

Program

Wednesday, June 19, 2024

TERRSA Hall

9:30 - 9:45 Opening Remarks

Conference Chair

Takao Someya (The University of Tokyo, Japan)

9:45 - 10:45 Session F (Perovskites and Hybrid Materials [Solar Cells and related devices])

Chairperson: Toshinori Matsushima (Kyushu University, Japan)

FI-01 (Invited Lecture)

9:45 - 10:15 Molecular engineering to advance high efficiency perovskite solar cells

Tsutomu Miyasaka (Toin Yokohama University, Japan)

FO-01

10:15 - 10:30 Perovskite Solar Cells with Red Modulation using CuSCN/CA Bragg Reflectors

Yoshiyuki Seike (Aichi Institute of Technology, Japan)

FO-02

10:30 - 10:45 Effect of Metal Oxide Inter-Layers on Gold Migration in Perovskite Solar Cells

Chathurangie A. M. Senevirathne (Kyushu University, Japan)

10:45 - 11:00 **Short Break**

11:00 - 12:00 Session C (Organic Devices and Applications [FET, EL, memory, sensors and actuators])

Chairperson: Takafumi Uemura (Osaka University, Japan)

CI-01 (Invited Lecture)

11:00 - 11:30 Optoelectronic Conversion and Polarization Hysteresis in Organic MISM and MISIM Devices

Kunio Awaga (Nagoya University, Japan)

CO-01

11:30 - 11:45 Fully Printed Soft Mechanical Sensors Using Self-Segregated Porous Conductive Composites

Yi-Fei Wang (Yamagata University, Japan)

CO-02

11:45 - 12:00 Mechanically stable organic thin-film transistors on reinforced ultrathin elastomer films

Chika Okuda (The University of Tokyo, Japan)

Wednesday, June 19, 2024

Dome Theater

9:45 - 10:45 Session D (Biotechnology and Biomedical Applications)

Chairperson: Takahito Ohshiro (Osaka University, Japan)

DO-01

9:45 - 10:00 Interactions between supported lipid bilayers and substrates that affect lateral diffusion of lipids

Koji Sumitomo (University of Hyogo, Japan)

DO-02

10:00 - 10:15 Molecular delivery into bacteria with nanotube stamp system

Rongtao Zhang (Waseda University, Japan)

DI-01 (Invited Lecture)

10:15 - 10:45 Advancements from Basic Research to Applications: Single-Molecule Nanopore Measurement

Sotaro Uemura (The University of Tokyo, Japan)

10:45 - 11:00 **Short Break**

11:00 - 11:30 Session A (Fabrications and Characterization)

Chairperson: Ryosuke Matsubara (Shizuoka University, Japan)

AO-01

11:00 - 11:15 Stretchable microfluidic liquid metal antennas based on direct ink writing 3D-printed microchannels

Kento Yamagishi (The University of Tokyo, Japan)

AO-02

11:15 - 11:30 Mixed Conducting Polymer Nanoparticle Thin Films for High-Performance Organic Electrochemical Transistors

Shunsuke Yamamoto (Kyoto University, Japan)

11:00 - 11:30 Session E (Organic photovoltaics and Energy Harvesting)

Chairperson: Shunsuke Yamamoto (Kyoto University)

EI-01 (Invited Lecture)

11:30 - 12:00 Wearable Thermoelectric Generators Using Carbon Nanotube Yarn with Molecular Junctions

Masakazu Nakamura (Nara Institute of Science and Technology, Japan)

12:00 - 13:00 **Lunch**

Wednesday, June 19, 2024
TERRSA Hall

13:00 - 14:00 Plenary Session

Chairperson: Koichi Sakaguchi (Saga University, Japan)

PL-01 (Plenary Lecture)

13:00 - 14:00 Expanding Charge Transfer Technology from TADF to Advanced Devices
Chihaya Adachi (Kyushu University, Japan)

14:00 - 14:10 **Short Break**

14:10 - 15:10 Session A (Fabrications and Characterization)

Chairperson: Ryosuke Matsubara (Shizuoka University, Japan)

AI-01 (Invited Lecture)

14:10 - 14:40 Unveiling the Conduction Band Structure of Organic Semiconductors: Development of Angle-resolved Low-Energy Inverse Photoelectron Spectroscopy
Hiroyuki Yoshida (Chiba University, Japan)

AO-03

14:40 - 14:55 Correlation between Molecular Orientation at Indigo/Dielectric Interfaces and OFET Device Characteristics
Takayuki Miyamae (Chiba University, Japan)

AO-04

14:55 - 15:10 Visualizing subnanometer-scale mobile structures in ion channel model by frequency modulation atomic force microscopy
Masayuki Morimoto (Kanazawa University, Japan)

15:10 - 15:20 **Short Break**

15:20 - 16:50 Session E (Organic photovoltaics and Energy Harvesting)

Chairperson: Makoto Karakawa (Kanazawa University, Japan)

EI-02 (Invited Lecture)

15:20 - 15:50 Key Structural Features for Facilitating Charge Generation in Polymer Solar Cells
Itaru Osaka (Hiroshima University, Japan)

EO-01

15:50 - 16:05 Origin of Electric Field-Dependent Charge Generation in Organic Photovoltaics
Kyohei Nakano (RIKEN, Japan)

EO-02

16:05 - 16:20 Orientation Control of Y6 Thin Film by Surface Segregated Monolayer of Fluoroalkyl-containing Y6 Derivative
Takaho Yokoyama (RIKEN, Japan)

EO-03

16:20 - 16:35 Formation of PEDOT:PSS hole-transport layer on non-fullerene based active layers of inverted organic photovoltaics
Karin Iwa (Waseda University, Japan)

EO-04

16:35 - 16:50 Revealing Mechanism of Plasmonic Enhancement Contribution in Fullerene and Non-fullerene Organic Solar Cells
Joseph Baki Kaore (Niigata University, Japan)

16:50 - 17:00 **Short Break**

Wednesday, June 19, 2024

Dome Theater

14:10 - 15:10 Session C (Organic Devices and Applications [FET, EL, memory, sensors and actuators])

Chairperson: Tomoyuki Yokota (The University of Tokyo, Japan)

CO-03

14:10 - 14:25 Quaternary logic circuits with organic antiambipolar transistors
Ryoma Hayakawa (National Institute for Materials Science, Japan)

CO-04

14:25 - 14:40 Ionic Liquid Crystal thin Film gated Organic Field Effect Transistor
Wenzhong Zhang (Tohoku University, Japan)

CI-02 (Invited Lecture)

14:40 - 15:10 Ultraflexible Low-Noise Organic Circuits for Wearable Biosignal Monitoring
Takafumi Uemura (Osaka University, Japan)

15:10 - 15:20 **Short Break**

15:20 - 16:50 Session B (Functional Materials [LC, polymer, soft material, photonic material, nanomaterials, QD, carbon materials, etc.]

Chairperson: Yoshiyuki Nonoguchi (Kyoto Institute of Technology, Japan)

BO-01

15:20 - 15:35 Enhancing Circularly Polarized Luminescence Characteristics through Guest–Host Interactions in Chiral Gyroidal MOFs
Rie Suizu (Nagoya University, Japan)

BO-02

15:35 - 15:50 A New Motion Control Technology of Living Insects Using Stretchable Electrodes Integrated on the Body Surface
Shumpei Katayama (Waseda University, Japan)

BO-03

15:50 - 16:05 Ferroelectric organic semiconductor based on BTBT and alkylamide units
Tomoyuki Akutagawa (Tohoku University, Japan)

BO-04

16:05 - 16:20 High Efficiency Circularly Polarized Luminescence Derived from Removing Chiral Inducer

Chenyuhe Yuan (Japan Advanced Institute of Science and Technology, Japan)

BI-01 (Invited Lecture)

16:20 - 16:50 Development of Plastic/Ferroelectric Ionic Molecular Crystals

Jun Harada (Hokkaido University, Japan)

16:50 - 17:00 **Short Break**

Wednesday, June 19, 2024

Meeting Room 1&2

17:00 - 18:30 Poster Session I

17:00 - 17:45 Presentation with odd number posters

17:45 - 18:30 Presentation with even number posters

Thursday, June 20, 2024

TERRSA Hall

9:00 - 10:00 Plenary Session

Chairperson: Takao Someya (The University of Tokyo)

PL-02 (Plenary Lecture)

9:00 - 10:00 Materials for electronic and mixed ionic-electronic charge transport applicable to stretchable devices

Antonio Facchetti (Georgia Institute of Technology, USA)

10:00 - 10:15 **Short Break**

10:15 - 11:45 Session D (Biotechnology and Biomedical Applications)

Chairperson: Makusu Tsutsui (Osaka University, Japan) and Koji Sumitomo (University of Hyogo, Japan)

DO-03

10:15 - 10:30 Long range surface plasmon aptasensor for real-time and label-free monitoring of vancomycin concentrations

Koji Toma (Shibaura Institute of Technology, Japan)

DO-04

10:30 - 10:45 Self-assembly mechanism of tetrapod-shaped molecular building block on sp^2 carbon materials

Moe Ogasawara (Kanazawa University, Japan)

DI-02 (Invited Lecture)

10:45 - 11:15 Transport Phenomena through a Nanopore for Single Molecule and Single Particle Analysis

MinJun Kim (SMU Lyle, USA)

DO-05

11:15 - 11:30 Molecular-scale analysis on recognition function of metal-salen complexes immobilized on a substrate

Ryosuke Izumi (Kanazawa University, Japan)

DO-06

11:30 - 11:45 Sizing viral vectors by nanopore sensing toward enhanced gene therapy

Makusu Tsutsui (Osaka University, Japan)

11:45 - 12:00 **Group photo and Break**

Thursday, June 20, 2024

Dome Theater

10:15 - 10:45 Session A (Fabrications and Characterization)

Chairperson: Shunsuke Yamamoto (Kyoto University)

AI-02 (Invited Lecture)

10:15 - 10:45 Wearable and implantable bioelectronics

Sanggil Han (Incheon National University, Korea)

10:45 - 11:45 Session E (Organic photovoltaics and Energy Harvesting)

Chairperson: Takeshi Yasuda (National Institute for Materials Science, Japan)

EO-05

10:45 - 11:00 Recombination dynamics of long-lived charge carriers in conjugated polymer films blended with acceptor small molecules

Kazuki Kohzuki (Kyoto University, Japan)

EO-06

11:00 - 11:15 Relating the charge separation dynamics and time-resolved spectroscopy signals in the P3HT/PCBM using first-principles and quantum dynamics simulations

Takatashi Fujita (National Institutes for Quantum Science and Technology, Japan)

EI-03 (Invited Lecture)

11:15 - 11:45 Alkyl- π Liquids/Gels Based Free-deformable Mechanoelectric Generators Towards Wearable Sensors

Takashi Nakanishi (Hokkaido University/NIMS, Japan)

11:45 - 12:00 **Group photo and Break at TERRSA Hall**

12:00 - 13:00 **Lunch**

Thursday, June 20, 2024

Social Program : Excursion

13:00 - Excursion course A: Izumo Taisha Grand Shrine

13:00 - Excursion course B: Miho Jinja Shrine

Thursday, June 20, 2024

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18:00 - 20:00 Banquet

Friday, June 21, 2024

TERRSA Hall

9:00 - 10:00 Plenary Session

Chairperson: Toshinori Matsushima (Kyushu University, Japan)

PL-03 (Plenary Lecture)

9:00 - 10:00 Development of high-performance p-type semiconductors for transistors

Yong-Young Noh (Pohang University of Science and Technology, Korea)

10:00 - 10:15 **Short Break**

Friday, June 21, 2024

Meeting Room 1&2

10:15 - 11:45 Poster Session II

10:15 - 11:00 Presentation with odd number posters

11:00 - 11:45 Presentation with even number posters

11:45 - 13:00 **Lunch**

Friday, June 21, 2024

TERRSA Hall

13:00 - 14:30 Session B (Functional Materials [LC, polymer, soft material, photonic material, nanomaterials, QD, carbon materials, etc.]

Chairperson: Kyohei Nakano (RIKEN, Japan) and Koichi Sakaguchi (Saga University, Japan)

BI-02 (Invited Lecture)

13:00 - 13:30 Tungsten Disulfide for Flexible Supercapacitor Applications

Hae Kyung Jeong (Daegu University, Korea)

BO-05

13:30 - 13:45 Photoreorientation and Anisotropic Proton Transport of Heterosmectic Lamellar Structures Formed by Acrylic Acid-Containing Polymer Liquid Crystals

Yuya Ishizaki (Rikkyo University, Japan)

BO-06

13:45 - 14:00 Multi-functional photonics in a polymorphic benzofuran derivative

Takumi Matsuo (Kochi University of Technology, Japan)

BI-03 (Invited Lecture)

14:00 - 14:30 Bulk Photovoltaic and Circular Photogalvanic Effects in Chiral and Polar Organic Crystal

Daigo Miyajima (The Chinese University of Hong Kong, China)

14:30 - 14:40 **Short Break**

14:40 - 15:40 Session C (Organic Devices and Applications [FET, EL, memory, sensors and actuators])

Chairperson: Masaki Tanaka (Tokyo University of Agriculture and Technology, Japan)

CI-03 (Invited Lecture)

14:40 - 15:10 Delayed Fluorescence from Inverted Singlet and Triplet Excited States

Naoya Aizawa (Osaka University, Japan)

CO-05

15:10 - 15:25 Gram-scale Polymer Thermoelectric module for Self-powered Sensors

Qingshuo Wei (National Institute of Advanced Industrial Science and Technology, Japan)

CO-06

15:25 - 15:40 Dry Annealing Effects of ZnO Solgel for Organic Photodetectors

Yusaku Tagawa (The University of Tokyo, Japan)

15:40 - 15:50 **Short Break**

15:50 - 17:05 Session D (Biotechnology and Biomedical Applications)

Chairperson: Toshiya Sakata (The University of Tokyo, Japan)

DI-03 (Invited Lecture)

15:50 - 16:20 Photoceutical devices - implantable optoelectronic devices for early diagnosis and treatment

Jun Ohta (Nara Institute of Science and Technology, Japan)

DO-07

16:20 - 16:35 Electrical Access to Bacteria by Redox Polymer-based Artificial Molecular Conduits

Gabor Mehes (Waseda University, Japan)

DO-08

16:35 - 16:50 Enhanced Light-sheet Microscopy Illumination by a Multi-layered Stair-step Phase Mask

Takashi Saitou (Ehime University, Japan)

DO-09

16:50 - 17:05 Effect of substrate surface charges on formation of supported lipid bilayers containing charged lipids

Ryugo Tero (Toyohashi University of Technology, Japan)

Friday, June 21, 2024

Dome Theater

13:00 - 14:30 Session A (Fabrications and Characterization)

Chairperson: Takaaki Manaka (Tokyo Institute of Technology, Japan) and Shunsuke Yamamoto (Kyoto University, Japan)

AO-05

13:00 - 13:15 Single-molecule observation of base–ligand interactions via hydrogen bonds
Yuki Komoto (Osaka University, Japan)

AO-06

13:15 - 13:30 A versatile technique for fabricating organized thin films of two-dimensional layered hybrid perovskites: combining Langmuir-Blodgett, intercalation, and vapor-exposition methods
Yasuhiro Miura (Hamamatsu University School of Medicine, Japan)

AI-03 (Invited Lecture)

13:30 - 14:00 Formation, surface structure, and work function change of self-assembled monolayers of sulfur- and selenium-containing organic molecules on Au(111)
Jaegun Noh (Hanyang University, Korea)

AO-07

14:00 - 14:15 Highly Oriented J-aggregates of *o*, *m*-Dichloro Bisazodye Molecules Prepared by Atomic Groove Epitaxy on an Aligned Poly(tetrafluoroethylene) Layer
Toshihiko Tanaka (RIKEN, Japan)

AO-08

14:15 - 14:30 Terahertz time-domain spectroscopy of Au nanostructures deposited on PCBM-coated Si substrate
Tatsunosuke Matsui (Mie University, Japan)

14:30 - 14:40 **Short Break**

14:40 - 15:40 Session F (Perovskites and Hybrid Materials [Solar Cells and related devices])

Chairperson: Hinako Ebe (Yamagata University, Japan)

FO-03

14:40 - 14:55 Iodine Diffusion in LHP Solar Cells: Insights from X-ray Photoelectron Spectroscopy
Senku Tanaka (Kindai University, Japan)

FO-04

14:55 - 15:10 Manipulation of Lateral and Vertical Structures and optical properties in Lead Halide Perovskite Nanocrystal Films
Yuto Kajino (Kyushu University, Japan)

FI-02 (Invited Lecture)

15:10 - 15:40 Super Tough and Spontaneous Water-Assisted Autonomous Self-Healing Polymers for Wearable Perovskite Based-Electronics
Chi-Ching Kuo (National Taipei University of Technology, Taiwan)

15:40 - 15:50 **Short Break**

15:50 - 17:05 Session F (Perovskites and Hybrid Materials [Solar Cells and related devices])
Chairperson: Takayuki Chiba (Yamagata University, Japan)

FO-05

15:50 - 16:05 Investigation of Ionic Liquid as dopant of Spiro-OMeTAD for High Thermal Stability Perovskite Solar Cells
Kohei Yamamoto (National institute of advanced industrial science and technology, Japan)

FO-06

16:05 - 16:20 Surface and Interface Engineering for High-Performance and Long-Term Stable Perovskite Solar Cells and Self-Powered Photodetectors
Chih-Yu Chang (National Taiwan University of Science and Technology, Taiwan)

FI-03 (Invited Lecture)

16:20 - 16:50 Controlled Self-Assembly of Colloidal Quantum Dots and their Photophysical Properties
Kazushi Enomoto (RIKEN, Japan)

FO-07

16:50 - 17:05 Ultraflexible Perovskite Solar Modules for Indoor Energy Harvesting
Hiroaki Jinno (Japan Aerospace Exploration Agency, Japan)

Friday, June 21, 2024
TERRSA Hall

17:05 -

Closing remarks

Conference Vice-Chair

Takaaki Manaka (Tokyo Institute of Technology, Japan)