

Plenary Lectures

Date: Thursday, November 21st / Place: Small Hall

Chair: Hyungsun KIM (Inha University)

Plenary Talk 1 9:50-10:30	Enhanced Dielectric Properties of $(\text{Ba}_{0.7}\text{Sr}_{0.3})(\text{Ti}_{0.9}\text{Zr}_{0.1})\text{O}_3$-Based Ceramics <u>Eung Soo KIM</u> (President of Korean Ceramic Society, Kyonggi University)
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Chair: Hisao SUZUKI (Shizuoka University)

Plenary Talk 2 10:30-11:10	Structure Derived New Functionalities of Ceramics for Future Electronics <u>Akira ANDO</u> (Murata Manufacturing Co., Ltd.)
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Plenary Lectures

Date: Friday, November 22nd / Place: Small Hall

Chair: Shu YIN (IMRAM, Tohoku University)

Plenary Talk 3 9:30-10:10	Crystallization Studies of Ceramic Materials <u>Dongfeng XUE</u> (Changchun Institute of Applied Chemistry, Chinese Academy of Sciences)
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Chair: Tokuro NANBA (Okayama University)

Plenary Talk 4 10:10-10:50	Synthesis of Inorganic Materials by Solution Process Using Inorganic Clusters <u>Masato KAKIHANA</u> (Tohoku University)
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Keynote, Invited, and Oral Sessions

Session A: Ceramics for Renewable and Sustainable Energy (Fuel cells, Batteries, Secondary cells, Solar cell, Thermoelectrics, etc.)

Date: Friday, November 22nd / Place: Conference Room 1

Chair: Hiroshige MATSUMOTO (Kyushu University)

Chair: Tae Ho SHIN (Korea Institute of Ceramic Engineering & Technology)

A-01 11:10-11:25	Magnetic Orientation Behavior of $Nd_{2-x}La_xNiO_4$ Applicable to Cathode in Low Temperature Solid Oxide Fuel Cell Suguru TAJIMA ¹ , Tohru S. SUZUKI ² , Takayuki NAKANE ² , Takashi NAKA ² , Tetsuo UCHIKOSHI ² , Motohide MATSUDA ¹ (1.Kumamoto University, 2.NIMS)
A-02-I 11:25-11:45	Spatial Investigation of Electronic Properties in Composite Electrolytes for Solid Oxide Fuel Cells Using Embedded Probes Hyung-Tae LIM ¹ (1.Changwon National University)
A-03-I 11:45-12:05	Low Temperature Operation of Ceramic Electrochemical Devices Under Millimeter-wave Irradiation Akira KISHIMOTO ¹ (1.Okayama University, Graduate School of Natural Science and Technology)
A-04-I 12:05-12:25	Innovative Approach on Robust Nano-particles for the Next Generation Electrochemical Devices Tae Ho SHIN ¹ , Young Wook LEE ¹ (1.Korea Institute of Ceramic Engineering & Technology)
	Lunch

Chair: Michitaka OHTAKI (Kyushu University)

Chair: Hyung-Tae LIM (Changwon National University)

A-05-K 13:50-14:20	Hydrogen Production via Steam Electrolysis Using Proton-Conducting Perovskites Hiroshige MATSUMOTO ¹ (1.Kyushu University)
A-06 ★ 14:20-14:35	Efficient MoS₂ Hydrogen Evolution Reaction Electrocatalyst Grown by Pulsed Laser Deposition in Vacuum Atmosphere Hojoong CHOI ¹ , Sehun SEO ¹ , Seungkyu KIM ¹ , Sanghan LEE ¹ (1.Gwangju Institute of Science and Technology)
A-07 14:35-14:50	Reforming of Biogas with Air Using a Porous Electrochemical Cell : Effect of Reaction Temperature Yoshihiro HIRATA ¹ , Wataru OHISHI ¹ , Taro SHIMONOSONO ¹ , Soichiro SAMESHIMA ¹ , Katsuhiko YAMAJI ² (1.Kagoshima University, 2.National Institute of Advanced Industrial Science and Technology (AIST))
A-08 ★ 14:50-15:05	Photoelectrochemical Selective Oxidation of Glycerol using Fe doped ZnS/ZnO Heterostructure Seungkyu KIM ¹ , Yubin LEE ¹ , Sanghan LEE ¹ (1.GIST (Gwangju Institute of Science and Technology))

A-09-I 15:05-15:25	Enhanced Thermoelectric Properties of FeTe₂ Nanoparticle Incorporated Bi-Te Materials <u>Weon Ho SHIN</u> ¹ , Jung Young CHO ² , Woo Hyun NAM ² , Soonil LEE ³ , Won Seon SEO ² (1.Kwangwoon University, 2.Korea Institute of Ceramic Engineering and Technology, 3.Changwon National University)
15:25-15:45	Coffee Break
Chair: Akira KISHIMOTO (Okayama University)	
Chair: Hyungsun KIM (Inha University)	
A-10 15:45-16:00	Cancelled
A-11 16:00-16:15	Positive and Negative Electocaloric Effects in (Pb,La)(Zr,Ti)O₃ Ceramics <u>Hiroshi MAIWA</u> ¹ (1.Shonan Institute of Technology)
A-12 16:15-16:30	High Thermoelectric Performance of Porous Nb- and Ni-doped SrTiO₃ Containing Highly Dispersed Exsolved Ni Nanoparticles <u>Michitaka OHTAKI</u> ¹ , Shinji HIRATA ¹ , Koichiro SUEKUNI ¹ (1.Kyushu University)
A-13 16:30-16:45	Preparation of Li-PAA Garnet Electrolyte Composite Films for Sinterless All Solid State Li Batteries <u>Jeevan Kumar PADARTI</u> ¹ , Kazuo SUGIYAMA ² , Taruna Teja JUPALLI ¹ , Tomoya OHNO ³ , Takahiko KAWAGUCHI ² , Naonori SAKAMOTO ¹ , Naoki WAKIYA ¹ , Hisao SUZUKI ¹ (1. Research Institute of Electronics, Shizuoka University, 2.Graduate School of Engineering, Shizuoka University, 3.Department of Materials Science, Kitami Institute of Technology)

★ Candidate for Young Ceramist Best Presentation Award

Session B: Electroceramics and Applications (Electronic ceramics, Magnetic ceramics, Piezoelectrics, Sensor materials, etc.)

Date: Thursday, November 21st / Place: Small Hall

Chair: Kenji TODA (Niigata University)

Chair: Jong-Sook LEE (Chonnam National University)

B-01-K 11:30-12:00	Development of Silicon-based Negative Electrodes for Advanced Lithium-ion Battery <u>Hiroki SAKAGUCHI</u> ^{1,2} (1. Department of Chemistry and Biotechnology, Graduate School of Engineering, Tottori University, 2. Center for Research on Green Sustainable Chemistry, Tottori University)
B-02 12:00-12:15	Synthesis of a-LiAlO₂ with Layered NaCl-type Structure by PVP-assisted Sol-gel Method and the Electrochemical Property <u>Yoshinori ARACHI</u> ¹ , <u>Ayaka SHIBATA</u> ¹ (1. Kansai University)
B-03 ★ 12:15-12:30	Synthesis, Crystal Structure and Properties of Lithium-Ion Conducting LiTa₂PO₈ <u>Norikazu ISHIGAKI</u> ¹ , <u>Kunimitsu KATAOKA</u> ¹ , <u>Daisuke MORIKAWA</u> ² , <u>Masami TERAUCHI</u> ² , <u>Kikuko HAYAMIZU</u> ³ , <u>Junji AKIMOTO</u> ¹ (1. National Institute of Advanced Industrial Science and Technology (AIST), 2. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, 3. Institute of Applied Physics, Tsukuba University)
	Lunch
	Poster Session

Chair: Yoshinori ARACHI (Kansai University)

Chair: Wook JO (Ulsan National Institute of Science and Technology)

B-04-I 15:00-15:20	Synthesis of Sm₂Fe₁₇N_x Particles using Reduction Reaction of Metal Oxides <u>Yuji MASUBUCHI</u> ¹ , <u>Kenta UCHIDA</u> ¹ , <u>Mikio HIGUCHI</u> ¹ (1. Hokkaido University)
B-05-I 15:20-15:40	Synthesis of Ultrafine Particles of Crystalline Solid Solution with a Single Nano-metric Dimension for Photooxidation of Water <u>Etsushi TSUJI</u> ¹ (1. Tottori University)
B-06-I 15:40-16:00	Abnormally Accelerated Solid-State Reaction, Water-Assisted Solid-State Reaction <u>Kenji TODA</u> ¹ (1. Niigata University)
B-07-I 16:00-16:20	Control of Crystallographic Orientation in Ceramics by External Fields <u>Tohru S. SUZUKI</u> ¹ , <u>Kiyoshi KOBAYASHI</u> ¹ (1. National Institute for Materials Science)
B-08 16:20-16:35	Effects of Te Substitution on the Microwave Dielectric Properties of CaMo_{1-x}Te_xO₄ <0.01 ≤ x ≤ 0.05> Ceramics <u>JooHyeon KIM</u> ¹ , <u>Eung Soo KIM</u> ¹ (1. Kyonggi University)
	Coffee Break

Chair: Yuji MASUBUCHI (Hokkaido University)

Chair: Jo Woong HA (Inocera Co.)

B-09 ★ 16:50-17:05	Effect of Non-stoichiometric Substitution on Microwave Dielectric Properties of $Mg_{2+x}Ti_{0.95}(Mn_{1/3}Sb_{2/3})_{0.05}O_4$ (-0.02 < x < 1) Ceramics <u>Yunsik PARK</u> ¹ , Eungsoo KIM ¹ (1.Kyonggi University)
B-10 ★ 17:05-17:20	Improvement of Piezoelectric Properties of $(Li,Na,K)(Nb,Sb)O_3$-$CaZrO_3$ Ceramics using Polymorphic Phase Boundary Engineering for Piezo-actuator and Energy Harvester <u>Dae Su KIM</u> ¹ , Seok June CHAE ¹ , Tae Gon LEE ² , Sahn NAHM ¹ (1. Department of Materials Science and Engineering, Korea University, 2. KU-KIST Graduate School of Converging Science and Technology, Korea University)
B-11 ★ 17:20-17:35	Piezoelectric Energy Harvesting Characteristics of Inorganic Halide Perovskite Thin Films <u>Da Bin KIM</u> ¹ , Kwan Hyun PARK ¹ , Sun Jae PARK ¹ , Yong Soo CHO ¹ (1. Department of Materials Science and Engineering, Yonsei University)

Session B: Electroceramics and Applications (Electronic ceramics, Magnetic ceramics, Piezoelectrics, Sensor materials, etc.)

Date: Friday, November 22nd / Place: Small Hall

Chair: Shintaro IDA (Kumamoto University)

Chair: Byung-Koog JANG (Kyushu University)

B-12-I 11:10-11:30	Synthesis and Characterization of Novel Oxide Ion Conductors $GdB_1-xW_xO_{4+\delta}$ <u>Yuejin SHAN</u> ¹ (1. Material and Environmental Chemistry, Research Division of Functional Materials Design, Utsunomiya University)
B-13-I 11:30-11:50	Single-Crystalline Nanoparticles of Impurity-Element-Doped Rutile TiO_2 as Novel Anode Materials for Na-Ion Batteries <u>Hiroyuki USUI</u> ¹ , Yasuhiro DOMI ¹ , Kunihiko TAKAMA ¹ , Hiroki SAKAGUCHI ¹ (1. Tottori University)
B-14 ★ 11:50-12:05	O_2 Plasma Modified 1T/2H-MoS₂ for Room Temperature Gas Sensing <u>Ardiansyah TAUFIK</u> ¹ , Yusuke ASAOKURA ¹ , Shu YIN ¹ (1. IMRAM, Tohoku University)
B-15-I 12:05-12:25	Synthesis and Characterization of Morphology Controllable Aluminum Nitride by Direct Nitridation of γ-AlOOH Angga HERMAWAN ¹ , Yusuke ASAOKURA ¹ , <u>Shu YIN</u> ¹ (1. IMRAM, Tohoku University)
B-16 12:25-12:40	Hexagonal Boron Nitride as an Auxiliary Electrode of Hydrogen Sensor <u>Yoshiteru ITAGAKI</u> ¹ , Eri SARUMARU ¹ , Hiromichi AONO ¹ (1. Ehime University)
	Lunch

Chair: Hiroyuki USUI (Tottori University)

Chair: Yoonsoo HAN (Korea Institute of Ceramic Engineering & Technology)

B-17-I 13:50-14:10	Development of Automotive Catalyst Using Perovskite-related Oxide <u>Saburo HOSOKAWA</u> ¹ (1.Kyoto University)
B-18 ★ 14:10-14:25	Catalytic Combustion of Toluene over Novel Catalysts Based on Apatite-type Lanthanum Silicate <u>Kenji MATSUO</u> ¹ , Naoyoshi NUNOTANI ¹ , Nobuhito IMANAKA ¹ (1.Osaka University)
B-19 ★ 14:25-14:40	Catalytic Liquid-phase Oxidation of Phenol in Facile Condition Using Pt/CeO₂–ZrO₂–SnO₂/SBA-16 <u>Abdul Rohman SUPANDI</u> ¹ , Naoyoshi NUNOTANI ¹ , Nobuhito IMANAKA ¹ (1.Osaka University)
B-20 ★ 14:40-14:55	Gas Sensing Properties of Nanosheet-Type Structure of Tin Oxide with (101) Crystal Facet <u>Pil Gyu CHOI</u> ¹ , Yoshitake MASUDA ¹ (1.National Institute of Advanced Industrial Science and Technology (AIST))
B-21 ★ 14:55-15:10	Novel Inorganic Black Pigments Based on Ca₂MnO₄ for High Near-infrared (NIR) Reflectance <u>Ryohei OKA</u> ¹ , Senri IWASAKI ² , Toshiyuki MASUI ^{2,3} (1.Graduate School of Engineering, Tottori University, 2.Faculty of Engineering, Tottori University, 3.Center for Research on Green Sustainable Chemistry, Tottori University)
B-22 ★ 15:10-15:25	Synthesis and Characterization of Sr_{1-x}Eu_xAl₂O₄ (0 ≤ x ≤ 1) <u>Mizuki WATANABE</u> ¹ , Noriko KOBAYASHI ¹ , Kengo OKA ² , Katsuyoshi OHISHI ¹ (1.Chuo University, 2.Kindai University)
	Coffee Break

Chair: Saburo HOSOKAWA (Kyoto University)

Chair: Kyoon CHOI (Korea Institute of Ceramic Eng & Tech)

B-23-I 15:45-16:05	Photoelectrochemical Property of Ultrathin Nanosheet pn-Junction <u>Shintaro IDA</u> ¹ (1.Kumamoto University)
B-24 16:05-16:20	Molecular Dynamics Simulation on a Host Material for Deep Red Phosphors Based on Fluorine Doped Lithium Aluminate <u>Yuta MATSUSHIMA</u> ¹ , Chika SATO ¹ , Joichiro ICHIKAWA ¹ , Hiroko KOMINAMI ² , Kazuhiko HARA ² , Masato KAKIHANA ³ (1.Yamagata University, 2.Shizuoka University, 3.Tohoku University)
B-25-I 16:20-16:40	Defects-induced Enhancement of Photocatalytic Activity of Ga₂O₃ Studied by Time-resolved Visible to Mid-IR Absorption Spectroscopy <u>Akira YAMAKATA</u> ¹ , Junie Jhon M. VEQUIZO ¹ , Yoshihisa SAKATA ² (1.Toyota Technological Institute, 2.Yamaguchi University)

★ Candidate for Young Ceramist Best Presentation Award

Session C: Engineering Ceramics (Structural and 3D printing, including powder processing etc.)

Date: Thursday, November 21st / Place: Conference Room 2

Chair: Masashi WADA (Japan Fine Ceramics Center)

Chair: Yoonsoo HAN (Korea Institute of Ceramic Engineering & Technology)

C-01-I 11:30-11:50	Control of Morphology and Oxidation State of Metal Oxides, Using Ionic Liquids/Deep Eutectic Solvent Assisted Synthesis <u>Omar GOMEZ</u> ¹ (1.University of Bristol)
C-02-I 11:50-12:10	Stereolithographic Additive Manufacturing of Ceramic Components with Dimensionally Modulated Functional Geometries <u>Soshu KIRIHARA</u> ¹ (1.Osaka University)
C-03-I 12:10-12:30	Slurry Designs for Directed Colloidal Assembly of 3D Ceramics Structures <u>Hiroya ABE</u> ¹ (1.Osaka University)
	Lunch
	Poster Session

Chair: Omar GOMEZ (University of Bristol)

Chair: Byung-Koog JANG (Kyushu University)

C-04-K 15:00-15:30	Direct Laser Sintering of Ceramics <u>Teiichi KIMURA</u> ¹ (1.Japan Fine Ceramics Center)
C-05 ★ 15:30-15:45	Reaction Sintering of SiC by Laser Direct Heating <u>Satoshi SUEHIRO</u> ¹ , <u>Teiichi KIMURA</u> ¹ (1.Japan Fine Ceramics Center)
C-06-I 15:45-16:05	Design of Al₂O₃-based Composite Particles for Selective Laser <u>Wai Kian TAN</u> ¹ , <u>Takaya KUWANA</u> ¹ , <u>Atsushi YOKOI</u> ¹ , <u>Go KAWAMURA</u> ¹ , <u>Atsunori MATSUDA</u> ¹ , <u>Hiroyuki MUTO</u> ¹ (1.Toyohashi University of Technology)
C-07 16:05-16:20	Additive Manufacturing of Transparent Glass using a Fused Deposition Modeling <u>Yoonsoo HAN</u> ¹ , <u>Hye-Ji LEE</u> ¹ , <u>Hyun-Been LEE</u> ¹ , <u>Kyung-Ho KIM</u> ¹ , <u>Hyeong-Jun KIM</u> ¹ (1.Korea Institute of Ceramic Engineering & Technology)
C-08 16:20-16:35	Non-Uniform Sintering Behavior during Spark Plasma Sintering of Y₂O₃ <u>Byung-Nam KIM</u> ¹ , <u>JiHwoan LEE</u> ² , <u>Koji MORITA</u> ¹ , <u>Tohru S SUZUKI</u> ¹ , <u>Byung-Koog JANG</u> ² (1.National Institute for Materials Science, 2.Kyushu University)
	Coffee Break

Chair: Teiichi KIMURA (Japan Fine Ceramics Center)

Chair: Hyung-Tae KIM (Korea Institute of Ceramic & Engineering Technology)

C-09 17:05-17:20	Mechanical Properties of CNTs Reinforced Ceramic Composites <u>Byung-Koog JANG</u> ¹ , <u>Young-Hwan HAN</u> ² (1.Kyushu University, 2.Wuhan University of Technology)
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C-10 ★ 17:20-17:35	Effect of MCAS-Y₂O₃-YSZ Co-additives on the Properties of AlN Ceramics <u>Suhyun BAEK</u> ^{1,2} , Hyeondeok JEONG ¹ , Kyungmin KIM ^{1,2} , Youngdo KIM ² , Sungsoo RYU ¹ (1.Engineering Ceramic Center, Korea Institute of Ceramic Engineering and Technology, 2.Department of Materials Science and Engineering, Hanyang University)
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Session C: Engineering Ceramics (Structural and 3D printing, including powder processing etc.)

Date: Friday, November 22nd / Place: Conference Room 2

Chair: Yamato HAYASHI (Tohoku University)

Chair: Seongwon KIM (Korea Institute of Ceramic Engineering and Technology)

C-11-I 11:10-11:30	Porous Ceramics Design for Energy and Environment Applications <u>Yoshikazu SUZUKI</u> ¹ , Kazuki FUKUI ¹ , Yoko KAMATO ¹ (1.University of Tsukuba)
C-12 11:30-11:45	Characteristics of Ytterbium Disilicate-based EBCs By Using Suspension Plasma Spraying <u>Seongwon KIM</u> ¹ , Yoon-Suk OH ¹ , Sung-Min LEE ¹ , Hyung-Tae KIM ¹ , Yoo Jung SOHN ² , Olivier GUILLOU ² , Robert VAßEN ² (1.Korea Institute of Ceramic Engineering and Technology, 2.Juelich Research Center)
C-13 11:45-12:00	Effect of pH Control on the Formation of Silica Layer using Sodium Silicate on Fe₃O₄ Particle Surface <u>JaeUk HUR</u> ¹ , Ji Hyun CHA ¹ , Ah Hyun OH ¹ , Sung-Churl CHOI ¹ , Gye Seok AN ¹ (1.Division of Materials Science and Engineering, Hanyang University)
C-14 ★ 12:00-12:15	Verification of Repeated Self-healing by Oxidation Treatment and Nitrogen Reduction Treatment on Y₂Ti₂O₇ Sintered Ceramics <u>Hirokazu IWASAWA</u> ¹ , Ayahisa OKAWA ¹ , Yuma NAKAZAWA ¹ , Kota ARAI ¹ , Takashi GOTO ¹ , Koichi NIIHARA ¹ , Tadachika NAKAYAMA ¹ (1.Nagaoka University of Technology)
C-15 ★ 12:15-12:30	Y doped (Pb, Ba, La)(Zr, Sn, Ti)O₃ Lead Based Pyroelectric Materials for Low-grade Waste Heat Harvesting <u>Nguyen Chi Trung NGO</u> ¹ , Hironari SUGIYAMA ¹ , Juan Paolo WIFF ¹ , Tsuneo SUZUKI ¹ , Hisayuki SUEMATSU ¹ , Tadachika NAKAYAMA ¹ (1.Nagaoka University of Technology)
C-16 12:30-12:45	Synthesis of Silicon Carbide Particles by Spark Plasma Sintering (SPS) Method from Recovered Photovoltaic Cell <u>Jae Rok SHIN</u> ¹ , Ah Hyun OH ¹ , Jin Uk CHOI ¹ , Sung-Churl CHOI ¹ , Gye Seok AN ¹ (1.Hanyang University)
	Lunch

Chair: Tadachika NAKAYAMA (Nagaoka University of Technology)

Chair: Tae Young NA (Kunsan National University)

C-17-I 13:50-14:10	Fabrication Concept of Nanomaterial for Sustainable Development of Goals (SDGs) <u>Yamato HAYASHI</u> ¹ (1.Tohoku University)
C-18 14:10-14:25	Synthesis of Porous Hydroxyapatite Microspheres via Sol-gel Method <u>Guobin ZHENG</u> ¹ , Koki NAKAO ¹ , Mai MIYAGAWA ¹ , Hideaki SANO ¹ (1.Nagasaki University)
C-19-I 14:25-14:45	Oxygen Shielding Properties of Yb-Silicates under Oxygen Potential Gradients at High Temperatures <u>Masashi WADA</u> ¹ , Tsuneaki MATSUDAIRA ¹ , Norio YAMAGUCHI ¹ , Naoki KAWASHIMA ¹ , Takafumi OGAWA ¹ , Daisaku YOKOE ¹ , Satoshi KITAOKA ¹ , Masasuke TAKATA ¹ (1 Japan Fine Ceramics Center)

★ Candidate for Young Ceramist Best Presentation Award

Session D: Bio and Environmental Ceramics

Date: Thursday, November 21st / Place: Conference Room 1

Chair: Chikara OHTSUKI (Nagoya University)

Chair: Tae Young NA (Kunsan National University)

D-01 17:35-17:50	Preparation and Clinical Test of Calcium Phosphate Bone Cement for Dental Patients <u>MyungChul CHANG</u> ¹ , KyungHee LEE ² , TaeYoung NA ³ (1.Kunsan National University, 2.Korea Open National University, 3.Na's Dental Clinic)
D-02 17:50-18:05	3D Ordered Microcrystalline Oxides with Nano-, Micro-, Meso-pores; FCC, HCP → Gyroid Lattice Close Packed Crystal <u>MyungChul CHANG</u> ¹ , KyungHee LEE ² (1.Kunsan National University, 2.Korea Open National University)

Session D: Bio and Environmental Ceramics

Date: Friday, November 22nd / Place: Conference Room 5,6

Chair: Toshihiro KASUGA (Nagoya Institute of Technology University)

Chair: Sang-Yeup PARK (Gangneungwonju National University)

D-03-K 13:50-14:20	Zero Emissions Approach in Ceramic Industry for Environment Sustainability <u>Sang-Yeup PARK</u> ¹ (1.Department of Ceramics Engineering, Gangneungwonju National University)
D-04-I 14:20-14:40	Color Removal in Water Using Calcium Aluminosilicate Hydrates <u>Hirotaka MAEDA</u> ¹ (1.Nagoya Institute of Technology)
D-05 ★ 14:40-14:55	Chelate Functionalization on the Magnetic Nanoparticle via Acidic, Basic Modification <u>Jin Soon HAN</u> ¹ , Ji Hyun CHA ¹ , Jin Uk CHOI ¹ , Sung-Churl CHOI ¹ , Gye Seok AN ¹ (1.Division of Material Science and Engineering, Hanyang University)
D-06 ★ 14:55-15:10	Bioactive Sol-gel Glasses with Controlled Ion-release for Skin Wound Healing <u>Daisuke ISHIHARA</u> ¹ , Elizabeth NORRIS ² , Julian R JONES ² , Akiko OBATA ¹ , Toshihiro KASUGA ¹ (1.Nagoya Institute of Technology, 2.Imperial College London)
D-07 ★ 15:10-15:25	Solvothermal Synthesis of Organically Modified Calcium Silicate Hydrate and Investigations of Drug Adsorption Property <u>Hina KATO</u> ¹ , Jin NAKAMURA ² , Ayae SUGAWARA-NARUTAKI ² , Chikara OHTSUKI ² (1.School of Engineering, Nagoya University, 2.Graduate School of Engineering, Nagoya University)
	Coffee Break

Chair: Chikara OHTSUKI (Nagoya University)

Chair: Sang-Yeup PARK (Gangneungwonju National University)

D-08-I

15:45-16:05

Effect of Sub-millimeter Gap on In Vitro Apatite Formation on Hydrothermally Treated Ti-Substrate

Satoshi HAYAKAWA¹, Tomohiko YOSHIOKA¹ (1.Okayama University)

★ Candidate for Young Ceramist Best Presentation Award

Session E: Basic Science of Ceramics

Date: Thursday, November 21st / Place: Conference Room 1

Chair: Kei INUMARU (Hiroshima University)

Chair: Seongwon KIM (Korea Institute of Ceramic Engineering and Technology)

E-01-K 11:30-12:00	The Origins of Anion-Exchange Properties of Layered Double Hydroxide <u>Ryo SASAI</u> ¹ (1.Graduate School of Natural Science and Technology, Shimane University)
E-02 ★ 12:00-12:15	The Relationship Between Acidity and Water Vapor Adsorption Property of Mesoporous Silica-titania <u>Shingo HIRATA</u> ¹ , <u>Miki INADA</u> ¹ , <u>Junichi HOJO</u> ¹ (1.Kyushu University)
E-03 12:15-12:30	Unique Properties of Nanospaces of Mesoporous Silica – TiO₂ Particles Composite Photocatalysts for Decomposition of Organic Molecules in Water <u>Saki SADAMORI</u> ¹ , <u>Yusuke KUNISAKI</u> ¹ , <u>Kiyofumi KATAGIRI</u> ¹ , <u>Kei INUMARU</u> ¹ (1.Hiroshima University)
	Lunch
	Poster Session

Chair: Ryo SASAI (Shimane University)

Chair: Kyoon CHOI (Korea Institute of Ceramic Eng & Tech)

E-04-I 15:00-15:20	Atomic and Electronic Structures of Heterogenous Catalysts and Relation to their Catalytic Activity <u>Hajime HOJO</u> ¹ , <u>Satoru YOSHIZAKI</u> ¹ , <u>Miki GONDO</u> ¹ , <u>Kazuki HIROTA</u> ¹ , <u>Hisahiro EINAGA</u> ¹ (1.Kyushu University)
E-05 15:20-15:35	Catalytic Properties of Perovskite-type Oxides for VOC Oxidation under Electromagnetic Fields <u>Hisahiro EINAGA</u> ¹ , <u>Yusaku NASU</u> ¹ , <u>Hajime HOJO</u> ¹ (1.Kyushu University)
E-06-I 15:35-15:55	Application of CFD Simulation to Fabrication of Ceramic Matrix Composites (CMCs) via CVI Process <u>Kyoon CHOI</u> ¹ , <u>Kyung-Mi KIM</u> ¹ , <u>Jae-Moon LEE</u> ¹ (1.Korea Institute of Ceramic Eng & Tech)
E-07 ★ 15:55-16:10	Hetero-nanointerfaced Microparticles Composed of Metal Hydroxide Nanocrystals toward Improved Electrochemical Properties <u>Naoki TARUTANI</u> ¹ , <u>Yasuaki TOKUDOME</u> ¹ , <u>Matías JOBBAGY</u> ² , <u>Galo J. A. A. SOLER-ILLIA</u> ³ , <u>Masahide TAKAHASHI</u> ¹ (1.Osaka Prefecture University, 2.Universidad de Buenos Aires, 3.Universidad Nacional de General San Martín)
E-08-I 16:10-16:30	New Manufacturing Process of Al₃Ni Ceramic Particles Reinforced Composite <u>Yongbum CHOI</u> ¹ , <u>Kazuhiro MATSUGI</u> ¹ (1.Graduate School of Engineering, Hiroshima University)
	Coffee Break

Chair: Hajime HOJO (Kyushu University)

Chair: Yong Soo CHO (Yonsei University)

E-09 ★ 16:50-17:05	In-plane Oriented Covalent Organic Framework (COF) Films Grown on Copper-hydroxides <u>Ken IKIGAKI</u> ¹ , Kenji OKADA ¹ , Yasuaki TOKUDOME ¹ , Paolo FALCARO ² , Andrew TARZIA ³ , Christopher COLEMAN ⁴ , Christian DOONAN ⁴ , Masahide TAKAHASHI ¹ (1.Osaka Prefecture University, 2.Graz University of Technology, 3.Imperial College London, 4.The University of Adelaide)
E-10 ★ 17:05-17:20	Enhanced Dielectric Properties and Grain Boundary Potentials in Sulfurized CaCu₃Ti₄O₁₂ Thin Films <u>Ye Seul JUNG</u> ¹ , Jae Woo PARK ¹ , Yong Soo CHO ¹ (1.Department of Materials Science and Engineering, Yonsei University)
E-11 ★ 17:20-17:35	Effect of YSZ with Different Y₂O₃ Contents on Toughening Behavior of Al₂O₃/Ba-β-Al₂O₃/ZrO₂ Composites <u>Lei LIU</u> ¹ , Kensaku MAEDA ¹ , Tetsuhiko ONDA ¹ , Zhong-Chun CHEN ¹ (1.Department of Mechanical and Aerospace Engineering, Graduate School of Engineering, Tottori University)

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Session F: Glass**Date: Thursday, November 21st / Place: Conference Room 5,6****Chair: Tokuro NANBA (Okayama University)****Chair: Woon Jin CHUNG (Kongju National University)**

F-01-K 15:00-15:30	Versatile Phosphor-in-glass for White LED Applications <u>Won Bin IM</u> ¹ (1.Hanyang University)
F-02 ★ 15:30-15:45	Afterglow Effect by Adding RF₂(R = Ba, Ca, Sr) of Eu²⁺ Ions in Eu²⁺ Doped Oxy-fluoride Glass Ceramic for an Efficient UV-LED Color Converter <u>Hansol LEE</u> ¹ , <u>Yong Gyu CHOI</u> ² , <u>Woon Jin CHUNG</u> ¹ (1.Kongju National University, 2.Korea Aerospace University)
F-03 15:45-16:00	Color Gamut Improvement of Cd-S-Se Quantum Dot Embedded Glasses for White LED <u>Karam HAN</u> ¹ , <u>Jong HEO</u> ² , <u>Woon Jin CHUNG</u> ¹ (1.Div. of Advanced Materials Eng., Kongju National University, 2.Dept. of Materials Sci. and Eng., Pohang University of Sci. and Tech.)
F-04 16:00-16:15	X-ray Absorption Near Edge Structure of Ag Cations in RPL Phosphate Glass for Personal Monitoring <u>Hirokazu MASAI</u> ¹ , <u>Masanori KOSHIMIZU</u> ² , <u>Hiroki KAWAMOTO</u> ² , <u>Takahiro OHKUBO</u> ³ , <u>Akitoshi KOREEDA</u> ⁴ , <u>Yasuhiro FUJII</u> ⁴ , <u>Koji OHARA</u> ⁵ , <u>Hironori OFUCHI</u> ⁵ , <u>Hiroyuki SETOYAMA</u> ⁶ (1.National Institute of Advanced Industrial Science and Technology, 2.Tohoku University, 3.Chiba University, 4.Ritsumeikan University, 5.Japan Synchrotron Radiation Research Institute, 6.Kyushu Synchrotron Light Research Center)
F-05 ★ 16:15-16:30	Simultaneous Enhancement of Up- and Down-conversion Emission via Plasmonic Structure <u>Yuan GAO</u> ¹ , <u>Shunsuke MURAI</u> ¹ , <u>Sayaka TAMURA</u> ² , <u>Koji TOMITA</u> ² , <u>Katsuhisa TANAKA</u> ¹ (1.Kyoto University, 2.Tokai University)
	Coffee Break

Chair: Hirokazu MASAI (National Institute of Advanced Industrial Science and Technology)**Chair: Yong Gyu CHOI (Korea Aerospace University)**

F-06 16:50-17:05	A Single Average Harmonic Oscillator Approach to Correlate Infrared Transmission Edge and Chemical Composition of Chalcogenide Glasses <u>Yong Gyu CHOI</u> ¹ , <u>Hyun KIM</u> ¹ , <u>Jun Ho LEE</u> ¹ (1.Korea Aerospace University)
F-07 ★ 17:05-17:20	Low-temperature Sintering Process of Bioactive Glass Nanoparticles via Biomimetic Route <u>Yeongjun SEO</u> ¹ , <u>Tomoyo GOTO</u> ¹ , <u>Sung Hun CHO</u> ¹ , <u>Tohru SEKINO</u> ¹ (1.The Institute of Scientific and Industrial Research, Osaka University)
F-08-I 17:20-17:40	Soret Effect in Glass-forming Binary Oxide Melts <u>Masahiro SHIMIZU</u> ¹ , <u>Tsubasa FUKUYO</u> ¹ , <u>Kento NAKASHIMA</u> ¹ , <u>Jun MATSUOKA</u> ² , <u>Yasuhiko SHIMOTSUMA</u> ¹ , <u>Kiyotaka MIURA</u> ¹ (1.Kyoto University, 2.The University of Shiga Prefecture)

F-09 17:40-17:55	Apparent Relaxation of In-plane Residual Stress in Sol-gel-derived Oxide Coating Films Hiromitsu KOZUKA ¹ , Sosuke KITANO ¹ , Yuta KOIZUMI ¹ , Yuki NISHIMURA ¹ (1.Kansai University)
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Session F: Glass

Date: Friday, November 22nd / Place: Conference Room 5,6

Chair: Yasuhiko BENINO (Okayama University)

Chair: Woon Jin CHUNG (Kongju National University)

F-10-I 11:10-11:30	Dissolution Mechanisms of H₂O and CO₂ in Silicate Melts (Glasses): Insight from NMR Spectroscopy Xianyu XUE ¹ , Masami KANZAKI ¹ (1.Institute for Planetary Materials, Okayama University)
F-11 ★ 11:30-11:45	Refining Structural Evolution of Ternary Ge-Ga-Se Glass upon Compositional Change across the Stoichiometric Tie-Line Hyun KIM ¹ , Jun Ho LEE ¹ , Woo Hyung LEE ¹ , Yong Gyu CHOI ¹ (1.Department of Materials Science and Engineering, Korea Aerospace University)
F-12 ★ 11:45-12:00	Chemical Strengthening of Thin Sodium Alumino-Silicate Glass Using Kaolinite-Based Particles Se Young KO ¹ , Woo Hyung LEE ¹ , Hyun KIM ¹ , Ji In LEE ¹ , Yong Gyu CHOI ¹ (1.Korea Aerospace University)

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Session G: Nanoceramics (Nanoparticles, Nanostructured materials, etc.)

Date: Thursday, November 21st / Place: Conference Room 4

Chair: Atsushi SAIKI (University of Toyama)

Chair: Sang-Yeup PARK (Gangneungwonju National University)

G-01-I 11:30-11:50	Preparation of Metal Oxide Nanomaterials and Their Surface Modification <u>Yoshiyuki SUGAHARA</u> ^{1,2} (1. Department of Applied Chemistry, School of Advanced Science and Engineering, Waseda University, 2. Kagami Memorial Institute for Materials Science and Technology, Waseda University)
G-02-I 11:50-12:10	Anomalous Piezoelectric Response of Ferroelectric Mesocrystalline Nanocomposites Designed by Strain Engineering <u>Qi FENG</u> ¹ , <u>Wenxiong ZHANG</u> ¹ , <u>Weixing ZHAO</u> ¹ (1. Kagawa University)
G-03-I 12:10-12:30	Gas Sensors Fabrication with Nano-Structure Oxide Synthesized by Metal Organic Decomposition Method <u>Tohru SUGAHARA</u> ¹ , <u>Yukiko HIROSE</u> ¹ , <u>Katsuaki SUGANUMA</u> ¹ (1. Osaka University)
	Lunch
	Poster Session

Chair: Yoshiyuki SUGAHARA (Waseda University)

Chair: Yong Soo CHO (Yonsei University)

G-04-I 15:00-15:20	Fabrication of Brookite-Type Titanium Oxide Nanocrystal and HAp by Hydrothermal Synthesis <u>Atsushi SAIKI</u> ¹ , <u>Takashi HASHIZUME</u> ¹ , <u>Atsuki SHIBATA</u> ¹ (1. University of Toyama)
G-05-I 15:20-15:40	The Relationship Between TiO₂ Crystalline Phase and OH Group in Self-Hydrolysis Process <u>Miki INADA</u> ¹ , <u>Katsuhiro ESAKI</u> ¹ (1. Kyushu University)
G-06-I 15:40-16:00	Cation Sorption on Titania Nanotubes from Aqueous Solution <u>Tomoyo GOTO</u> ¹ , <u>Sung Hun CHO</u> ¹ , <u>Tohru SEKINO</u> ¹ (1. The Institute of Scientific and Industrial Research, Osaka University)
G-07 16:00-16:15	Synthesis and Properties of Conductive Polymer Immobilized Titania Nanotubes <u>Kota TSUKATANI</u> ¹ , <u>Satoshi TSUKUDA</u> ² , <u>Sung Hun CHO</u> ¹ , <u>Tomoyo GOTO</u> ¹ , <u>Tohru SEKINO</u> ¹ (1. ISIR, Osaka University, 2. IMRAM, Tohoku University)
G-08 16:15-16:30	Plasmonic Enhancements of Light Extraction in Planar Phosphor-LED Structure <u>Oh Hyeon KWON</u> ¹ , <u>Jin Woo JANG</u> ¹ , <u>Young Eun KIM</u> ¹ , <u>Yong Soo CHO</u> ¹ (1. Yonsei University)

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Session H: Thin Films and Coatings (PLD, Sputtering, CSD, Aerosol Deposition, etc.)

Date: Thursday, November 21st / Place: Conference Room 4

Chair: Kentaro SHINODA (National Institute of Advanced Industrial Science and Technology (AIST))

Chair: Yoon Suk OH (Korea Institute of Ceramic Engineering and Technology)

H-01-I 16:50-17:10	Fabrication of Functional Ceramic Coatings by Cold Spray <u>Motohiro YAMADA</u> ¹ , Masahiro FUKUMOTO ¹ (1.Toyohashi University of Technology)
H-02-I 17:10-17:30	Lead-free Tetragonal Ferroelectric Material: Bi(Zn_{1/2}Ti_{1/2})O₃-based <u>Shintaro YASUI</u> ¹ , Hiroshi FUNAKUBO ¹ (1.Tokyo Institute of Technology)
H-03 17:30-17:45	Electrical and Thermal Properties of AD-Al₂O₃ Thick Films on Metal Substrate <u>Rintaro AOYAGI</u> ¹ , Hiroki TSUDA ¹ , and Jun AKEDO ¹ (1.Advanced Coating Technology Research Center National Institute of Advanced Industrial Science and Technology (AIST))
H-04 ★ 17:45-18:00	Growth of Single Crystalline Orthorhombic Phase Hf_{0.5}Zr_{0.5}O₂ via Pulsed Laser Deposition <u>Jun-Cheol PARK</u> ¹ , Sehun SEO ¹ , Jongmin LEE ¹ , Sanghan LEE ¹ (1.Gwangju Institute of Science and Technology (GIST))

Session H: Thin Films and Coatings (PLD, Sputtering, CSD, Aerosol Deposition, etc.)

Date: Friday, November 22nd / Place: Conference Room 4

Chair: Jun AKEDO (National Institute of Advanced Industrial Science and Technology (AIST))

Chair: Yoon Suk OH (Korea Institute of Ceramic Engineering and Technology)

H-05-K 11:10-11:40	Unique-arc-plasma-assist Coating Method to Achieve Advanced Functional ZnO- and In₂O₃-based Transparent Conductive Films <u>Tetsuya YAMAMOTO</u> ¹ , Yutaka FURUBAYASHI ¹ (1.Kochi University of Technology)
H-06-I 11:40-12:00	Effects of Excimer Laser Irradiation on the Properties of Magnetron Sputtered Transparent Conductive Oxide Films <u>Junichi NOMOTO</u> ¹ , Tomohiko NAKAJIMA ¹ , Iwao YAMAGUCHI ¹ , Tetsuo TSUCHIYA ¹ (1.Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology (AIST))
H-07 12:00-12:15	YSZ Based Thermal Protection Coatings with Nano Porous Structure Prepared by Suspension Plasma Spray <u>Yoonsuk OH</u> ¹ , Hak-Beom JEON ¹ (1.Korea Institute of Ceramic Engineering and Technology)

H-08 ★ 12:15-12:30	Advanced Directions for Fine Ceramic Coatings Deposition <u>Mohammed SHAHIEN</u> ¹ , Kentaro SHINODA ¹ , Masato SUZUKI ¹ , Jun AKEDO ¹ (1.Advanced Coating Technology Research Center, National Institute of Advanced Industrial Science and Technology (AIST-Tsukuba))
	Lunch

Chair: Rintaro AOYAGI (National Institute of Advanced Industrial Science and Technology (AIST))

Chair: Yoon Suk OH (Korea Institute of Ceramic Engineering and Technology)

H-09-I 14:00-14:20	Aerosol Deposition and Anti-Scratch Coating <u>Jae-Hyuk PARK</u> ¹ , Dae-Gun KIM ¹ , Kyung-Min LEE ¹ , Hye-Won SEOK ¹ (1.IONES Co.,Ltd.)
H-10-I 14:20-14:40	Dielectric Layer Coating onto Electrode Materials for Li Batteries with Ultrahigh Power Density <u>Takashi TERANISHI</u> ¹ , Kaisei KOZAI ¹ , Sou YASUHARA ² , Shintaro YASUI ² , Akira KISHIMOTO ¹ , Mitsuru ITOH ² (1.Okayama University, 2.Tokyo Institute of Technology)
H-11 14:40-14:55	Direct Laser Sintering of Ceramic Compacts with RTIC Phenomenon <u>Jun AKEDO</u> ¹ , So BABA ¹ (1.National Institute of Advanced Industrial Science & Technology)
H-12 14:55-15:10	Hybrid Aerosol Deposition: Linkage Between Thermal Spray and Cold Spray of Ceramics <u>Kentaro SHINODA</u> ¹ , Mohammed SHAHIEN ¹ , Jun AKEDO ¹ (1.AIST)
H-13 15:10-15:25	Low Temperature and Fast Growth of One-directionally Grown AlN Film by Atmospheric Pressure Halide CVD Method <u>Naonori SAKAMOTO</u> ¹ , Takaya SUZUKI ¹ , Takahiko KAWAGUCHI ¹ , Naoki WAKIYA ¹ , Hisao SUZUKI ¹ (1.Shizuoka University)
	Coffee Break

Chair: Takashi TERANISHI (Okayama University)

Chair: Byung-Koog JANG (Kyushu University)

H-14-I 15:45-16:05	Optical and Mechanical Properties of HfO₂ Films Prepared Using Metal-organic Chemical Vapor Deposition <u>Akihiko ITO</u> ¹ , Shogen MATSUMOTO ¹ (1.Yokohama National University)
H-15-I 16:05-16:25	Effect of the Surface Oxide Film in Metallic Solid Phase Particle Deposition <u>Yuji ICHIKAWA</u> ¹ , Kazuhiro OGAWA ¹ (1.Tohoku University)

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Session I: Industry, Pottery, Porcelain, and Refractory materials

Date: Friday, November 22nd / Place: Conference Room 2

Chair: Naotaka SAKAMOTO (Fukuoka Industrial Technology Center)

Chair: Hyung-Tae KIM (Korea Institute of Ceramic & Engineering Technology)

I-01-K 14:45-15:15	Origin of Porcelain China, Korea, Japan and Europa: Kaolin Mining Place <u>Hitoshi OHSATO</u> ¹ (1.University of Oulu/Nagoya Industrial Science Research Institute)
I-02 ★ 15:15-15:30	Improvement in Properties of Amorphous Ceramic Fiber Products Using Silica Sol and Ceramic Powder <u>Naoya TAKAHASHI</u> ¹ , Shinobu HASHIMOTO ¹ , Yusuke DAIKO ¹ , Sawao HONDA ¹ , Yuji IWAMOTO ¹ (1.Nagoya Institute of Technology)
	Coffee Break
I-03-I 15:45-16:05	Synthesis of Aluminum Silicon Carbide <u>Hatsuo TAIRA</u> ¹ (1.Okayama Ceramics Research Foudation)
I-04 16:05-16:20	Terahertz Spectroscopic Study and Imaging of Ceramic Tiles Fired at Various Temperatures <u>Seiji NIIJIMA</u> ^{1,2} , Hiroaki TANIGUCHI ¹ , Kodo KAWASE ² (1.Mie Prefecture Industrial Research Institute, 2.Nagoya University)
I-05 16:20-16:35	Current Status of the Japanese Roof Tile Industry and New Initiatives <u>Naotaka SAKAMOTO</u> ¹ (1.Fukuoka Industrial Tech. Ctr.)

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