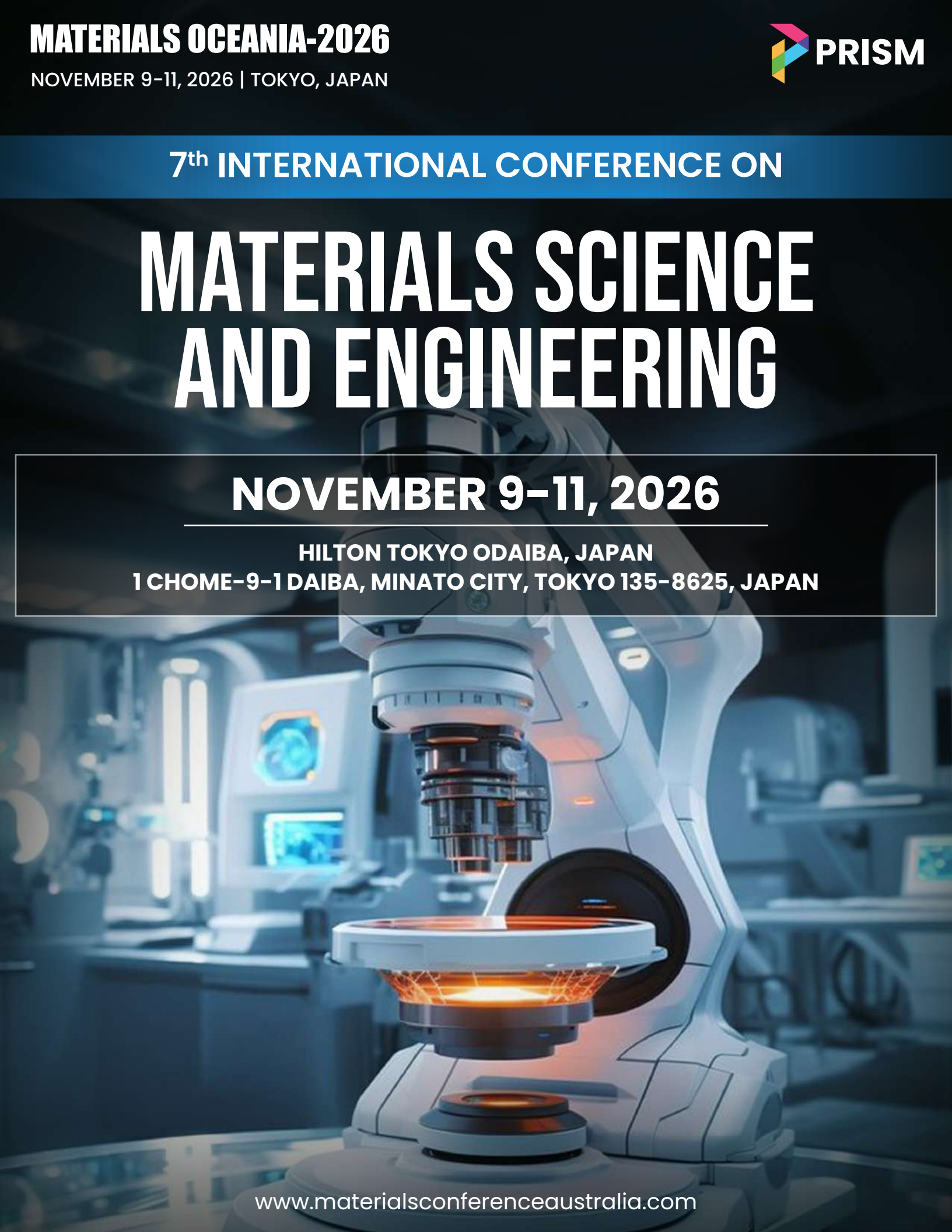
PRISM

7th INTERNATIONAL CONFERENCE ON

MATERIALS SCIENCE AND ENGINEERING

NOVEMBER 9-11, 2026

HILTON TOKYO ODAIBA, JAPAN
1 CHOME-9-1 DAIBA, MINATO CITY, TOKYO 135-8625, JAPAN



INSTRUCTIONS FOR SPEAKERS

1. **Invited Talks:** Invited speakers will be allotted 17 minutes to present their results, followed by a 3 minutes discussion period.
2. **Oral Talks:** Oral speakers will be allotted 12 minutes to present their results, followed by a 3 minutes discussion period.
3. Please do not exceed the allotted time slot.
4. Speakers should have their presentations saved on a USB memory stick.
5. It is suggested to email a copy of the presentations to us as back up.
6. Please prepare the presentation in PPT files, PDF is not recommended.
7. Basic AV setup will be provided: laser pointer, cordless mike, desktop mike, sound system.
8. Laptops equipped with Windows 10, Office 2010 Pro English (Word, Powerpoint, Excel) and Adobe Reader are provided.
9. If your presentation files contain movies, please make sure that they are well formatted and connected to the main files. You may check your slides during the breaks.
10. Projectors are equipped with standard VGA connection ports. Mac users should bring their own adapter cord.
11. Please re-check this program prior to the conference to confirm if any changes have been made to your session.
12. Conference volunteers will move the mic during Q&A. Audience with questions may raise hand to receive the mic.

INSTRUCTIONS FOR POSTER

1. Maximum poster size is A0.
2. Push pins for attaching the poster to the board will be provided.
3. Poster presenters will be directed to the designated board at the start of the poster session.
4. Author must be present to provide details and answer questions during the selected poster session times.

DAY-1, 9 NOVEMBER, 2026 @ Rainbow Room

15:00 Onwards **Welcome Reception-Hosting Team:** Assistant Professor Higo, Assistant Professor Leung, Dr. Han and Dr. Earnshaw

16:00 **Opening Remarks by** Associate Professor Yusuke Asakura, Associate Professor Yusuf Valentino Kaneti and Dr. Emtiaz Ahmed

DAY-2, 10 NOVEMBER, 2026 @ Sirius A

08:30-09:00 **Registration**

Session: Energy and Environmental Materials

Session Chairs: Yusuke Asakura, Nagoya University, Japan
Kwang Keat Leong, The University of Queensland, Australia

09:00-09:20 **Title:** Boron-Doped Diamond Powder-packed Electrolysis Flow Cell for Water Treatment
Takeshi Kondo, Tokyo University of Science, Japan

09:20-09:40 **Title:** Efficient Low-Voltage CO_2-to-CO Electrolysis Using a Polymer-Coupled Mn Molecular Catalyst
Keita Sekizawa, Toyota Central R&D Labs, Japan

09:40-10:00 **Title:** Beyond PEO: Redesigning Polymer Electrolytes for Scalable Solid-State Batteries
Lee Sang Young, Yonsei University, South Korea

10:00-10:20 **Title:** From Chemical Solution Processes to Functional Nanostructured Thin Films for Energy and Environmental Applications
Fabien GRASSET, French National Centre for Scientific Research, Japan

10:20-10:40 **COFFEE BREAK**

10:40-11:00 **Title:** Bifunctional Metal-Organic Frameworks for Electrochemical Energy Storage and Green Hydrogen Generation
Christine Young, National Yunlin University of Science and Technology, Taiwan

11:00-11:20 **Title:** Engineering Iron Oxides: The Roles of Metal Elements in Solid Solutions and Phase Separation
Seishi Abe, Research Institute for Electromagnetic Materials, Japan

11:20-11:40 **Title:** Multidimensional Hierarchical Metal nanoparticles/two-dimensional Transition Metal Dichalcogenide Nanocomposites as Electrocatalysts for Efficient Hydrogen Evolution Reaction
Kung-Hwa Wei, National Yang Ming Chiao Tung University, Taiwan

11:40-12:00 **Title:** Role of Oxygen in Enhancing Catalytic Activity for Ammonia Synthesis: The Case of $Ru/CaH_{2-2x}O_x$
Takaya Ogawa, Kyoto University, Japan

12:00-13:00 **LUNCH BREAK** **@ Rainbow Room**

Session Chairs: Peng Chen, Tohoku University, Japan
Jean-Claude CRIVELLO, French National Centre for Scientific Research, Japan

13:00-13:20 **Title:** Machine-Learning Molecular Dynamics with Born Effective Charges for Predicting Dielectric and Ionic Properties of Complex Materials
Ryoji Asahi, Nagoya University, Japan

13:20-13:40 **Title:** Digital Twin-Guided Materials and Electrode Design for High-Energy-Density Rechargeable Batteries
Yong Min Lee, Yonsei University, South Korea

13:40-14:00 **Title:** Metal-Organic Carboxylates: From Hydrated Ion Conductors to Heterometallic Cluster Assemblies
Nobuto Yoshinari, The University of Osaka, Japan

14:00-14:20 **Title:** Development of Cost-Effective and High-Energy Cathodes for Next-Generation Rechargeable Batteries
Hiroaki Kobayashi, University of Tokyo, Japan

14:20-14:40 **Title:** Scalable Ternary-Solvent Growth of Ultrathin 2D Perovskite Crystals for Custom Optoelectronic Functionalities
Sudha Mokkapati, Monash University, Australia

14:40-15:00 **COFFEE BREAK**

15:00-15:20 **Title:** Hydrophobic Modification of MOF-based Photocatalysts for H_2O_2 Production
Yoshifumi Kondo, University of Osaka, Japan

15:20-15:40 **Title:** Graphene Coating of Zn Metal Powder for Aqueous Zn-ion Batteries
Junyoung Mun, Sungkyunkwan University, South Korea

15:40-16:00 **Title:** Partially Thiolated, Atomically Precise Gold Clusters as Model Heterogeneous Catalysts
Shinya Masuda, Institute of Science Tokyo, Japan

16:00-16:20 **Title:** Development of Organic Energy Materials
Kouki Oka, Tohoku University, Japan

16:20-16:40 **Title:** Particle-Selective Consolidation with a Citrate-Crosslinked β-Cyclodextrin Co-Binder for Dry-Processed Thick Cathodes
Seho Sun, Yeungnam University, South Korea

16:40-18:00 **Poster Presentations/ Refreshments (Co-sponsored by JST ERATO)** **@ Rainbow Room**

DAY-2, 10 NOVEMBER, 2026 @ Sirius B

Session: Biomaterials, Bioengineering and Bio-related Applications

Session Chairs: Minsu Han, Nagoya University, Japan
Mandy Hei Man Leung, Nagoya University, Japan

09:00-09:20 **Title:** The Importance of Assessing the Health Impact of Graphenic Carbon Materials
Alberto Bianco, Université de Strasbourg, France

09:20-09:40 **Title:** Next-Generation Polymeric Materials Development and Their Clinical Applications
Dokyoung Kim, Kyung Hee University, South Korea

09:40-10:00 **Title:** Biopolymer Piezoelectric Technology for Health Applications
Massimo De Vittorio, Istituto Italiano di Tecnologia, Italy

10:00-10:20 **Title:** Diamond-Like Carbon Coating Modulates Staphylococcus aureus Biofilm Formation on Polymeric Medical Substrates Under Static and Flow Conditions
Yasuhiro Fujii, Okayama University of Science, Japan

10:20-10:40 **COFFEE BREAK**

10:40-11:00	**Title:** Biomaterials from Extreme Environments: The Promise of Microbial Biopolymers **Sandra Pucciarelli,** University of Camerino, Italy
11:00-11:20	**Title:** Next-Generation Molecularly Templated Materials From Biomimetics to Biosuperiors **Boris Mizaikoff,** Ulm University, Germany
11:20-11:40	**Title:** Label-free and Image-based Electrical Characterization of Cell Membrane **Masahiro Motosuke,** Tokyo University of Science, Japan
11:40-12:00	**Title:** Molecular Design of Porphyrin-Containing Glycopolymers for Biomedical Applications **Koji Matsuoka,** Saitama University, Japan
12:00-13:00	**LUNCH BREAK** **@ Rainbow Room**
	Session Chair: Yaerim Lee, University of Tokyo, Japan
13:00-13:20	**Title:** Molecular Engineering Enables Bright, Narrow-Emissive Carbon Dots for Multiplexed Super-Resolution Mapping of Organelle Dynamics **Yang Tian,** East China Normal University, China
13:20-13:40	**Title:** Chirality-Driven Ferroelectricity in Lead Halide Crystals **Yukana Terasawa,** Kumamoto University, Japan
13:40-13:55	**Title:** Photoinactivation of S. aureus by Molybdenum Cluster and Graphene Oxide Coatings **Émilie Fragnaud,** University of Rennes, France
13:55-14:10	**Title:** An Evaluation Method for Lipid Membrane Viscosity *via* the Diffusion of Particles Adsorbed on Lipid Membranes **Taichi Nishizawa,** Tohoku University, Japan
14:10-14:25	**Title:** Iron-Based Layered Double Hydroxide Nanoparticles Co-Loaded with S-Nitrosoglutathione: A Multifunctional Sonosensitiser Platform with Tunable ROS Generation and T_2-Weighted MRI Contrast **Firasti Sumadi,** The University of Queensland, Australia
14:25-14:40	**Title:** Mesoporous Gold SERS Platform for Extracellular Vesicle-based Detection of Ovarian Cancer **Mahedi Hasan,** The University of Queensland, Australia
14:40-15:00	**COFFEE BREAK**
	Session: Electronics and Optical Materials
	Session Chair: Yang Tian, East China Normal University, China
15:00-15:20	**Title:** Van der Waals Assembly of 2D Materials for Reconfigurable Electronics **Joohoon Kang,** Yonsei University, South Korea
15:20-15:40	**Title:** Development of Small-molecule and Polymeric Semiconductors for High-performance Organic Photodetectors **In Hwan Jung,** Hanyang University, South Korea
15:40-16:00	**Title:** III–V Thermophotovoltaic Cells for Low-Cost Thermal Energy Conversion Systems **Jihun Lim,** Jeonbuk National University, South Korea
16:00-16:20	**Title:** Narrow Gap Semiconductor for IR Imaging and Sensing: A Review **Gravrand Olivier,** Univ. Grenoble Alpes, France
16:20-16:40	**Title:** Functional Development of Unexplored Materials Utilizing Informatics Methods: With a View toward Device Development **Isao Ohkubo,** National Institute for Materials Science, Japan
16:40-18:00	**Poster Presentations/ Refreshments (Co-sponsored by JST ERATO)** **@ Rainbow Room**

DAY-2, 10 NOVEMBER, 2026 @ Jupiter

Session: Nanotechnology and Nanoscience

Session Chairs: Yusuf Valentino Kaneti, Nagoya University, Japan and The University of Queensland, Australia
Lintang Sakti, The University of Queensland, Australia

09:00-09:20 **Title:** Hybrid Electrode Systems Using Unique Inorganic Materials for Nanoenergy Technology
Hyojong Yoo, Hanyang University, South Korea

09:20-09:40 **Title:** Creation of Highly Dispersed Ni Nanoparticles with Various Unique Catalysis
Takafumi Yatabe, The University of Tokyo, Japan

09:40-10:00 **Title:** Why Is Blue Fluorescence Generated by Carbon Quantum Dots and Amine-Branched Dendrimers?
Toyoko Imae, National Taiwan University of Science and Technology, Taiwan

10:00-10:20 **Title:** Structural Effects of Cu Nanoclusters in Electrochemical Nitrate Reduction Reaction toward Ammonia Synthesis
Tokuhisa Kawawaki, Yokohama City University, Japan

10:20-10:40 **COFFEE BREAK**

10:40-11:00 **Title:** Hepatocyte-Specific Nanoparticle for Sensitive and Precise Hepatobiliary Magnetic Resonance Imaging
Haiming Fan, Northwest University, China

11:00-11:20 **Title:** Nanoarchitecting Mesoporous Metals: From Single-Component Mesoporous Co to Single-Crystalline High-Entropy Alloys
Takuma Higo, Nagoya University, Japan

11:20-11:35 **Title:** In Situ-Grown Amorphous Oxide Trilayer for Self-Rectifying Resistive Switching
Seungwon Lee, Jeonbuk National University, South Korea

11:35-11:50 **Title:** Channel-Length Scaling Effects on the Electrical Performance of Top-Gate In-Ga-Zn-O Thin Film Transistors
Jinuk Kwon, Jeonbuk National University, South Korea

11:50-12:05 **Title:** Characterization of Joule Heating in Submicron Metal Lines
Hyunho Jung, Jeonbuk National University, South Korea

12:00-13:00 **LUNCH BREAK** **@ Rainbow Room**

Yamauchi ERATO Public Symposium: How Next-Gen "Holey Materials" Will Transform Our Lives (Co-Sponsored by International Research Unit, Nagoya University)

Session Chair: Emtiaz Ahmed, The University of Queensland, Australia

13:00-13:20 **Title:** ERATO Overview: The Birth of Mesoporous Materials 2.0—From Structural Design to Electron-Mobility Control
Yusuke Yamauchi, Nagoya University, Japan and The University of Queensland, Australia

13:20-13:40 **Title:** Development of Electroless Deposition Processes
Mandy Hei Man Leung, Nagoya University, Japan

13:40-14:00 **Title:** Mesoporous High-Entropy Alloys and Optical Applications
Joel Henzie, National Institute for Materials Science (NIMS), Japan

Session Chair: Jacob Earnshaw, The University of Queensland, Australia

14:00-14:20 **Title:** Mesoporous Chalcogenides
Minsu Han, Nagoya University, Japan

14:20-14:40 **Title:** Biomedical Applications of Mesoporous Materials
Emtiaz Ahmed, The University of Queensland, Australia

14:40-15:00 **COFFEE BREAK**

15:00-15:20 **Title:** Mesoporous/Nanoporous Organic Polymers and Metal Hydroxides Using a New Class of Hard Templates
Yusuke Asakura, Nagoya University, Japan

Session Chair: Yusuke Yamauchi, Nagoya University, Japan and The University of Queensland, Australia

15:20-16:00 **Title:** ERATO Special Lecture I: High-Impact Breakthroughs in the Mesoporous Materials Family
Ryong Ryoo, KENTECH Institute for Environmental and Climate Technology, South Korea

16:00-16:40 **Title:** ERATO Special Lecture II: Liquid Interfaces to Understand Essences of Biological Activities
Katsuhiko Ariga, National Institute for Materials Science (NIMS), Japan

16:40-18:00 **Poster Presentations/ Refreshments (Co-sponsored by JST ERATO)** **@ Rainbow Room**

MO-1 **Title:** Sustainable Ir-catalyzed Hydroaminimethylation of Olefines with Formic Acid as H_2-source *via* Ligand Architecture Tuning
Ye Liu, East China Normal University, China

MO-2 **Title:** Detachable Block Copolymer Distributed Bragg Reflectors for Wavelength-Matched SERS Sensing
Yun Gyu Jeong, Yonsei University, South Korea

MO-3 **Title:** Analysis of Ammonia Dispersion and Water Curtain Mitigation Following a Safety Valve Release from an Ammonia Storage Tank
Seojin Lee, Ajou University, South Korea

MO-4 **Title:** Effect of Laser Polishing Process Parameters on the Surface Roughness of Martensitic 420J2 Stainless Steel
Kyumin Kim, Korea Institute of Industrial Technology, South Korea

MO-5 **Title:** Giant Piezoresponse in Nanoporous $(Ba,Ca)(Ti,Zr)O_3$ Thin Films Enabled by Pore-Induced Lattice Strain
Yukana Terasawa, Kumamoto University, Japan

MO-6 **Title:** Thermomechanical and Optical Properties of Germanotellurite Glasses Doped with Ho^{3+} and Co-Doped with $Ho^{3+}/Yb^{3+}/Tm^{3+}$
Barbara Klimesz, Politechnika Opolska, Poland

MO-7 **Title:** Methodology for Measuring Joule Heating from Electrical Power Dissipation
Joowon Lee, Jeonbuk National University, South Korea

MO-8 **Title:** Dendrite-Free Lithium Metal Cycling Enabled by a New Novel Ionic Additive
Dong Won Lee, Soongsil University, South Korea

MO-9 **Title:** Dendrite-Free Lithium Metal Cycling Enabled by a New Novel Ionic Additive
Park Jun Seo, Soongsil University, South Korea

MO-10 **Title:** Development of a Corrosion Testing and Evaluation Method for Metallic Materials Considering Ammonia Handling Environments
Yoomin Oh, Ajou University, South Korea

MO-11 **Title:** Sulfonated Fe-MOF-Polytriazole Hybrid Membranes with Enhanced Proton Conductivity: Structure–Property Relationships and Application Potential
Riddhi Kamble, Indian Institute of Technology, Kharagpur, India

MO-12 **Title:** Entropy-Laddered High-Entropy Materials for Reliable Electrochemical Energy Storage Across Wide Temperatures
Jong G. Ok, Seoul National University of Science and Technology, South Korea

MO-13 **Title:** Skin-Conformal Nanofiber-Based Adhesive Electronics with Octopus-Inspired 3D Suction Cups for Enhanced Transdermal Delivery
Minwoo Song, Sungkyunkwan University, South Korea

MO-14 **Title:** Effective HA-Loading Strategy in Internal Dome-Assisted Suction Cups for Enhanced Transdermal Delivery Under Vertical Adhesion and Vibration
Minjin Kim, Sungkyunkwan University, South Korea

MO-15 **Title:** Discovery of a Physicochemically Robust Co-reactant for Reliable Electrochemiluminescence
Sang Hyeon Jeon, Soongsil University, South Korea

MO-16 **Title:** Anisotropic Characterization of Makino Bamboo/Epoxy Composites: Fiber Volume Fraction Effects and Transverse Strength Modeling
Wen-Bin Young, National Cheng Kung University, Taiwan

MO-17 **Title:** Policy-Adjusted Economic and Life-Cycle Assessment of Green, Blue, and Gray Hydrogen Production in Australia
Dong Hyun Kim, Yonsei University, South Korea

MO-18 **Title:** Interpretable Machine Learning-Guided Catalyst Design and Process Optimization for Furfural Hydrogenation
Youngkeun Kim, Yonsei University, South Korea

MO-19 **Title:** Automated Prediction of Coverage-Dependent Binding Energies for Self-Consistent Microkinetic Modeling
Khayankhyarvaa Narmandakh, Yonsei University, South Korea

MO-20 **Title:** Heterointerface Site-Triggered Lattice Oxygen Activation for Enhanced Alkaline Water Oxidation
Wei Tao, Yonsei University, South Korea

MO-21 **Title:** Multifunctional MOF/Glycolipid Nanocomposite Topical Gel for Potent Antimicrobial Antibiofilm and Wound Healing Activities
Shivani Chauhan, Dr. B. R. Ambedkar National Institute of Technology, India

MO-22 **Title:** Synthesis of Chiral Gold Nanostructures on Gold-Coral-Coated Transparent Conductive Oxide Substrates *via* $[AuCl_4]^-$ and Cysteine Interactions for Enhanced Chiral Sensing
Wang Junhe, Waseda University, Japan

MO-23 **Title:** Effect of Cysteine Oxidation Products on the Formation of Electrodeposited Chiral Gold Nanostructures
Tianji Zhang, Waseda University, Japan

MO-24 **Title:** Examination of Time-Reversal Symmetry in the Pseudogap of Cuprate Superconductors Using G-HAUP
Komei Okano, Waseda University, Japan

MO-25 **Title:** Transmittance and Coupling Efficiency of Metalenses with Inter-Nanopillar Filling
Masaki Okamoto, Waseda University, Japan

MO-26 **Title:** Plasma-Induced Surface Engineering of Single Crystalline $LiNi_{0.5}Mn_{1.5}O_4$ Cathodes for 5 V-Class Li-ion Batteries
Jinyoung Choi, Korea Institute of Industrial Technology (KITECH), South Korea

MO-27 **Title:** Interfacial Electronic Modulation *via* Ni Vacancies in Cu_2O-NiO for Enhanced C-C Coupling in CO_2 Electroreduction
Jing Tang, East China Normal University, China

Closing of day 2

DAY-3, 11 NOVEMBER, 2026 @ Sirius A

Session: Energy and Environmental Materials

Session Chair: Fabien GRASSET, French National Centre for Scientific Research, Japan

09:00-09:20 **Title:** Chemo-Mechanical Failure Mechanisms in High-Performance Li-Ion Batteries
Cheng Yan, Queensland University of Technology, Australia

09:20-09:40 **Title:** Electrochemical CO_2 Reduction to C_2H_4 Using Cu-Based Electrocatalysts
Tsutomu Minegishi, The University of Tokyo, Japan

09:40-10:00 **Title:** Defect Engineering in Electrocatalysts for Sustainable Energy Conversion
Xiaoyan Jin, University of Seoul, South Korea

10:00-10:20 **Title:** Sulfided-ZnBiMo Heterostructures for the Photocatalytic Production of Hydrogen from Water Splitting
Arturo Barrera Rodríguez, UNIVERSIDAD DE GUADALAJARA, Mexico

10:20-10:40 **Title:** Rational Design of La-Based Non-Equimolar High-Entropy Metal Oxides for Efficient Oxygen Evolution
Aditi Singhal, Ahmedabad University, India

10:40-11:00 **Title:** Spin Polarized Chiral Materials for Catalytic/Asymmetric Catalytic Multicarbon CO_2 Reduction
Yuxi Fang, Shanghai Jiao Tong University, China

11:00-11:20 **COFFEE BREAK**

Session Chairs: Martin Hartmann, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
Sandra Pucciarelli, University of Camerino, Italy

11:20-11:40 **Title:** Sophisticated Control of Hierarchical Nanoporous Carbons for Energy Applications
Jacob Earnshaw, The University of Queensland, Australia

11:40-12:00 **Title:** Overcoming Reductive Degradation of PTFE in High Energy Density Solvent-Free Anodes
Dongsoo Lee, Gachon University, South Korea

12:00-12:15 **Title:** Stable In-Water Operation of Acid-Treated PEDOT:PSS Thermoelectric Films
Jongan Choi, Pukyong National University, South Korea

12:15-12:30 **Title:** Self-Healing and Recoverable Organic Thermoelectrics Enabled by Single-Walled Carbon Nanotube-Based Ternary Composites
Jihoon Shin, Pukyong National University, South Korea

12:30-12:45 **Title:** Electronically Conductive Composite Binder for High-Performance Silicon-Based Electrodes in Lithium-Ion Batteries
Seungyeop Choi, Yonsei University, South Korea

12:45-13:00 **Title:** Sustainable Cherry Blossom-Based Triboelectric Nanogenerator for Self-Powered Energy Harvesting and Intelligent Human–Machine Interfaces
Omkar Ashok Patil, Jeonbuk National University, South Korea

13:00-13:15 **Title:** Rational Design of Large-Format Sulfide-Based Solid-State Batteries for Low-Temperature Operation
Yongjun Kwon, Yonsei University, South Korea

13:15-13:30 **Title:** Durable Anticorrosion Coating for Metallic Substrates
Kwang Keat Leong, The University of Queensland, Australia

13:30-13:45 **Title:** In-Situ Electrochemical Transformation of HKUST-1 into Mixed-Valence Oxide-Derived Copper for Selective CO_2-to-C_2+ Conversion
Huangang Lin, UNSW, Australia

13:45-14:00 **Title:** Balancing Transparency and Catalytic Activity in $NiFeCoO_x$ Cocatalysts for Photoelectrochemical Water Oxidation
Koichi Yoshiyama, University of Miyazaki, Japan

14:00-18:00 **Sayonara Party / Conference Banquet Featuring an Awards Ceremony and a Special Performance**

Hosting Team: Assistant Professor Higo, Dr. Han, and Dr. Emtiaz Ahmed

Opening Remarks by Distinguished Professor Yusuke Yamauchi, Associate Professor Yusuf Valentino Kaneti, and Dr. Earnshaw

@ Rainbow Room

DAY-3, 11 NOVEMBER, 2026 @ Sirius B

Session: Ceramics, Polymers and Composite Materials

Session Chair: In Hwan Jung, Hanyang University, South Korea

09:00-09:20 **Title:** From Polymer Grafting to Messenger Materials and Sustainable Metamaterials
Andreas Fery, Leibniz-Institut für Polymerforschung Dresden, Germany

09:20-09:40 **Title:** All-Dislocation-Ceramics for High Ionic Conductivity and High Fracture Toughness; Possible Production by Cold Sintering
Kyuichi Yasui, National Institute of Advanced Industrial Science and Technology, Japan

09:40-10:00 **Title:** Defect Engineering in Oxides *via* Flash Sintering
Hsun-Yi Chen, National Taiwan University, Taiwan

10:00-10:20 **Title:** Advanced Processing and Fatigue Behavior of Carbon Nanotube Reinforced Aluminum Matrix Hybrid Composites
Hideaki Tsukamoto, Hosei University, Japan

10:20-10:40 **Title:** Why Do Strong Carbon Nanotube Yarns Produce Weak Composites?
Go Yamamoto, Tohoku University, Japan

10:40-11:00 **Title:** Shaping Macroscopic Dynamic Wetting Through Multiscale Interfacial Heterogeneity
Yaerim Lee, University of Tokyo, Japan

11:00-11:20	**COFFEE BREAK**
	Session: Computational Materials
	Session Chair: Andreas Fery, Leibniz-Institut für Polymerforschung Dresden, Germany
11:20-11:40	**Title:** Investigating Contact-Limited Scaling in Sub-15-nm TMD FETs from First-Principles **Lin Kuan Bo,** National Yang Ming Chiao Tung University, Taiwan
11:40-12:00	**Title:** New Understanding of Sintering and Re-dispersion of Supported Nanocatalysts **Yi Gao,** Chinese Academy of Sciences, China
12:00-12:20	**Title:** From First-principles Calculations to Interpretable AI for the Rational Design of Electrochemical Energy Materials **Byungchan Han,** Yonsei University, South Korea
12:20-12:40	**Title:** Constraint-Guided Diffusion Models for Inorganic Crystal Structure Discovery **Jean-Claude CRIVELLO,** French National Centre for Scientific Research, Japan
12:40-13:00	**Title:** First-Principles Investigation of Hydride-Ion Transport and Ion-Exchange Mechanisms in Mixed-Anion Oxyhydrides **Jun Haruyama,** Riken Pioneering Research Institute, Japan
13:00-13:20	**Title:** Localized Electrochemical Imaging and Active-Site Analysis by Scanning Electrochemical Cell Microscopy **Akichika Kumatani,** Tohoku University, Japan
13:20-13:40	**Title:** Growth of Semiconductors on Insulating Crystalline Substrates **Keisuke Arimoto,** University of Yamanashi, Japan
13:40-13:55	**Title:** Morphology-Based Descriptions of Ferrite Formation During Nucleation **Bonaventure C Ugwuanyi,** The University of Sheffield, UK
14:00-18:00	**Sayonara Party / Conference Banquet Featuring an Awards Ceremony and a Special Performance** **Hosting Team: Assistant Professor Higo, Dr. Han, and Dr. Emtiaz Ahmed** **Opening Remarks by Distinguished Professor Yusuke Yamauchi, Associate Professor Yusuf Valentino Kaneti, and Dr. Earnshaw** **@ Rainbow Room**

DAY-3, 11 NOVEMBER, 2026 @ Jupiter

	Session: Porous Materials
	Session Chair: Byungchan Han, Yonsei University, South Korea
09:00-09:20	**Title:** Coupling Mesoporosity and Amorphous Disorder in High-Entropy Alloy Films Toward Highly Efficient Methanol Electrocatalysis **Lintang Sakti,** The University of Queensland, Australia
09:20-09:40	**Title:** Synthesis of Single-Crystalline Ordered Nanoporous Metal Oxides by Confined Crystal Growth inside Silica Colloidal Crystals **Takamichi Matsuno,** Waseda University, Japan

09:40-10:00 **Title:** Ultrasonic Monitoring of Zeolite and MOF Crystallization
Martin Hartmann, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany

10:00-10:20 **Title:** Comparison of Four Types of Alumina Adsorbents Developed for Domestic Production of $^{99}Mo/^{99m}Tc$
Fukumitsu Nobuyoshi, Kobe Proton Center, Japan

10:20-10:40 **Title:** Synergistic Strategies for Low-PGM Electrocatalysts in HER and OER toward Efficient and Scalable PEM Water Electrolysis
Hyunsoo Lim, Korea Electronics Technology Institute, South Korea

10:40-11:00 **Title:** Dimensional Self-Assembly Control of Inorganic Porous Materials
Yusuf Valentino Kaneti, Nagoya University, Japan and The University of Queensland, Australia

11:00-11:20 **COFFEE BREAK**

Session: Structural Materials

Session Chairs: Kanako Watanabe, Tohoku University, Japan
Ye Liu, East China Normal University, China

11:20-11:40 **Title:** Cu Precipitation and Grain Boundary Phosphorus Segregation upon Direct Ageing of Laser Powder Bed Fusion 17-4 PH Stainless Steel
Vitor Rielli, The University of New South Wales, Australia

11:40-12:00 **Title:** Design of Structural Colloids as Catalytic Support
Kanako Watanabe, Tohoku University, Japan

12:00-12:20 **Title:** Super-Resolved Real-Space Evaluation of Exciton Migration in Organic Solid Materials
Syoji Ito, The University of Osaka, Japan

12:20-12:40 **Title:** Magnetocaloric Materials for Clean and Efficient Cooling: The Promise of $HoAl_2$ and HoB_2
Mahboobeh Shahbazi Manshadi, Queensland University of Technology, Australia

12:40-13:00 **Title:** Beyond Surface Modification: Designing Titanium Biointerfaces for Dentistry
Peng Chen, Tohoku University, Japan

13:00-13:15 **Title:** Data Assimilation-Assisted Multi-Phase-Field Simulation of Grain Growth: Estimation of Anisotropic Grain Boundary Mobility and Energy
Falak Beigh, Indian Institute of Technology Hyderabad, India

13:15-13:30 **Title:** Microstructural Evolution and Mechanical Performance of High-Entropy Dual-Phase Boride-Carbide Ultra-High Temperature Ceramics
Kunwar Pratap Singh, Indian Institute of Technology Kanpur, India

13:30-13:45 **Title:** Electric-Field Directed Assembly in Fluorine-containing Block Copolymer Films
Mingeun Park, Yonsei University, South Korea

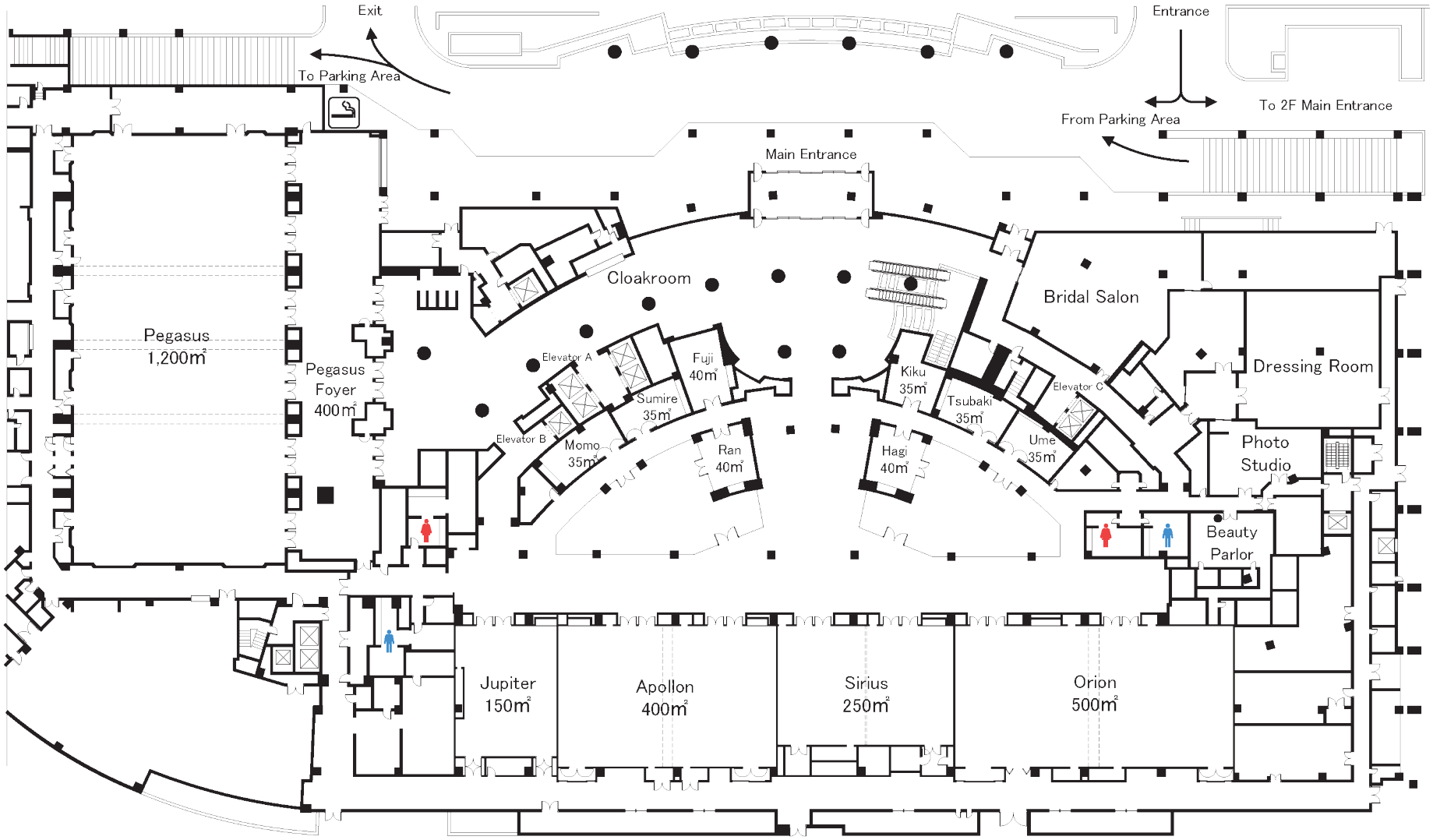
13:45-14:00 **Title:** Fast Fabrication of Eu_2O_3-Doped Silicate Glass Scintillator Prepared by Microwave Melting Technique
Nakarin Singkiburin, Nakhon Pathom Rajabhat University, Thailand

14:00-18:00 **Sayonara Party / Conference Banquet Featuring an Awards Ceremony and a Special Performance**

Hosting Team: Assistant Professor Higo, Dr. Han, and Dr. Emtiaz Ahmed
Opening Remarks by Distinguished Professor Yusuke Yamauchi, Associate Professor Yusuf Valentino Kaneti, and Dr. Earnshaw

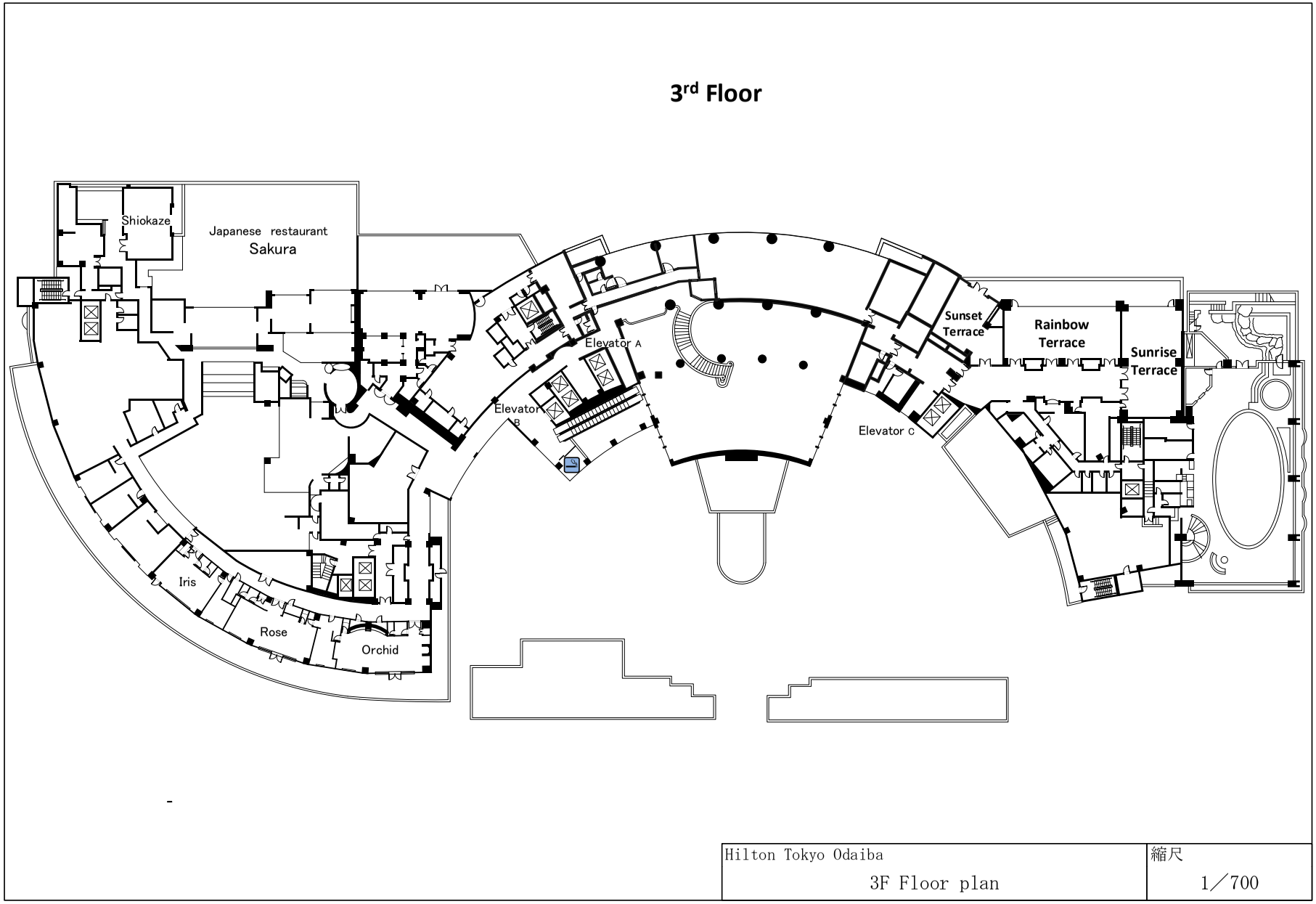
@ Rainbow Room

NOTES



Hilton Tokyo Odaiba

1F Floor plan


3rd Floor
Shiokaze
Japanese restaurant
Sakura
Elevator A
Elevator B
Elevator C
Sunset Terrace
Rainbow Terrace
Sunrise Terrace
Iris
Rose
Orchid
Hilton Tokyo Odaiba
3F Floor plan
縮尺
1／700

PRISM

PROFESSIONAL CONFERENCE ORGANIZERS

Prism Scientific Services Pty Ltd., a leading conference organising company, is committed to advancing the field of Materials Science and Engineering by bringing together researchers, academicians, industry professionals, and technology experts from around the world. Our mission is to create international platforms that encourage knowledge exchange, foster meaningful collaborations, and accelerate scientific innovation across diverse areas of materials research.

We specialise in planning and organising international conferences covering a broad spectrum of Materials Science, including advanced materials, nanotechnology, functional materials, biomaterials, energy materials, smart materials, sustainable materials, and emerging technologies. Through interdisciplinary engagement, our conferences aim to bridge the gap between fundamental research and industrial applications, address global scientific challenges, and promote the development of innovative and sustainable material solutions.

With a strong commitment to sustainability and responsible event management, we strive to minimise the environmental footprint of our conferences by encouraging eco-friendly practices and responsible resource utilisation. We believe that scientific collaboration and technological advancement play a vital role in shaping a sustainable and innovative future.

If you are interested in partnering with us in the planning and organisation of international conferences, scientific meetings, and academic events worldwide, we would be delighted to explore opportunities for collaboration. Please feel free to contact us at writeus@scientificprism.com or +61 416000202.

Our services extend worldwide, and we look forward to building successful partnerships and creating impactful scientific events together.

WE WISH TO SEE YOU AT MATERIALS OCEANIA 2027

PRISM

writeus@scientificprism.com
Australia: +61 390163202
Prism Scientific Services Pty Ltd
302/480 Collins Street, Melbourne, VIC 3000, Australia
www.scientificprism.com

www.materialsconferenceaustralia.com