -Conjugated Molecules Using Reactivity of Cycloparaphenylenes”

— ICR Award for Young Scientists —

HASHIKAWA, Yoshifumi (Structural Organic Chemistry)
“Facile Access to Azafullerenyl Cation $C_{59}N^+$ and Specific Interaction with Entrapped Molecules”

TAHARA, Hirokazu (Nanophotonics)
“Quantum Coherence of Multiple Excitons Governs Absorption Cross-sections of PbS/CdS Core/shell Nanocrystals”

— ICR Award for Graduate Students —

HASEGAWA, Shota (Structural Organic Chemistry)
“Construction of a Metal-Free Electron Spin System by Encapsulation of an NO Molecule inside an Open-Cage Fullerene C_{60} Derivative”

LU, Yangtian (Polymer Controlled Synthesis)
“Synthesis of Structurally Controlled Hyperbranched Polymers Using a Monomer Having Hierarchical Reactivity”

MIZUNO, Hayato (Nanospintronics)
“Electric-field-induced Modulation of the Anomalous Hall Effect in a Heterostructured Itinerant Ferromagnet $SrRuO_3$ ”

HANDA, Taketo (Nanophotonics)
“Radiative Recombination and Electron-phonon Coupling in Lead-free $CH_3NH_3SnI_3$ Perovskite Thin Films”

NGUYEN, Dai Hai (Bio-knowledge Engineering)
“SIMPLE: Sparse Interaction Model over Peaks of moLEcules for Fast, Interpretable Metabolite Identification from MS/MS”

— ICR Grants for Promoting Integrated Research —

OGAWA, Takuya (Molecular Microbial Science)
“Development of an Inhibitor Targeting 1-acylglycerol-3-phosphate Acyltransferase for Crystal Structure Analysis and Antimicrobial Drug Discovery”

HERBSCHLEB, Ernst David (Inorganic Photonics Materials)
“Research on the Advanced Quantum Device by the Single NV Center in Diamond”

POSTER PRESENTATIONS

[LW]: Laboratory Whole Presentation

[LT]: Laboratory Topic

[GE]: General Presentation

— Organoelement Chemistry —

[LW] “Studies on the Synthesis and Properties of Novel Organic Compounds Containing Heavier Elements”

[GE] YANAGISAWA, Tatsuya; MIZUHATA, Yoshiyuki; TOKITOH, Norihiro
“Synthesis and Reactivity of Novel Phosphinoalumanes”

— Structural Organic Chemistry —

[LW] “Research Activities in Structural Organic Chemistry Laboratory”

[GE] ZHANG, Sheng; HASHIKAWA, Yoshifumi; MURATA, Yasujiro
“Development of a Novel Cage-Expansion Method from C₆₀ to C₆₅N and C₆₄N Skeletons”

— Synthetic Organic Chemistry —

[LW] “The Latest Research in the Division of Fine Synthetic Organic Chemistry”

[GE] MORISAKI, Kazuhiro; UEDA, Yoshihiro; KAWABATA, Takeo
“Remote Asymmetric Induction by Catalytic C–H Bond Amination”

[GE] HASHIMOTO, Hisashi; YOSHIDA, Keisuke; IMAYOSHI, Ayumi; MORISAKI, Kazuhiro; UEDA, Yoshihiro; KAWABATA, Takeo
“Remote Asymmetric Desymmetrization of σ -Symmetric 1,7-Diols by Catalytic Silylation”

— Advanced Inorganic Synthesis —

[LW] “Recent Progress of Advanced Inorganic Synthesis Laboratory”

[GE] MATSUMOTO, Kenshi; SATO, Ryota; TERANISHI, Toshiharu
“Formation of Novel Fe–Pd Ordered Alloy Nanoparticles Induced from Third Element”

[GE] OKAMOTO, Yasuo; SAKAMOTO, Masanori; TERANISHI, Toshiharu
“Control of Geometric Anisotropy of Janus Porphyrin Coordinated Gold Clusters”

— Chemistry of Polymer Materials —

[LW] “Research Activities in Chemistry of Polymer Materials Laboratory”

[GE] EGUCHI, Hiroshi; SAKAKIBARA, Keita; TSUJII, Yoshinobu
“Lubrication Properties Analysis of Concentrated Polymer Brushes by Optical Interferometry Method”

— Polymer Controlled Synthesis —

[GE] LIN, Yiming; LU, Yangtian; YAMAGO, Shigeru
“Synthesis of Structurally Controlled Core-shell Block Copolymers with Thermal Responsive Solution Properties”

[GE] YAMAMOTO, Koji; KAYAHARA, Eiichi; YAMAGO, Shigeru
“Cycloaddition Reaction of Cycloparaphenylenes with 1,2,4-Triazoline-3,5-dione”

[GE] NAKANO, Masaya; SUN, Liansheng; KAYAHARA, Eiichi; YAMAGO, Shigeru
“Transformation of Tetrahydroxy [10]Cycloparaphenylene by Transition Metal Catalyzed Reactions”

[GE] SHIGEKI, Erika; TOSAKA, Masatoshi
“The Model of Shape-Memory State Appearing in Natural Rubber”

— Inorganic Photonics Materials —

[LW] “Research Topics of Inorganic Photonics Lab”

— Nanospintronics —

[GE] ANDO, Fuyuki
“Microscopic Origin of Electric-field-induced Modulation of Curie Temperature in Pt/Co Film”

[GE] OKUNO, Takaya
“Spin-transfer Torques in the Vicinity of the Angular Momentum Compensation Temperature of Ferrimagnets”

[GE] NISHIMURA, Tomoe
“Correlation between Magnetic Properties and Depinning Field in Field-Driven Domain Wall Dynamics in GdFeCo Ferrimagnets”

[GE] ODA, Kento
“Exchange Bias Controlled by Electric Current: Interplay of Joule Heating and the Induced Field”

— Biofunctional Design-Chemistry —

[LW] “Research Activities in Laboratory of Biofunctional Design Chemistry”

[GE] AKISHIBA, Misao; FUTAKI, Shiroh
“Mechanism of Peptide-mediated Intracellular Delivery of Biomacromolecules”

— Chemistry of Molecular Biocatalysts —

[LW] “Research Activities in Laboratory of Chemistry of Molecular Biocatalysts”

— Molecular Biology —

[LW] “Research of Molecular Biology Laboratory”

— Chemical Biology —

[LW] “Create New World of Bioactive Synthetic Molecules”

— Molecular Materials Chemistry —

GE WAKISAKA, Yasuaki; WADA, Yoshimasa; KAJI, Hironori
“Photophysical Properties and Device Performances of a Blue Thermally Activated Delayed Fluorescence Material Which Shows Highly Efficient TADF in Various Hosts”

— Hydrospheric Environment Analytical Chemistry —

LT TSUCHIYA, Mao; TAKANO, Shotaro; TSUJISAKA, Makoto; IMAI, Shoji; YAMAMOTO, Yuhei; SHIN, Ki-Cheol; SOHRIN, Yoshiki
“Isotope Ratios of Ni, Cu and Zn in Rainwater Collected in Western Japan”

GE TANAKA, Yuriko
“An Advanced Method for the Determination of Zr, Hf, Nb, and Ta in Seawater and Its Application to Seawater Samples from the North Pacific Ocean”

— Chemistry for Functionalized Surfaces —

GE TOMITA, Kazutaka; SHIOYA, Nobutaka; SHIMOAKA, Takafumi; HASEGAWA, Takeshi
“Polymorphic Control in a Spin-Coated Film of a Porphyrin Derivative”

GE FUJIWARA, Ryoi; SHIOYA, Nobutaka; TOMITA, Kazutaka; SHIMOAKA, Takafumi; HASEGAWA, Takeshi
“Analysis of Structural Conversion of a Pentacene Precursor Thin Film Using pMAIRS”

GE FUKUMI, Aki; SHIMOAKA, Takafumi; SHIOYA, Nobutaka; HASEGAWA, Takeshi
“*In situ* Observation of Aggregation Structure and Orientation Change of Perfluoroalkane in a Monolayer on Water Surface”

— Molecular Microbial Science —

LW “Laboratory of Molecular Microbial Science”

GE KAMASAKA, Kouhei; CHEN, Chen; YOKOYAMA, Fumiaki; IMAI, Tomoya; KAWAMOTO, Jun; KURIHARA, Tatsuo
“Elucidation of a Vesiculation-mediated Protein Secretion Mechanism of *Shewanella* sp. HM13”

— Polymer Materials Science —

LW “Polymer Materials Science”

GE MATSUNAGA, Tsubasa; OGAWA, Hiroki; TAKENAKA, Mikihito; MIYAZAKI, Tsukasa; KABE, Taizo
“Direct Observation of Spin Coating Process of Polystyrene-*b*-poly(2-vinylpyridine) Thin Film Under Selective Solvent”

GE OMOSU, Takuya; TAKENAKA, Mikihito; OGAWA, Hiroki
“*In-situ* Measurement of Self-assembling Blockcopolymer Thin Film with GISAXS”

GE NISHIMURA, Yu; TAKENAKA, Mikihito
“Study on Dynamics of Aggregates in Rubber Filling System”

GE FUWA, Takuto; OGAWA, Hiroki; TAKENAKA, Mikihito; KANAYA, Toshiji; YAMADA, Norifumi
“Neutron Reflectivity Measurement for Phase Separation and Dewetting in dPS/P2CIS Thin Films”

— Molecular Rheology —

LW “Introduction of Laboratory of Molecular Rheology”

— Molecular Aggregation Analysis —

LW “Design and Fabrication of Molecular Aggregates for Organic Electronics”

GE NAKAMURA, Tomoya; SHIOYA, Nobutaka; SHIMOAKA, Takafumi; HASEGAWA, Takeshi; MURATA, Yasujiro; WAKAMIYA, Atsushi
“Directed Molecular Orientation of N-type Organic Semiconductors Controlled by Hydrogen Bond Networks”

GE OZAKI, Masashi; SHIMAZAKI, Ai; MURATA, Yasujiro; MURDEY, Richard; WAKAMIYA, Atsushi
“Fabrication of Efficient Perovskite Solar Cells and Modules from a Highly-Purified Precursor Complex”

GE YAKUMARU, Shinya; LIU, Jiewei; OZAKI, Masashi; HANDA, Taketo; KANEMITSU, Yoshihiko; MURATA, Yasujiro; MURDEY, Richard; WAKAMIYA, Atsushi
“Development of Highly Reproducible Perovskite Layer Deposition Method for Efficient Lead-free Perovskite Solar Cells”

— Particle Beam Science —

LW “Research Topics in Accelerator Laboratory”

GE TAKEUCHI, Yusuke; TONGU, Hiromu; IWASHITA, Yoshihisa
“Compact ECR H⁺ Ion Source with Permanent Magnet”

GE YAKO, Tomoki; ABE, Masashi; IWASHITA, Yoshihisa; TONGU, Hiromu; KATAYAMA, Ryo; TAKEUCHI, Yusuke; TERUNUMA, Nobuhiro; FUWA, Yasuhiro
“Design Study of Main Dipole Magnet and Correction Magnet Using Permanent Magnet for ILC Damping Ring”

— Laser Matter Interaction Science —

LW “Research Activities in Laboratory of Laser Matter Science”

GE NISHINO, Shogo; HASHIDA, Masaki; SHIMIZU, Masahiro; FURUKAWA, Yuki; INOUE, Shunsuke; KOJIMA, Sadaoki; TSUKAMOTO, Masahiro; TAKENAKA, Keisuke; SAKABE, Shuji
“Dot Coloring on Titanium Surface by Femtosecond-laser Double-pulse Irradiation”

GE YOSHIDA, Masahiro; KOJIMA, Sadaoki; INOUE, Shunsuke; FURUKAWA, Yuuki; HASHIDA, Masaki; SAKABE, Shuji
“Fast Time-resolved Imaging Method with Pump-probe Ellipsometry”

GE NISHIURA, Yosuke; INOUE, Shunsuke; KOJIMA, Sadaoki; FURUKAWA, Yuuki; HASHIDA, Masaki; SAKABE, Shuji
“Detection of α Particles Generated by Nuclear Reaction with Laser Accelerated Protons by Two-step Etching of CR-39”

GE FURUKAWA, Yuki; NISHINO, Shogo; KOJIMA, Sadaoki; INOUE, Shunsuke; HASHIDA, Masaki; SAKABE, Shuji
“Ablation for Titanium by Double-pulse Femtosecond Laser Irradiation”

GE KOJIMA, Sadaoki; INOUE, Shunsuke; HASHIDA, Masaki; SAKABE, Shuji
“Probing Ultrafast Motion of Critical Surface Pushed by Multi-pico-second Relativistic Radiation Pressure”

— **Electron Microscopy and Crystal Chemistry** —

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

GE YAMAGUCHI, Atsushi; NEMOTO, Takashi; KURATA, Hiroki
“Analysis of Carbon K Edge ELNES of Copper Phthalocyanine Crystalline by First-principles Band Calculation”

— **Atomic and Molecular Structures** —

LW “Introduction of Atomic and Molecular Structures Laboratory”

— **Synthetic Organotransformation** —

LW “Research of Synthetic Organotransformation”

GE SHANOH, Takafumi; TAKAYA, Hikaru; TAKEDA, Yoshihiko; NAKATANI, Yuuya; ITO, Masato; NAKAMURA, Masaharu
“Iron-Catalyzed Oxidative Depolymerization of Lignin”

GE HOSOKAWA, Atsushi; IWAMOTO, Takahiro; NAKAMURA, Masaharu
“Light-Driven Intermolecular Coupling of Amines and Ketones”

— **Advanced Solid State Chemistry** —

LW “Introduction of Advanced Solid State Chemistry Laboratory”

— **Organometallic Chemistry** —

LW “Activity Report: Organometallic Chemistry Laboratory”

GE TORII, Naohiro; WAKIOKA, Masayuki; SAITO, Masahiko; OSAKA, Itaru; OZAWA, Fumiyuki
“Synthesis of Donor-Acceptor Alternating Copolymers Containing Benzodithiophene Units via Highly Selective Direct Arylation Polymerization”

— **Nanophotonics** —

LW “Recent Research Topics of Nanophotonics Group”

— **Chemical Life Science** —

LW “Introduction of Laboratory of Chemical Life Science”

— **Mathematical Bioinformatics** —

LT LI, Ruiming
“Deep Learning with Evolutionary and Genomic Profiles for Identifying Cancer Subtypes”

— **Bio-knowledge Engineering** —

LT NGUYEN, Dai Hai; NGUYEN, Canh Hao; MAMITSUKA, Hiroshi
“Sparse Interaction Model Over Peaks of moLEcules for Fast, Interpretable Metabolite Identification from Tandem Mass Spectra”