



JURC COOPERATIVE
RESearch SUBJECTS

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STARTING-UP SUBJECTS (IN SPECIFIC FIELDS CHOSEN BY JURC)

Measurement of Electron Density by Compton Scattering CT
YAMAZAKI, Atsushi, Graduate School of Engineering, Nagoya University

Host in JURC NODA, Akira

Development and Application of Time-resolved Irradiation Method by Cooled Ion Beams

NODA, Koji, National Institute of Radiological Sciences

Host in JURC NODA, Akira

X-ray Structural Studies on Cold Adaptation of Protein from Psychrophile

GOGAMI, Yoshitaka, Faculty of Chemistry, Materials and Bioengineering, Kansai University

Host in JURC HATA, Yasuo

Synthesis of Metal-Containing Phenolic Resins toward Optical Material with High Refractive Index

KONISHI, Gen-ichi, Faculty of Science and Technology, Tokyo Institute of Technology

Host in JURC OZAWA, Fumiyuki

Investigations of the Ground State and Magnetic Excitations in Frustrated Magnets

KIKUTCHI, Hikomitsu, Faculty of Engineering, University of Fukui

Host in JURC AZUMA, Masaki

Mechanistic Study and Development of Iron-Catalyzed C–C Bond Forming Reactions

NAGASHIMA, Hideo, Institute for Materials Chemistry and Engineering, Kyushu University

Host in JURC NAKAMURA, Masaharu

Extraction Behavior of Metal Ions in Liquid-liquid Extraction Using Novel Multidentate Ligands

MUKAI, Hiroshi, Kyoto University of Education

Host in JURC SOHRIN, Yoshiki

Facile Synthesis of Alkynyl Sugars by Iron-Catalyzed Cross-Coupling Reaction and Its Application to Stimuli-Responsive Luminescence

ORITA, Akihiro, Faculty of Engineering, Okayama University of Science

Host in JURC NAKAMURA, Masaharu

Rice Metabolic Pathway Construction from Highly Accurate Rice Annotation

ITOH, Takeshi, National Institute of Agrobiological Sciences

Host in JURC GOTO, Susumu

Aphid Pathway Reconstruction from Genome Information

SHIGENOBU, Shuji, National Institute for Basic Biology

Host in JURC KANEHISA, Minoru

Efficient and Flexible Algorithms for Pattern Matching of Tree-structured Data in Bioinformatics

TAKASU, Atsuhiko, National Institute of Informatics

Host in JURC AKUTSU, Tatsuya

Repetition Structure Analysis of Genome Sequences Based on Global Evaluation Measures

NAKAMURA, Atsuyoshi, Graduate School of Information Science and Technology, Hokkaido University

Host in JURC MAMITSUKA, Hiroshi

Cornea Regeneration by Cell-adhesion-promoting Small Molecules

KOIZUMI, Noriko, Faculty of Life and Medical Sciences, Doshisha University

Host in JURC UESUGI, Motonari

Study on the Fabrication Process of Organic-inorganic Hybrid Materials

FUJINO, Shigeru, Graduate School of Engineering, Kyushu University

Host in JURC YOKO, Toshinobu

Development of New Boryl Groups to Create Water-Soluble Highly Emissive π -Electron Materials

FUKAZAWA, Aiko, Department of Chemistry, Graduate School of Science, Nagoya University

Host in JURC MURATA, Yasujiro

Transdermal Drug Delivery Using Arginine-rich Peptides

KOGURE, Kentaro, Kyoto Pharmaceutical University

Host in JURC FUTAKI, Shiroh

Modulation of Spin-Wave Dispersion in Heterostructures

YAMAGUCHI, Akinobu, Department of Physics, Keio University

Host in JURC ONO, Teruo

Correlation of Structure and Electronic Structure in Thin Films of Group 10 Metals Dione-Dioximate

TAKEDA, Keiki, Muroran Institute of Technology

Host in JURC SATO, Naoki

EXPANDING SUBJECTS (IN SPECIFIC FIELDS CHOSEN BY JURC)

X-ray Structure Analysis of Reaction Mechanism of Catabolic Enzymes

OIKAWA, Tadao, Faculty of Chemistry, Materials and Bioengineering, Kansai University

Host in JURC HATA, Yasuo

Multi-dimensional Doppler Laser Cooling for Realization of Ultralow-temperature Ion Beam

ITO, Kiyokazu, Graduate School of Advanced Sciences of Matter, Hiroshima University

Host in JURC NODA, Akira

Development and Mechanism Investigation of Non-Planar Carbocations on a Redox Active Tetrairon Cores

OKAZAKI, Masaaki, Faculty of Science and Technology, Hirosaki University

Host in JURC OZAWA, Fumiyuki

Study of the Localization Mechanism and the Optical Properties in the Wide Band-gap GaN-based Semiconductors
YAMADA, Yoichi, Department of Electrical and Electronic Engineering, Yamaguchi University
Host in JURC KANEMITSU, Yoshihiko

Design and Synthesis of Metal Ligands Which Facilitate the Reductive Elimination Reaction and Their Application to the Synthesis of Cycloparaphenylenes
KORENAGA, Toshinobu, Graduate School of Natural Science and Technology, Okayama University
Host in JURC YAMAGO, Shigeru

Effective Intracellular siRNA Delivery Using PNA-CPP Conjugates
KITAMATSU, Mizuki, Graduate School of Natural Science and Technology, Okayama University
Host in JURC FUTAKI, Shiroh

Comprehensive Analysis of Proteolytic Modulation by the Integrated Data-mining Method
SORIMACHI, Hiroyuki, The Tokyo Metropolitan Institute of Medical Science
Host in JURC MAMITSUKA, Hiroshi

Development of Functional Prediction Method of Cytochrome 450s Involved in Steroid Hormone Biosynthesis and Metabolism
OONISHI, Toshiyuki, Global Institute for Young Scientists of Shizuoka University
Host in JURC WATANABE, Bunta

Development of Novel Solid-type Polyelectrolyte Membrane by Living Radical Polymerization
SATO, Takaya, Tsuruoka National College of Technology
Host in JURC TSUJII, Yoshinobu

Synthesis and Characterization of Concentrated Polymer Brushes with Glucose-sensing Ability
YOSHIKAWA, Chiaki, National Institute for Materials Science
Host in JURC TSUJII, Yoshinobu

Structure Engineering and Function Controlling of Hollow Fibers for Biophotonics
SHIOTA, Yoshihito, Institute for Materials Chemistry and Engineering, Kyushu University
Host in JURC TOKUDA, Yomei

Coupled Quantum-Chemical and Statistical-Mechanical Analysis of Biochemical Reactions
TAKAHASHI, Hideaki, Graduate School of Science, Tohoku University
Host in JURC MATUBAYASI, Nobuyuki

Structure of Frustrated Polymer Crystal at Extremely Low Temperature
OKIHARA, Takumi, Graduate School of Natural Science and Technology, Okayama University
Host in JURC TSUJI, Masaki

Dynamical Inhomogeneity in Miscible Polymer Blends
URAKAWA, Osamu, Graduate School of Science, Osaka University
Host in JURC MATSUMIYA, Yumi

Precise Structure Control of Polymer by Using External Fields
ITO, Hiroshi, Faculty of Science and Engineering, Yamagata University
Host in JURC KANAYA, Toshiji

Studies on Crystal Structure and Crystallization of Poly(lactic Acid)
KAWAI, Takahiko, Faculty of Engineering, Gunma University
Host in JURC KANAYA, Toshiji

STARTING-UP SUBJECTS (ON-DEMAND FROM RELATED COMMUNITIES)

Study on the Tunneling Magnetoresistance and Local Magnetism in Magnetic Tunnel Junction Devices with Ferromagnetic Electrodes of Heusler Alloy Co₂MnSn Made by Atomic Layer Deposition
TANAKA, Masaaki, Department of Electrical and Electronic Engineering, Nagoya Institute Technology
Host in JURC ONO, Teruo

Small Molecules that Promote Differentiation into Pancreatic β Cells
KUME, Shoen, Institute of Molecular Embryology and Genetics, Kumamoto University
Host in JURC UESUGI, Motonari

Preparation, Structure and Electronic Properties of Thin Films of Furan-Fused Polycyclic Aromatic Compounds
HAYASHI, Naoto, University of Toyama
Host in JURC SATO, Naoki

THz Generation by Laser-cluster Interactions
NAGASHIMA, Takeshi, ILE, Osaka University
Host in JURC SAKABE, Shuji

Supramolecular Multi-Metal Catalyst for Selective Degradation of Lignin
WATANABE, Takashi, Research Institute for Sustainable Humanosphere, Kyoto University
Host in JURC NAKAMURA, Masaharu

Silicon Photonics in the Novel Silicon Sulfide Phosphors
OKUNO, Tsuyoshi, Department of Applied Physics and Chemistry, The University of Electro-Communications
Host in JURC KANEMITSU, Yoshihiko

Synthesis and Properties of Crosslinked Oligonaphthalenes
KURAMOCHI, Koji, Graduate School of Life and Environmental Science, Kyoto Prefectural University
Host in JURC KAWABATA, Takeo

Exploring New Electronic Properties by the Electronic State Control in Semiconductor Using Nano Magnets
HASHISAKA, Masayuki, Research Center for Low Temperature Physics, Tokyo Institute of Technology
Host in JURC KOBAYASHI, Kensuke

Overproduction of Milaculin in *Arabidopsis thaliana*
INOUE, Hiroyasu, Faculty of Human Life and Environment, Nara Women's University
Host in JURC AOYAMA, Takashi

Structural Analysis of Protein Complex through Hierarchical Modelling Flow with Bioinformatics, Large-Scale Molecular Simulation, and Solution Theory
KITAO, Akio, Institute of Molecular and Cellular Biosciences, The University of Tokyo
Host in JURC MATUBAYASI, Nobuyuki

Structure and Function of a Novel FADH₂-dependent Dehalogenase
KURATA, Atsushi, Faculty of Agriculture, Kinki University
Host in JURC KURIHARA, Tatsuo

High-energy Ion Generation by Laser Nano-particle Interactions
NAKAI, Mitsuo, ILE, Osaka University
Host in JURC SAKABE, Shuji

Development of Organic Solar Cells Based on the Nanocarbon
Science and Main Group Element Chemistry
TAJIMA, Tomoyuki, Graduate School of Environmental Science,
Okayama University
Host in JURC TOKITOH, Norihiro

Extensional Rheology of Polymers
NISHIOKA, Akihiro, Faculty of Engineering, Yamagata University
Host in JURC WATANABE, Hiroshi

Study of the Regulatory Mechanism for Cell Differentiation in
Epidermal Cells of Higher Plants
TAKAHASHI, Taku, Graduate School of Natural Science and
Technology, Okayama University
Host in JURC AOYAMA, Takashi

Hydration Dynamics of Functional, Multivalent Ions
SUZUKI, Makoto, Graduate School of Engineering, Tohoku
University
Host in JURC MATUBAYASI, Nobuyuki

Dynamics of Supramolecules
SHIKATA, Toshiyuki, Graduate School of Science, Osaka University
Host in JURC MASUBUCHI, Yuichi

EXPANDING SUBJECTS (ON-DEMAND FROM RELATED COMMUNITIES)

Construction of a Library of Heterocyclic Compounds with
Tetrasubstituted Carbon and Search for Biologically Active
Compounds
ISHIBASHI, Masami, Graduate School of Pharmaceutical
Sciences, Chiba University
Host in JURC KAWABATA, Takeo

Development of Induction System Using Caged Chemical in
Plants
NOZAKI, Hiroshi, the Faculty of Science, Okayama University
of Science
Host in JURC AOYAMA, Takashi

Vertical Sectional Distribution of Bioactive Trace Metals in the
Japan Sea
NAKAGUCHI, Yuzuru, Faculty of Science and Engineering,
Kinki University
Host in JURC SOHRIN, Yoshiki

Explorations of Novel Electronic Phases in Iron-titanium Hybrid
Materials with Various Atomic Valence States
FUJII, Tatsuo, Faculty of Engineering, Okayama University
Host in JURC SHIMAKAWA, Yuichi

Generation of Highly Reactive Species by Chemical Reaction
inside Fullerenes
AKASAKA, Takeshi, Life Science Center of Tsukuba Advanced
Research Alliance, University of Tsukuba
Host in JURC MURATA, Yasujiro

Function of a Novel Multiheme Selenoprotein from a Metal-
reducing Bacterium, *Geobacter sulfurreducens*
MIHARA, Hisaaki, College of Life Sciences, Ritsumeikan Uni-
versity
Host in JURC KURIHARA, Tatsuo

Development of High Performance Nanofibers from Silk Fibroin
KAWAHARA, Yutaka, Faculty of Engineering, Gunma University
Host in JURC TSUJI, Masaki

Photochemical Properties of Poly(phenylenevinylene)s
IKEGAMI, Masashi, Graduate School of Engineering, Toin
University of Yokohama
Host in JURC OZAWA, Fumiyuki

SUBJECTS FOCUSING ON JOINT USAGE OF JURC/ICR FACILITIES

Solvent Effect for Structure and Reactivity of Diacetylene
Molecular Film
TAKAJO, Daisuke, School of Science, Osaka University
Host in JURC KURATA, Hiroki

Degradation of Optical Properties in First Mirror Materials for
Plasma Diagnostics by Nano-EELS
ONO, Kotaro, Interdisciplinary Faculty of Science and Engineering,
Shimane University
Host in JURC KURATA, Hiroki

Solid-State NMR Analysis of Molecular Orientation in Organic
LED Materials
YAHIRO, Masayuki, Center for Future Chemistry, Kyusyu
University
Host in JURC KAJI, Hironori

Photocatalytic Degradation of Acetaldehyde on WO₃ Film
Surface: Solid-State NMR Study on Reactive Mechanism
SHIGESATO, Yuzo, Graduate School of Science and Engineering,
Aoyama Gakuin University
Host in JURC KAJI, Hironori

NMR Characterization of Carbon Nitride
TAKARABE, Kenichi, Graduate School of Science, Okayama
University of Science
Host in JURC KAJI, Hironori

Synthesis of Transition Metal Complexes Bearing Novel Tetra-
dentate Tripodal Ligands and Their Structural Characterization
UNNO, Masafumi, Graduate School of Engineering, Gunma
University
Host in JURC TOKITOH, Norihiro

Elucidation of the Physical and Chemical Properties of Novel
Aromatic Compounds Containing Heavier Group 14 Elements
SAITO, Masaichi, Graduate School of Science and Engineering,
Saitama University
Host in JURC TOKITOH, Norihiro

SUBJECTS ENCOURAGING JOINT PROGRAM

Electronic States and Local Structures in Transition Metal Oxide
Thin Films Probed by Synchrotron X-ray
MIZUMAKI, Masaichiro, Japan Synchrotron Radiation Research
Institute
Host in JURC SHIMAKAWA, Yuichi

The International Workshop for East Asian Young Rheologists
SAKURAI, Shin-ichi, Graduate School of Biobased Materials
Science, Kyoto Institute of Technology
Host in JURC WATANABE, Hiroshi