

Oct. 28 (Sat)

Room# B-202

8:45	Registration
9:30	Opening Ceremony T. Fukuda (President, UEC) Y. Saito (Director, MEXT) S. Kawamura (Deputy Director, METI) Y. Sato (Executive Director, NEDO) Y. Iwasawa (Symp. Chair, UEC)
	Chairperson: E. Ohira (NEDO)
10:00	SL S. Kawamura (Ministry of Economy, Trade and Indus. (METI), Japan) Current Policy and Activity toward Realizing a Hydrogen-based Society in Japan
10:30	Coffee Break
	Chairpersons: M. Takata (Tohoku Univ.), C. Lamberti (Torino Univ.)
10:50	PL1 A. I. Frenkel (Stony Brook Univ.; Brookhaven Nat. Lab., USA) Cutting the Gordian Knots at the Nanoscale by in situ XAFS
11:20	PL2 X. Bao (Univ. Sci. Tech. China.; Dalian Inst. Chem. Phys., China) Chainmail for Catalyst – the Role of Penetrating Electron in Catalysis
11:50	KN1 M. Tada (Nagoya Univ.; RIKEN SPring-8 Center, Japan) Visualization of Heterogeneity of Solid Catalysts
12:15	Lunch
13:20	Poster (General) 50 min
14:10	Group Photo
14:20	Coffee Break

SL: SPECIAL LECTURE
PL: PLENARY LECTURE
KN: KEYNOTE LECTURE
IN: INVITED LECTURE
O: ORAL PRESENTATION

Room# B-201

	Chairpersons: H. Kanesaka (FC-Cubic; UEC), K. Ota (Yokohama Nat. Univ.)		Chairpersons: W. R. Flavell (Univ. Manchester), K. Tanaka(UEC)
14:40	IN1 T. Kawai (Toyota Motor Corp., Japan) FCV Development and Initial Market Creation Mission to a Hydrogen Society	14:40	IN5 J. Nakamura (Univ. Electro-Commun., Japan) Partial Density of States of Boron and Carbon Compounds Studied by Soft X-ray Absorption and Emission Spectroscopy
15:00	IN2 A. Iiyama (Univ. Yamanashi, Japan) Recent R & D of Electrocatalysts and Polymer Electrolytes with Superlative, Stable, and Scalable Performance	15:00	O-8 W. Z. Qian (Tsinghua Univ., China) High Voltage Supercapacitor Based on Graphene and Ionic Liquids
15:20	IN3 T. Uruga (Univ. Electro-Commun.; JASRI, Japan) SPring-8 BL36XU: Synchrotron Radiation-based Multi-Analytical Beamline for Polymer Electrolyte Fuel Cells under Operating Conditions	15:15	O-9 K. Kaneko (Shinshu Univ., Japan) Non-Coulombic Accumulation of Co-ions of Ionic Liquids in Carbon Nanopores with HR-MC Aided X-ray Scattering: Insight for Better Supercapacitors
	Chairpersons: K. Yamada (Asahi Glass), W.-J. Chun (ICU)	15:30	O-10 J. Nakamura (Univ. Electro-Commun.; CREST-JST, Japan) Anomalous Enhancement of Seebeck Coefficients of the Graphene/h-BN Composites
15:40	IN4 Y. Takagi (Inst. Molec. Sci., Japan) <i>In-situ</i> Ambient Pressure Hard X-ray Photoelectron Spectroscopic Study of Electrodes of Polymer Electrolyte Fuel Cells		Chairpersons: H. Kondo (Keio Univ.), S. Takakusagi (Hokkaido Univ.)
16:00	O-1 H. Matsui (Nagoya Univ., Japan) 3D-Visualization of PEFC Pt Cathode Catalyst in MEA during ADT Cycles by <i>Operando</i> CT-XANES Technique	15:45	O-11 S. Suzuki (Nagoya Univ., Japan) Development of XANAM toward Chemical Analysis of Nanostructures on Surfaces
16:15	O-2 J. Inukai (Univ. Yamanashi, Japan) Simultaneous Visualization of Oxygen Partial Pressure and Liquid Water/Ice inside Running Fuel Cell at Different Temperatures and Humidities	16:00	O-12 T. Kondo (Ochanomizu Univ.; NIMS, Japan) Structure Analysis of Pt Ultra-Thin Layers Electrochemically Prepared on Au(111) by Resonance Surface X-ray Scattering
16:30	O-3 X. Zhao (Univ. Electro-Commun., Japan) Key Factors for High Performance and Durability of an Octahedral PtNi _x /C Electrocatalyst for Next-Generation Fuel Cells	16:15	O-13 I. Tanabe (Osaka Univ., Japan) Electronic States of Interfacial Ionic Liquids Investigated by Electrochemical Far- and Deep-Ultraviolet Spectroscopy
	Chairpersons: M. Kimura (KEK), H. Imai (Nissan ARC)	16:30	O-14 A. Wang (Dalian Inst. Chem. Phys., China) Atomic Characterization of Single-Atom-Catalysts
16:45	O-4 N. Ishiguro (RIKEN; Nagoya Univ., Japan) ADT Processes of Pt/C and Pt ₃ Co/C PEFC Cathode Electrocatalysts Studied by Operando Time-resolved Quick-XAFS		Chairpersons: T. Ajiri (Tohoku Univ.), M. L. Kantam (ICT, Mumbai)
17:00	O-5 Y. Wakisaka (Hokkaido Univ., Japan) Back-illuminated XAFS Measurement with the Use of BCLA for Low Concentration Pt/HOPG under Electrochemical Conditions	16:45	O-15 Y. Yang (Qingdao Inst. Bioenergy Bioprocess Tech., China) Highly Efficient Alkynes Transformation Catalyzed by a Novel Pd Nanoparticles Immobilized on Heteroatom-Doped Hierarchical Porous Carbon Derived from Bamboo Shoots
17:15	O-6 O. Sekizawa (JASRI; Univ. Electro-Commun., Japan) 3D XAFS Imaging Measurement System for Polymer Electrolyte Fuel Cells under Operating Conditions	17:00	O-16 N. Yan (Nat. Univ. Singapore, Singapore) <i>In-situ</i> XAS evidence for the Mars-van-Krevelen Mechanism in the Rh Single-atom Catalyzed CO Oxidation
17:30	O-7 F. E. Feiten (Hokkaido Univ., Japan) EXAFS Analysis of Nanoparticles for the Oxygen Reduction Reaction: Pt, PtCo, PtCoN and AuPtCoN	17:15	O-17 J. Yu (Qingdao Univ.; Lanzhou Inst. Chem. Phys, China) The Modification of SAPO Molecular Sieves and Enhanced Catalytic Performance for Dimethyl Ether to Olefins
17:45		17:30	O-18 X. D. Hao (Tohoku Univ., Japan) Size-dependent Cerium Valence State Variation in the Ultrafine CeO ₂ Nanocubes Synthesized from Supercritical Water

Oct. 29 (Sun)

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8:30	Registration
	Chairpersons: M. Tada (Nagoya Univ.), H. Yoneda (UEC)
9:00	PL3 Y. Okada (Univ. Tokyo, Japan) Advanced Photovoltaics: Challenges Towards 50% Efficiency
9:30	PL4 S. Bhargava (Royal Melbourne Inst. Tech., Australia) 3D Catalysis: Catalyst Development and Process Intensification
10:00	KN2 J. van Bokhoven (ETH, Switzerland) Observing Single Particles: How Supports Affect the Spillover of Hydrogen
10:25	Coffee Break
	Chairpersons: M. Nomura (KEK), M. Yoshitake (FCDIC)
10:45	KN3 C. Lamberti (Torino Univ., Italy; South. Fed. Univ., Russia) In situ and Operando XAFS Characterization of Functionalized MOFs
11:10	KN4 Y. Inada (Ritsumeikan Univ., Japan) Advanced XAFS Techniques for Direct Characterization of Active Species of Catalysts and Batteries
11:35	IN6 J. S. Lee (Ulsan Nat. Inst. Sci. Tech. (UNIST), Korea) XAFS Studies of Catalysts for CO ₂ -to-Liquid Fuel Conversions
11:55	IN7 T. Moriya (Honda R&D Co., Ltd., Japan) Honda Fuel Cell Vehicle Development and Toward the Hydrogen Society
12:15	Lunch
13:20	Poster (Student) 60 min
14:20	Coffee Break

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	Chairpersons: Y. Amemiya (Univ. Tokyo), X. Bao (USTC; DICP)		Chairpersons: M. Terano (JAIST), T. Ishida (UEC)
14:40	IN8 F. Meirer (Utrecht Univ., Netherlands) In-situ and Multi-modal X-ray Microscopy of Heterogeneous Catalysts	14:40	IN10 D. Hashizume (RIKEN, Japan) Visualization of Molecular World
15:00	IN9 H. You (Argonne Nat. Lab., USA) Coherent X-ray Scattering and Imaging of Electrode Interfaces and Nanocrystals	15:00	O-29 T. Fujita (Mitsui Chemicals, Inc., Japan) Development of New Catalysts for Selective Ethylene Trimerization to 1-Hexene Based on Highly Active Ethylene Polymerization Catalysts (1)
15:20	O-19 Y. Muramatsu (Univ. Hyogo, Japan) Total-electron-yield Soft X-Ray Absorption Spectra of Engine Oil Additives Rubbed on Alloy Surfaces	15:15	O-30 T. Nakano (Mitsui Chemicals, Inc., Japan) Development of New Catalysts for Selective Ethylene Trimerization to 1-Hexene Based on Highly Active Ethylene Polymerization Catalysts (2)
15:35	O-20 T. Hyodo (KEK, Japan) Surface Structure Determination by Total-Reflection High-Energy Positron Diffraction (TRHEPD)	15:30	O-31 M. L. Kantam (Inst. Chem. Tech., Mumbai, India) Copper Catalyzed C-H Bond Activation
	Chairpersons: K. Asakura (Hokkaido Univ.), J. van Bokhoven (ETH)		Chairpersons: K. Hara (Tokyo Univ. Tech.), M. Shirai (Iwate Univ.)
15:50	O-21 A. Zitolo (Synchrotron SOLEIL, France) X-ray Absorption Modelling of Catalytic Sites in Non-Precious Metal Fuel Cells Cathodes	15:45	O-32 Y. Yuan (Xiamen Univ., China) Unprecedented Regioselective Hydrogenolysis of Aryl Ether C-O Bonds by Tungsten Carbides with Controlled Phase Composition
16:05	O-22 A. Ishihara (Yokohama Nat. Univ., Japan) Challenges toward Precious-Metal- and Carbon-Free Oxide Cathode for Advanced PEFCs	16:00	O-33 K. Motokura (Tokyo Inst. Tech., Japan) Concerted Catalysis between Metal Complexes and Organic Amines on Surface for Significant Acceleration of Organic Synthesis
16:20	O-23 M. Hirose (Osaka Univ.; RIKEN, Japan) Nanoscale Chemical Imaging of Oxygen Storage and Release Particles by Hard X-ray Spectro-Ptychography	16:15	O-34 T. Mitsudome (Osaka Univ., Japan) Vanadium-decorated Platinum Nanoparticle Catalyst for Green Sustainable Hydrogenation of Amides to Amines
16:35	O-24 H. J. Shin (POSTECH, Korea) A Scanning Transmission Soft-x-ray Microscope for Energy Materials Investigation	16:30	O-35 H. Yoshitake (Yokohama Nat. Univ., Japan) Intermolecular Oxidative Dehydrogenation between Unsaturated Aldehyde and Alcohol on Gold Supported on Nanostructured Oxides
	Chairpersons: A. I. Frenkel (Stony Brook Univ.; BNL), Y. Inada (Ritsumeikan Univ.)		Chairpersons: T. Fujita (Mitsui Chemicals), Y. Yuan (Xiamen Univ.)
16:50	O-25 M. Kimura (KEK; SOKENDAI, Japan) Finding Trigger Sites of Degradation of Structural Materials for Aircrafts Using X-ray Microscopy	16:45	O-36 T. Mizugaki (Osaka Univ., Japan) Development of High Performance Heterogeneous Catalysts for Selective C-C Bond Scission of Biogenic Oxygenates
17:05	O-26 R. K. Singh (Univ. Electro-Commun., Japan; IIST, India) A Non-Iterative Approach to Recover Phase from Intensity Signal	17:00	O-37 K. Hara (Tokyo Univ. Tech., Japan) Iron-immobilized Periodic Mesoporous Organosilica as Active and Selective Catalyst for Amino Alcohol Synthesis
17:20	O-27 D. Matsumura (Japan Atomic Energy Agency, Japan) TPR-XAFS Study for Water Formation Reaction of Platinum Metal Nanoparticle Catalysts	17:15	O-38 X. Mu (Qingdao Inst. of Bioenergy and Bioprocess Tech., China) In Situ Encapsulated Ultrasmall Ir Clusters within Mesoporous Carbon Nanospheres for Highly Selective Methylation of Alcohols
17:35	O-28 S. Takakusagi (Hokkaido Univ., Japan) Polarization-Dependent Total Reflection Fluorescence (PTRF)-XAFS Study of Single Metal Dispersion on a TiO ₂ (110) Surface Premodified with a Mercapto Compound	17:30	O-39 G. Seong (Tohoku Univ., Japan) Chemical Conversion at Subcritical to Supercritical Hydrothermal Conditions Using {001} Crystal Planes Exposed CeO ₂ Nanocatalysts
17:50		17:45	

18:15	Banquet (Creston Hotel Chofu)
20:00	

Oct. 30 (Mon)

Room# B-202

8:30	Registration
	Chairpersons: K. Yamaguchi (UEC), T. Yokoyama (Inst. Molec. Sci.)
9:00	PL5 K. Asakura (Hokkaido Univ., Japan) Polarization-dependent Fluorescence XAFS Studies on the Fuel Cell Catalysts
9:30	KN5 W. R. Flavell (Univ. Manchester, UK) Surface and Interface Chemistry in Next-generation Solar Cells
9:55	IN11 A. Delamarre (Univ. Tokyo, CNRS-RCAST, France) Photovoltaic Nanomaterials, Solar Hydrogen production and Hyperspectral Imaging

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10:15	Coffee Break
	Chairpersons: R. Oiwa (Scienta Omicron), H. Onishi (Kobe Univ.)
10:35	IN12 M. Yabashi (RIKEN; SPring-8 Center, Japan) Status and Perspective of a Compact X-ray Free Electron Laser Facility SACL A
10:55	O-40 H. Abe (KEK; SOKENDAI, Japan) In situ TREXS Observation of Surface Reduction Reaction of NiO Film with ~2 nm Surface Sensitivity
11:10	O-41 M. Nagasaka (Inst. Molec. Sci.; SOKENDAI, Japan) Phase Transition of Aqueous Solution with Lower Critical Solution Temperature Studied by Soft X-ray Absorption Spectroscopy
11:25	O-42 H. Ikeda (Toyota Motor Corp., Japan) Adsorption State of Reactant on Thin Film Model Catalyst under Near Ambient Pressure Conditions
11:40	O-43 M. Chen (Xiamen Univ., China) Surface Composition of Supported Bimetal Nanoparticles: HS-LEIS & XPS Studies
11:55	O-44 X. Shao (Univ. Sci. Tech. China, China) The Structure and Adsorption Properties of the Au-Cu Bimetallic Systems

	Chairpersons: T. Kita (Kobe Univ.), T. Sogabe (UEC)
10:35	IN13 T. Kubo (Univ. Tokyo, Japan) Colloidal Quantum Dot-based Hybrid Nanomaterials towards Solution Processed High Efficiency Solar Cells
10:55	IN14 M. Takahashi (Nat. Inst. Quantum Radiol. Sci. Tech., Japan) Nano-scale Monitoring of the Growth of Semiconductor Photovoltaic Materials using in situ X-ray Diffraction
11:15	IN15 S. Yagi (Saitama Univ., Japan) Nanostructured Dilute Nitride Alloys for High-Efficiency Solar Cells
11:35	IN16 A. Kremleva (Tech. Univ. München, Germany) Improving Energy Storage— Modeling the Redox Activity of Polyoxometallates
11:55	O-54 Q. Shen (Univ. Electro-Commun.; CREST-JST, Japan) Effects of Interface Passivation on Photoexcited Carrier Dynamics and Photovoltaic Properties of Perovskite Solar Cells

12:10	Lunch
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12:10	Lunch
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	Chairpersons: M. Watanabe (Yamanashi Univ.), J. S. Lee (UNIST)
13:10	O-45 K. Fukui (Osaka Univ., Japan) Correlation between the Interfacial Structure and Hole Mobility for Electric Double Layer FET using Ionic Liquid
13:25	O-46 M. Shirai (Iwate Univ.; Advanced Indus. Sci., Tech., Japan) Platinum Nanosheets Intercalated between Graphite Layers
13:40	O-47 L. Liu (Qingdao Inst. Bioenergy Bioprocess Tech., China) The Flaky Cd Film on Cu Plate Substrate: an Active and Efficient Electrode for Electrochemical Reduction of CO ₂ to Formate
13:55	O-48 T. Masuda (Nat. Inst. Mater. Sci. (NIMS), Japan) Active Metal Catalysts Incorporated within Molecular Layers on Si(111) Electrodes for Hydrogen Evolution and CO ₂ Reduction
	Chairpersons: T. Uruga (JASRI; UEC), K. Domae (Toyota Central R&D Labs.)
14:10	O-49 X. Y. Liu (Dalian Inst. Chem. Phys., China) XAS Characterization of Gold-Based Catalysts
14:25	O-50 K. Ueda (Nagoya Univ., Japan) In situ XAFS Studies of Cu Redox Behavior in MFI Zeolite Structure during NH ₃ -SCR Reaction
14:40	O-51 H. Asakura (Kyoto Univ., Japan) Operando XAFS Study on Pd Species of Pd/Al ₂ O ₃ Model Catalyst During Three-Way Catalytic Reaction
14:55	O-52 T. Takeguchi (Iwate Univ., Japan) Effect of Surface Pt-Ru Bondings to CO Tolerance of PtRu/C PEFC Anode Catalysts
15:10	O-53 J. Inukai (Univ. Yamanashi, Japan) Surface Composition, Structure, and Oxygen Reduction Reaction Activity on Pt-Co(111) Alloy Single-Crystal Electrodes Prepared under H ₂ Atmosphere

	Chairpersons: S. Yagi (Saitama Univ.), Q. Shen (UEC)
13:10	O-55 T. Toyoda (Univ. Electro-Commun.; CREST-JST, Japan) Photoinduced Interfacial Electron Transfer Dynamics of CdSe Quantum Dots on the (001), (110), and (111) Surfaces of Single Crystal Rutile TiO ₂
13:25	O-56 T. Sogabe (Univ. Electro-Comm., Japan) Light Interference Integrated Device Simulation in Thin Film InAs/GaAs Quantum Dot Solar Cell
13:40	O-57 V. Vohra (Univ. Electro-Commun., Japan) Eco-friendly Processes for Polymer Photovoltaic Device Fabrication
13:55	O-58 S. Hosokawa (Kumamoto Univ., Japan) An X-ray Fluorescence Holographic Study on a Fe-based High-temperature Superconductor FeSe _{0.4} Te _{0.6}
	Chairpersons: K. Fukui (Osaka Univ.), M. Takahashi (QST)
14:10	O-59 Y. Uchimoto (Kyoto Univ., Japan) Time-resolved XRD Study on Phase Transition Behavior of Cathode Materials of Lithium-ion Batteries
14:25	O-60 N. Sonoyama (Nagoya Inst. Tech., Japan) XAFS Study of Redox Activity of Al ³⁺ in Nanosize Binary Metal Oxide Obtained from Layered Double Hydroxide as an Anode for Lithium Battery
14:40	O-61 H. Zhang (Chiba Univ., Japan) Monitoring of Active Site Structure of Pd/TiO ₂ Photocatalyst Under the Reaction Conditions of CO ₂ Photoconversion into Fuels
14:55	O-62 H. Onishi (Kobe Univ., Japan) NaTaO ₃ Photocatalysts Doped with Alkaline Earth Metals: Simultaneous Doping of A site and B site in Perovskite-Structured Lattice
15:10	O-63 Z.-M. Wang (Nat. Inst. Advanced Indus. Sci. Tech., Japan) Anchoring Titanium Dioxide on Carbon Microspheres for High-performance Visible Light Photocatalysis

15:30	Award (Symposium Poster Awards and RSC Poster Prizes) and Closing
15:50	