

THE 116TH ICR ANNUAL SYMPOSIUM

(2 December 2016)

ORAL PRESENTATIONS

TAKAYA, Hikaru (Synthetic Organotransformation)
“Solution-Phase Structure Analysis of X-ray Absorption Spectroscopy”

MIZUHATA, Yoshiyuki (Organoelement Chemistry)
“The Chemistry of ‘Heavy Phenyl Anions’”

WAKIOKA, Masayuki (Organometallic Chemistry)
“Direct Arylation Polymerization: A New Synthetic Method of π -Conjugated Polymers”

SAITO, Takashi (Advanced Solid State Chemistry)
“High-pressure Syntheses of Transition Metal Oxides Containing Unusually High Valence Cations”

FURUTA, Takumi (Synthetic Organic Chemistry)
“Direct Asymmetric Cross-aldol Reaction of Aliphatic Carbonyl Compounds via Catalytic Discrimination of Carbonyl Groups”

— ICR Award for Young Scientists —
NAKAMURA, Yasuyuki (Polymer Controlled Synthesis)
“Termination Mechanism in the Radical Polymerization of Methyl Methacrylate and Styrene Determined by the Reaction of Structurally Well-Defined Polymer End Radicals”

— ICR Award for Young Scientists —
HARUTA, Mitsutaka (Electron Microscopy and Crystal Chemistry)
“Determination of Elemental Ratio in an Atomic Column by Electron Energy Loss Spectroscopy”

— ICR Award for Graduate Students —
SUZUKI, Yuko (Organoelement Chemistry)
“Isolation and Ambident Reactivity of a Chlorogermolenoid”

— ICR Award for Graduate Students —
ZHANG, Rui (Structural Organic Chemistry)
“Synthesis of a Distinct Water Dimer inside Fullerene C₇₀”

— ICR Award for Graduate Students —
YAMADA, Takumi (Nanophotonics)
“Dynamic Optical Properties of CH₃NH₃PbI₃ Single Crystals As Revealed by One- and Two-Photon Excited Photoluminescence Measurements”

— ICR Grants for Promoting Integrated Research —
IWAMOTO, Takahiro (Synthetic Organotransformation)
“Mechanistic Study of Iron Fluoride-Catalyzed Cross-Coupling Reaction”

KATO, Mariko (Molecular Biology)
“Development of Cell-permeable Probes for Phosphatidylinositol 4,5-bisphosphate in Arabidopsis”

SAKAMOTO, Masanori (Advanced Inorganic Synthesis)
“Investigation on Photoinduced Carrier Dynamics at Nano-hetero Interfaces Using Multiple Laser Pulses”

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”

— Structural Organic Chemistry —

LW “Research Activities in Structural Organic Chemistry Laboratory”

GE OZAKI, Masashi; SHIMAZAKI, Ai; JUNG, Mina; NAKAIKE, Yumi; MARUYAMA, Naoki; AHAREN, Tomoko; RAFIEH, Alwani; SASAMORI, Takahiro; TOKITOH, Norihiro; WAKAMIYA, Atsushi; MURATA, Yasujiro
“Fabrication Protocol of Highly Efficient Perovskite Solar Cells Using Purified Precursor Materials”

GE OKAZAKI, Shuhei; MURATA, Michihisa; WAKAMIYA, Atsushi; MURATA, Yasujiro
“Synthesis of Polymers Containing Imidazole-Fused Benzothiadiazole Unit”

— Synthetic Organic Chemistry —

LW “Current Topics of Fine Organic Synthesis”

GE ARAI, Kenta; UEDA, Yoshihiro; FURUTA, Takumi; KAWABATA, Takeo
“Dirhodium-Catalyzed Chemo- and Regioselective C(sp²)-H Amination”

— Advanced Inorganic Synthesis —

LW “Current Research Activities in Advanced Inorganic Synthesis”

GE CHEN, Lihui; SAKAMOTO, Masanori; TERANISHI, Toshiharu
“Tin Ion Directed Morphology Evolution of Copper Sulfide Nanoparticles”

GE KIMURA, Masato; SAKAMOTO, Masanori; FURUBE, Akihiro; ADACHI, Hiroyuki; SUGIMOTO, Toshiki; WATANABE, Kazuya; MATSUMOTO, Yoshiyasu; TERANISHI, Toshiharu
“Visible Light-induced Charge Separation in Heterostructured Au_xS/ZnS Nanoparticles”

GE MATSUMOTO, Kenshi; SATO, Ryota; TRINH, T. Thuy; SAKUMA, Noritsugu; TERANISHI, Toshiharu
“High-Performance L1₀-FePd/ α -Fe Nanocomposite Magnets with Well-Controlled Nanostructures”

— **Chemistry of Polymer Materials** —

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

[GE] KINOSE, Yuji; SAKAKIBARA, Keita; TSUJII, Yoshinobu
“Conformation of Well-defined Janus-type Bottle Brush with Cellulosic Main Chain in Solution”

[GE] SHIMIZU, Yoshihiko; SAKAKIBARA, Keita; TSUJII, Yoshinobu
“Preparation of Bacterial Cellulose-reinforced Elastomers Using Percolation Structure”

— **Polymer Controlled Synthesis** —

[LW] “Research Activities in Polymer Controlled Synthesis”

[GE] SEKI, Toyomitsu; YU, Mengmeng; NAKAMURA, Yasuyuki; YAMAGO, Shigeru
“New Fluorous Organotellurium Compound for Living Radical Polymerization and Efficient Recovery and Recycle of the Organotellurium Group”

[GE] HUASHEN, Zhiren; NAKAMURA, Yasuyuki; YAMAGO, Shigeru
“Synthesis of Organoheteroatom Chain Transfer Agent via Radical Trapping Reaction and Their Uses for Living Radical Polymerization”

— **Inorganic Photonics Materials** —

[LW] “Introduction of Research Topic of Inorganic Photonics Materials Group”

— **Nanospintronics** —

[LT] TANAKA, Kensho; MORIYAMA, Takahiro; KAMIYA, Michinari; MIZUNO, Hayato; ONO, Teruo
“Spin Hall Effect in Ferromagnets Measured by Spin-torque FMR”

[GE] TANIGUCHI, Takuya; KIM, Kab-Jin; KOYAMA, Tomohiro; CHIBA, Daichi; ONO, Teruo
“Observation of Discrete Jump of Domain Wall Segment among Quenched Disorders”

— **Biofunctional Design-Chemistry** —

[LW] “Research Activities in Biofunctional Design-Chemistry”

[GE] SAKAMOTO, Kentarou; AKISHIBA, Misao; FUTAKI, Shiroh
“A Statistical Research on Structure-activity Relationships between Antimicrobial Peptides Derived from a Spider Toxin”

[GE] SAKAGAMI, Koki; FUTAKI, Shiroh
“Mechanism of Cellular Uptake of Cell-penetrating Peptides with Stapled α -Helix”

— **Chemistry of Molecular Biocatalysts** —

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

— **Molecular Biology** —

[LW] “Research Activity in Laboratory of Molecular Biology”

— **Chemical Biology** —

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

— **Molecular Materials Chemistry** —

[LW] “Molecular Materials Chemistry”

[GE] MIURA, Tsutomu; FUKUSHIMA, Tatsuya; KAJI, Hironori
“High Performance Bulk Heterojunction Organic Thin Film Solar Cells with Halogen Free Solutions”

[GE] OGATA, Isamu; KUBO, Shosei; SUZUKI, Katsuaki; KAJI, Hironori
“Synthesis and Photophysical Properties of a Deuterated Thermally Activated Delayed Fluorescence Material”

— **Hydrospheric Environment Analytical Chemistry** —

[LW] “Studies in Laboratory of Hydrospheric Environment Analytical Chemistry”

[GE] OKITA, Shutaro; UMETANI, Shigeo; SOHRIN, Yoshiaki
“Solid Phase Extraction and Separation of 13 Group Metal Ions with Acylpyrazolones Loaded XAD7 Resin”

— **Solution and Interface Chemistry** —

[GE] IZUMI, Naoki; SHIMOAKA, Takafumi; HASEGAWA, Takeshi
“Structural Analysis of Polymer Thin Films of Fluoroacrylate Having an Rf Side Chain with Various Lengths Using IR Spectroscopy”

[GE] UKAI, Hironori; SHIMOAKA, Takafumi; HASEGAWA, Takeshi
“Study on an Aggregation Factor of Amphiphiles Involving a Perfluoroalkyl Group Using IR Spectroscopy”

— **Molecular Microbial Science** —

[LW] “Research of Molecular Microbial Science Laboratory”

[GE] TOYOTAKE, Yosuke; CHO, Hyun-Nam; OGAWA, Takuya; KAWAMOTO, Jun; KURIHARA, Tatsuo
“Characterization of a Novel Enzyme for Membrane Phospholipid Biosynthesis from a Cold-adapted Bacterium”

— **Polymer Materials Science** —

[LW] “Introduction of Polymer Materials Science Laboratory”

[GE] NAGANO, Yoshiki; TAKENAKA, Mikihito; JANG, Junhyeok
“The Study of Heterogeneous Structure of Acrylonitrile-butadiene Random Copolymer (NBR)”

[GE] HIGASHINO, Naruhisa; TAKENAKA, Mikihito; YAMAGUCHI, Kaoru; Aisyah
“Alignment of Ferritin Protein by Using Nano Pattern of Block Copolymers”

[GE] MIYATAKE, Yuki; OGAWA, Hiroki; NISHIDA, Koji; YAMADA, Norifumi; KANAYA, Toshiji
“Phase Separation and Dewetting of Deuterated Polystyrene/poly-2-chlorostyrene Blend Thin Films”

— **Molecular Rheology** —

[LW] “Research Activities in Laboratory of Molecular Rheology”

— **Molecular Aggregation Analysis** —

[LT] MURDEY, Richard
“Introduction to Nonlinear Photocurrent Spectroscopy”

— **Particle Beam Science** —

[LW] “Status of Accelerator Laboratory, Advanced Research Center for Beam Science”

[GE] MIYAWAKI, Eisuke; FUWA, Yasuhiro; TONGU, Hiromu; IWASHITA, Yoshihisa
“Study of Ion Sources for Future Accelerators”

[GE] FUWA, Yasuhiro; IWASHITA, Yoshihisa
“Beam Focusing System for Klystrons with Permanent Magnets”

[GE] KITAHARA, Ryunosuke; IWASHITA, Yoshihisa; NOP Group
“Measurement of $^{14}\text{N}(n, p)^{14}\text{C}$ Cross Section Using Cold Neutron Beam at J-PARC”

— **Laser Matter Interaction Science** —

[LW] “Research Activities in Laboratory of Laser Matter Interaction Science”

[GE] FURUKAWA, Yuki; TERAMOTO, Kensuke; MORI, Kazuaki; NAKAMIYA, Yoshihide; INOUE, Shunsuke; HASHIDA, Masaki; SAKABE, Shuji
“Creation of Nanostructures on Metal Surface by Double-pulse Femtosecond Laser Irradiation”

[GE] MORI, Kazuaki; HASHIDA, Masaki; NAGASHIMA, Takeshi; LI, Dazhi; TERAMOTO, Kensuke; INOUE, Shunsuke; SAKABE, Shuji
“THz Waves Generation from Interaction between a Target of Argon Clusters and Intense Double-pulse Laser”

[GE] TERAMOTO, Kensuke; INOUE, Shunsuke; TOKITA, Shigeki; YASUHARA, Ryo; TERAOKA, Tokinori; KAWANAKA, Junji; NAGASHIMA, Takeshi; HASHIDA, Masaki; SAKABE, Shuji
“Generation of Intense THz Surface Waves on a Metal Wire by Intense Laser”

— **Electron Microscopy and Crystal Chemistry** —

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

[GE] YAMAGUCHI, Atsushi; HARUTA, Mitsutaka; NEMOTO, Takashi; KURATA, Hiroki
“Detecting the Directionality of Local Electronic States in SrTiO_3 by Momentum-selected STEM-EELS”

— **Structural Molecular Biology** —

[LW] “Introduction of Structural Molecular Biology Laboratory”

— **Synthetic Organotransformation** —

[LW] “Introduction of Synthetic Organotransformation Laboratory”

[GE] OKUZONO, Chiemi; IWAMOTO, Takahiro; ADAK, Laksmikanta; JIN, Masayoshi; TAKAYA, Hikaru; NAKAMURA, Masaharu
“Iron-Catalyzed Enantioselective Cross-Coupling of Haloester with Aryl Boron Reagent”

[GE] UENO, Ryo; ISHIBASHI, Kosuke; ISOZAKI, Katsuhiro; TAKAYA, Hikaru; NAKAMURA, Masaharu
“Synthesis and Photocatalytic Property of Peptide Dendron Thiolate-Functionalized Gold Clusters”

— **Advanced Solid State Chemistry** —

[LW] “Introduction of Advanced Solid State Chemistry Laboratory”

[GE] YUU, Hou; SEKI, Hayato; KAKU, Kaisen; HOSAKA, Yoshiteru; SAITO, Takashi; SHIMAKAWA, Yuichi
“Geometrical Spin Frustration of Unusually High Valence Fe^{5+} in the Double Perovskite $\text{La}_2\text{LiFeO}_6$ ”

— **Organometallic Chemistry** —

[LW] “Activity Report: Organometallic Chemistry Laboratory”

— **Nanophotonics** —

[LW] “Recent Research Topics of Nanophotonics Group”

— **Chemical Life Science** —

[LW] “Research Activities in Laboratory of Chemical Life Science”

[GE] LI, Yanze; WATAI, Hiroyasu; HINGAMP, Pascal; YOSHIDA, Takashi; OGATA, Hiroyuki
“Amplicon Analysis of Megaviridae DNA Polymerase Gene”

— **Mathematical Bioinformatics** —

[LT] JIRA, Jindalertudomdee
“Enumeration Method for Structural Isomers Containing User-Defined Structures Based on Breadth-First Search Approach”

[GE] BAO, Yu
“LBSIZECLEAV: Improved Support Vector Machine (SVM)-based Prediction of Dicer Cleavage Sites Using Loop/Bulge Length”

— **Bio-knowledge Engineering** —

[GE] YAMADA, Makoto; WIMALAWARNE, Kishan
“Nonlinear Feature Selection for Biological Data”

— **ICR Grants for Promoting Integrated Research** —

MURATA, Michihisa; TSUKAO, Masahiro; WAKAMIYA, Atsushi; MURATA, Yasujiro; SUZUKI, Katsuaki; KAJI, Hironori
“Elucidation of Solid-state Structures and Functions of Metal Complexes with 3D π -Systems”

KAYAHARA, Eiichi; FUKUSHIMA, Tatsuya
“Application of Cyclic π -Conjugated Molecules to Organic Electronics”

CHO, Hyun-Nam; KAWAMOTO, Jun
“Analysis of the Fatty Acid-Recognition Mechanism of an Anti-Fatty Acid Antibodies and Their Application”

NGUYEN, Hao Canh
“Advanced Computational Tools for Knowledge Discovery in
Ecology and Biology”