

# The Ceramic Society of Japan

## The 31th Fall Meeting

### Program

#### ■■September 05 (Wed) (Room A) ■■

#### 11. New Evolution of Dielectrics: Challenge the development of innovative solutions based on social demand

##### マテリアルズインフォマティクス

##### (9:00) (Chairman 森分博紀)

- 1A01 ★ Prediction of fundamental properties of semiconductors and data-driven exploration of novel materials (Tokyo Institute of Technology·National Institute for Materials Science) ○OBA Fumiyasu\*
- 1A03 ★ Towards fabrication of high-performance multicrystalline materials by the aid of data science (Nagoya University) ○USAMI Noritaka\*·KUTSUKAKE Kentaro·MATSUMOTO Tetsuya·KUDO Hiroaki·YOKOI Tatsuya·(Tohoku University) SHIMIZU Yasuo·OHNO Yutaka

##### (10:20) Break

##### (10:40) (Chairman 溝口照康)

- 1A06 ★ Applications of informatics to spectral data and their problems (Nagoya University) ○MUTO Shunsuke\*
- 1A08 ★ Materials Optimization for Energy Conversion Ceramics by Combined Data Science and Materials Simulation (Nagoya Institute of Technology·National Institute for Materials Science) ○NAKAYAMA Masanobu·(Nagoya Institute of Technology) NAKANO Koki·(Nagoya Institute of Technology·National Institute for Materials Science) KOBAYASHI Ryo·TAKEUCHI Ichiro

##### (14:20) (Chairman 山田智明)

- 1A17 Electron Energy Loss Spectroscopy on Domain Structure of Orthorhombic Phase Hafnia-Based Thin Films (Tohoku University) ○KIGUCHI Takanori·SHIRAIISHI Takahisa·CHOI Sujin·(Tokyo Institute of Technology) MIMURA Takanori·SHIMIZU Takao·FUNAKUBO Hiroshi·(Tohoku University) KONNO Toyohiko
- 1A18 Structural and dielectric properties of Dion-Jacobson layered perovskite (Rb, Cs)NdNb<sub>2</sub>O<sub>7</sub> (Kyushu University) ○Asaki Souta·Akamatsu Hirofumi\*·Hasegawa George·Hayashi Katsuro

##### スペクトル解析

##### (15:00) (Chairman 木村雅彦)

- 1A19 ☆ Development for new integrated software for impedance analysis (National Institute for Materials Science) ○KOBAYASHI Kiyoshi\*
- 1A20 ☆ Investigation of phonon dynamics of relaxor PMN-PT by polarization-angle-dependent Raman spectroscopy (Ritsumeikan University) ○FUJII Yasuhiro\*·SHIRATORI Katsuya·ASO Taro·ABE Kotaro·KOREEDA Akitoshi
- 1A21 Analysis of ion dynamics using far-infrared ellipsometer (Tokyo Institute of Technology) ○HOSHINA Takuya\*·TAKEZAWA Shuhei·SASE Ryuichi·TAKEDA Hiroaki·TSURUMI Takaaki

##### (16:00) Break

##### プロセス・デバイス応用

##### (16:20) (Chairman 安井伸太郎)

- 1A23 ☆ Particle rotation of particles in condensed slurry in magnetic field and anisotropic sintering of crystal-oriented compacts (Nagaoka University of Technology) ○TANAKA Satoshi\*·Baba Shoko
- 1A24 Growth of (K, Na)NbO<sub>3</sub> thick films by hydrothermal method (Tokyo Institute of Technology) ○FUNAKUBO Hiroshi·Tateyama Akinori·Ito Yoshiharu·Nakamura Yoshiko·Orino Yuichiro·Kurosawa Minoru·Shimizu Takao·(Sophia University) Uchida Hiroshi·(Tohoku University) Shiraiishi Takahisa·Kiguchi Takanori·Konno Toyohiko J.·(Toin University of Yokohama) Ishikawa Mutsuo·(Yamanashi University) Kumada Nobuhiro
- 1A25 Impedance Spectroscopy for Fatigued Alkali Niobate Multilayer Piezoceramics (Nagoya Institute of Technology) ○NISHIYAMA Hiroshi·KAKIMOTO Ken-ichi\*·(TAIYO YUDEN CO., LTD.) HATANO Keiichi·KONISHI Yukihiko·(University of Erlangen-Nuremberg) MARTIN Alexander·WEBBER Kyle G.

##### (17:20) (Chairman 天田英之)

- 1A26 Low temperature deposition of (K,Na,Li)NbO<sub>3</sub> films by hydrothermal method (Tohoku Univ.) ○SHIRAIISHI Takahisa·MUTO Yuuta·KIGUCHI Takanori·KONNO Toyohiko·(Tokyo Tech.) TATEYAMA Akinori·ITO Yoshiharu·KUROSAWA Minoru·FUNAKUBO Hiroshi·(Sophia Univ.) UCHIDA Hiroshi·(Toin University of Yokohama) ISHIKAWA Mutsuo
- 1A27 Microwave-assisted hydrothermal deposition of potassium-sodium niobate films and their composition control (Sophia University) ○UCHIDA Hiroshi·(Tohoku University) SHIRAIISHI Takahisa·KIGUCHI Takanori·AKAMA Akihiro·KONNO Toyohiko·(Toin University of Yokohama) ISHIKAWA Mutsuo·(Tokyo Institute of Technology) ITO Yoshiharu·KUROSAWA Minoru·FUNAKUBO Hiroshi
- 1A28 Microstructure observation of (K<sub>0.5</sub>Na<sub>0.5</sub>)NbO<sub>3</sub> ceramics embedded with SrTiO<sub>3</sub> and KTaO<sub>3</sub> seed crystals (University of Yamanashi) ○FUJII Ichiro\*·UENO Shintaro·WADA Satoshi

## 12.Global Innovation by Ceramic Coating

### TBCの劣化と構造安定性

#### (9:00) (Chairman 北岡諭)

1B01 ★ Degradation Assessment of Gas Turbine Materials (Chubu Electric Power Co., Inc.) ○ITO Akihiro

#### (9:40) (Chairman 垣澤英樹)

- 1B03 Crystal Structure and Thermal Properties of Cation-deficient Perovskite type Oxides (Japan Fine Ceramics Center) ○MATSUDAIRA Tsuneaki・KAWASHIMA Naoki・OGAWA Takashi・KATOH Takeharu・(Tocalo Co., Ltd.) HABU Yoichiro・(Japan Fine Ceramics Center) KITAOKA Satoshi
- 1B04 Impact of electronic structures in grain boundaries on mass transfer in alumina scale (Fine Ceramics Center) ○OGAWA Takafumi・(Univ. Tokyo) WEI Jiake・(Nagoya Univ.) YOKOI Tatsuya・(Fine Ceramics Center) KITAOKA Satoshi・(Nagoya Univ.・Fine Ceramics Center) MATSUNAGA Katsuyuki・(Univ. Tokyo・Fine Ceramics Center) SHIBATA Naoya・IKUHARA Yuichi
- 1B05 Oxygen shielding performance and structural stability in multilayered EBC consisting of oxides with greatly different electric characteristics (Japan Fine Ceramics Center) ○KITAOKA Satoshi・Matsudaira Tsuneaki・Tanaka Makoto・(Gifu University) Sakurada Osamu・(Yokohama National University) Hasegawa Makoto・(Tokyo University of Technology) Kagawa Yutaka

### 機能性材料

#### (10:40) (Chairman 西川博昭)

- 1B06 Black-ZrO<sub>2</sub> produced by oxidation reaction of Zr metal plate in air (Kumamoto University) ○MATSUDA Mitsuhiro・HIMENO Yuuta・SHIDA Kenji・MATSUDA Motohide
- 1B07 ☆ Development of Functionalized Materials by Surface Chemical Modification (National Institute of Advanced Industrial Science and Technology) ○NAKAMURA Takako
- 1B08 Fabrication and Optimization of Zinc Oxide Thin Film Growth Using Angle-Controlled Magnetron Sputtering (Hosei University・National Institute for Materials Science) ○HOSAKA Takumi・YAMAGATA Yoshihito・(National Institute for Materials Science) OHSAWA Takeo・(Saint-Gobain Recherche) SERGEY Grachev・HERVE Montigaud・(Hosei University) ISHIGAKI Takamasa・(National Institute for Materials Science) OHASHI Naoki
- 1B09 functional ceramics coating by photo -assisted metal organic deposition(MOD) (AIST) ○TSUCHIYA Tetsuo・NAKAJIMA Tomohiko・YAMAGUCHI Iwao・SUZUKI Muneyasu・NOMOTO Junichi・USAWA yuko

### セラミックコーティング研究体

#### (14:20) (Chairman 土屋哲男)

- 1B17 ☆ Ceramic Coating with Room Temperature Impact Consolidation (National Institute of Advanced Industrial Science and Technology) ○AKEDO JUN
- 1B18 ★ Preparation of electrode-solid electrolyte composite films by aerosol deposition and their applications to all-solid-state batteries (Nagoya University) ○IRIYAMA Yasutoshi

#### (15:20) (Chairman 青柳倫太郎)

- 1B20 ☆ Potential of Aerosol Deposition for Front and Back 3D Curved Glass of Smartphone (IONES Co., Ltd) ○Jae-Hyuk Park・Dae-gun Kim・Hye-Won Seok・Kyung-min Lee
- 1B21 ☆ Coating of Porous Material Powder by Aerosol Deposition Method (Industrial Technology Center of Tochigi Prefecture) ○MATSUMOTO Taiji・SAEKI Kazuhiko・IIDUKA Kazutomo・(National Institute of Advanced Industrial Science and Technology) AKEDO Jun
- 1B22 ☆ Development of the nanocomposite thick film via integrated composite particle by AD method (Toyohashi University of Technology) ○MUTO Hiroyuki

#### (16:20) (Chairman 明渡純)

- 1B23 ★ Generation and irradiation of electronegative oxygen ions to tailor bulk functions and to design surface properties of metal-oxide-based thin films (Kochi University of Technology) ○YAMAMOTO Tetsuya・FURUBAYASHI Yutaka・MAKINO Hisao

#### (17:00) (Chairman 森茂生)

- 1B25 ☆ Structural study of AD films and their starting powder by synchrotron radiation X-ray diffraction (Hiroshima University) ○KUROIWA Yoshihiro・ABE Tomohiro・MORIYOSHI Chikako・(National Institute of Advanced Industrial Science and Technology) SUZUKI Muneyasu・AOYAGI Rintaro・AKEDO Jun
- 1B26 ☆ Thin Film Growth of Flexible BaTiO<sub>3</sub> (Kindai University) ○NISHIKAWA Hiroaki・(Graduate School of Kindai University) Umatani Shinji
- 1B27 ☆ Growth and Property Control of Piezoelectric Pb(Zr,Ti)O<sub>3</sub> Nanorods by Pulsed Laser Deposition (Nagoya University・JST-PRESTO) ○YAMADA Tomoaki・(Nagoya University) OKAMOTO Kazuki・(National Institute for Materials Science・Tokyo Institute of Technology) SAKATA Osami・(Tokyo Institute of Technology) FUNAKUBO Hiroshi・(Nagoya University) YOSHINO Masahito・NAGASAKI Takanori
- 1B28 ☆ Development of Environmental Barrier Coatings by Suspension Plasma Spray Technique (Tohoku University) ○OGAWA Kazuhiro・YANAOKA Ryotaro・ICHIKAWA Yuji・(Fujimi Incorporated) MASUDA Takaya・SATO Kazuto・(Tohoku University) KITAHARA Takumi

## ■ ■ September 05 (Wed) (Room C) ■ ■

### 10. Ceramics technology for next generation power electronics

#### (9:00) (Chairman 真部高明)

- 1C01 Study of accelerated fatigue test condition for metallized ceramic substrate (National Institute of Advanced Industrial Science and Technology) ○MIYAZAKI Hiroyuki • (Denka Co., Ltd.) IWAKIRI Shoji • HIROTSURU Hideki • (National Institute of Advanced Industrial Science and Technology) HIRAO Kiyoshi • HYUGA Hideki
- 1C02 Nearly-perfect Pure Ag joints Prepared by Ag to Ag direct bonding (Osaka University) ○ZHANG Hao\* • NOH Seungjun • ASATANI Norio • KIMOTO Yukiharu • SUETAKE Aiji • NAGAO Shijo • SUGAHARA Tohru • SUGANUMA Katsuaki

#### (9:40) (Chairman 中村吉伸)

- 1C03 ★ Thermal Expansion Control by Giant Negative Thermal Expansion Materials (Nagoya University) ○TAKENAKA Koshi\*

#### (10:20) Break

#### (10:40) (Chairman 平尾喜代司)

- 1C06 ★ Thermal characterization of metalized ceramic substrates for next generation power devices (Osaka University) ○Nagao Shijo\* • (Yamato Scientific co., Ltd.) Wakasugi Naoki • (Osaka University) Kim Dongjin • Satou Naoki • (National Institute of Advanced Industrial Science and Technology) Hirao Kiyoshi • (Osaka University) Suganuma Katsuaki • (Tokuyama Co.) Yamamoto Yasuyuki

#### (11:20) (Chairman 周游)

- 1C08 Influence of Temperature on Dielectric and Insulating Properties of Aluminum Nitride Insulating Substrates. (Kyushu Institute of Technology) ○ABE Tsuyoshi\* • IMAKIIRE Akihiro • KOZAKO Masahiro • HIKITA Masayuki
- 1C09 Evaluation of Electrical Characteristics of New Ceramic Insulating Substrate for Next Generation Power Module (Kyushu Institute of Technology) ○KOZAKO Masahiro • HIKITA Masayuki

#### (14:20) (Chairman 日向秀樹)

- 1C17 ★ Expectations and requests of high performance ceramic components for power electronics (National Institute of Advanced Industrial Science and Technology) ○YAMAGUCHI Hiroshi
- 1C19 ★ Reliability assessment of metalized ceramic substrates and their enhanced thermal and mechanical properties (National Institute of Advanced Industrial Science and Technology) ○HIRAO Kiyoshi

#### (15:40) (Chairman 本多沢雄)

- 1C21 Development of High Thermal Conductivity Silicon Nitride Substrates used by sintered reaction bonding method (Japan Fine Ceramics Co., Ltd.) ○KUSANO Dai • (National Institute of Advanced Industrial Science & Technology) Hyuga Hideki • Zhou You • Hirao Kiyoshi
- 1C22 Improvement of electrical conductivity of silicon nitride substrate by printed low-CTE copper paste (NORITAKE CO., LIMITED) ○Okuda Kazuhiro

#### (16:20) Break

#### (16:40) (Chairman 宮崎広行)

- 1C24 ★ Metal / ceramics bonding technologies for highly reliable ceramics insulated substrates (Central Research Institute, Mitsubishi Materials Corporation) ○NAGATOMO Yoshiyuki\*
- 1C26 A novel method of joining aluminum and silicon nitride with thermal stress relieving layer (National Institute of Advanced Industrial Science and Technology) ○KITA Ken'ichiro • KONDO Naoki

#### (17:40) (Chairman 草野大)

- 1C27 Synthesis and Characterization of Inorganic Organic Hybrid Composites Insulating Substrates (Nagoya Institute of Technology) ○HONDA Sawao • Oda Yuuki • Daiko Yuusuke • Iwamoto Yuji
- 1C28 Characterization of epoxy composite with silicon nitride produced by combustion synthesis (National Institute of Advanced Industrial Science and Technology) ○SHIMAMURA AKIHIRO • kondo naoki • hotta yuji • hirao kiyoshi • hyuga hideki

**08.New trend of engineering ceramics**

**酸化物材料**

**(9:00) (Chairman 鈴木達)**

- 1D01 Fabrication of Al<sub>2</sub>O<sub>3</sub> ceramics with low resistivity by an addition of a small amount of ITO and their properties (Kagawa University) ○KUSUNOSE Takafumi\*・Tominaga Daisuke・Fujita Asuka・(Osaka University) Sekino Tohru
- 1D02 Mechanical and high temperature oxidation resistant properties of Al<sub>2</sub>O<sub>3</sub>-FeAl composites (National Institute of Advanced Industrial Science and Technology) ○FURUSHIMA Ryoichi\*・HYUGA Hideki
- 1D03 Crystallization mechanism of amorphous with Al<sub>2</sub>O<sub>3</sub>-GAPeutectic composition prepared by Sol-Gel method (Nihon University) ○Ohsima Takumi・Ueno Shunkichi\*
- 1D04 Evaluation of thermal expansion coefficient of Al<sub>2</sub>TiO<sub>5</sub> by substituting Fe content (Nihon University) ○SUGIMOTO Takayuki・AKIZUKI Yusuke・YAGATA Satoshi・KIKUCHI Zyun・FUJIMORI Hiroki

**(10:20) Break**

**(10:40) (Chairman 楠瀬尚史)**

- 1D06 Plasma erosion behavior of sintered Y<sub>2</sub>O<sub>3</sub> ceramics (TOTO Ltd) ○ASIZAWA Hiroaki・(Tokyo Institute of Technology) YOSHIDA Katsumi
- 1D07 Size effect of strength and yield phenomenon of single crystal silicon measured by bending test of microcantilever beam specimens (Yokohama National University) ○Yamaguchi Hiroshi・(Yokohama National University・Kanagawa Prefectural Institute of Industrial Science and Technology) Tatami Junichi\*・Iijima Motoyuki・(Kanagawa Prefectural Institute of Industrial Science and Technology) Takahashi Takumi・Yahagi Tsukaho・Kondo Toshiyuki
- 1D08 Property changes of single-walled carbon nanotubes by structure control techniques (National Institute of Advanced Industrial Science and Technology) ○MATSUMOTO Naoyuki・ISHIZAWA Sachiko・IRIE Michiko・Hirano Megumi・Futaba Don
- 1D09 Steam oxidation behavior of HfSi<sub>2</sub> with B<sub>4</sub>C additive (Tokyo Institute of Technology) ○TSUNOURA TORU\*・YOSHIDA KASTUMI\*・YANO TOYOHICO・(Japan Aerospace Exploration Agency) AOKI TAKUYA・(Tokyo University of Agriculture and Technology) OGASAWARA TOSHIO

**繊維強化複合材料**

**(14:20) (Chairman 須山章子)**

- 1D17 ★ Development of SiC ceramic fibers prepared from ceramic precursors (Tokyo University of Technology) ○Sato Mitsuhiro
- 1D19 Development of carbon and boron nitride coating process on SiC fibers by electrophoretic deposition method (Tokyo Institute of Technology) ○YOSHIDA Katsumi\*・AJITO Takashi・SHIRATA Ryo・GUBAREVICH ANNA・YANO Toyohiko・(Japan Aerospace Exploration Agency (JAXA)) KOTANI Masaki

**(15:20) (Chairman 周游)**

- 1D20 Spark plasma sintering of SiC fiber (Ryukoku university) ○TABATA Shohei・OZAKI Ryunosuke・SHIRAI Kenshiro・OHYANAGI Manshi\*
- 1D21 Damage accumulation mechanisms in discontinuous carbon fiber dispersed SiC matrix composites (Tokyo University of Technology) ○ARAI Yutaro・(The University of Tokyo (Currently Kobe Steel, Ltd.)) KAJIHARA Kouki・(The University of Tokyo (Currently Komatsu Ltd.)) ATSUMI Yujiro・(Tokyo University of Technology) KAGAWA Yutaka
- 1D22 Damage Accumulative Process of Short Fiber Type C/SiC under Compression (Graduated University for Advanced Studies) ○TOBATA YUTA・(JAXA/ISAS) GOTO KEN\*

**(16:20) Break**

**機械的特性**

**(16:40) (Chairman 古嶋亮一)**

- 1D24 Influence of Surface Oxidation on Tribological Properties of Boron Carbide - Silicon Carbide Composite Ceramics (MINO CERAMIC CO.,LTD) ○SAKAMOTO Yasunao・OZEKI Fumihito・KUMAZAWA Takeshi・(Nagoya University) KITA Hideki・(National Institute of Advanced Industrial Science and Technology) HYUGA Hideki
- 1D25 Development of joining process technology for SiC core materials (Toshiba Energy Systems & Solutions Corporation) ○SUYAMA Shoko・UKAI Masaru・AKIMOTO Megumi・SATO Hisaki・HEKI Hideaki
- 1D26 Fabrication of textured B<sub>4</sub>C with highly-controlled microstructure via colloidal processing under strong magnetic field (National Institute for Materials Science) ○AZUMA Shota・UCHIKOSHI Tetsuo・(Tokyo Institute of Technology) YOSHIDA Katsumi・(National Institute for Materials Science) SUZUKI Tohru\*
- 1D27 Effect of the amount of CNT additive on the thermal shock resistance, mechanical and thermal properties of B<sub>4</sub>C/CNT composites (Tokyo Institute of Technology) ○MAKI Ryosuke S. S.・MUHAMMAD Fajar・MALETASKIC Jelena・GUBAREVICH Anna・YOSHIDA Katsumi・YANO Toyohiko・(National Institute for Materials Science) SUZUKI Tohru S.・UCHIKOSHI Tetsuo

**原子力材料**

**(18:00) (Chairman 檜木達也)**

- 1D28 Effect of crystallographic orientation and alumina as sintering additives on densification behavior and mechanical properties of boron carbide by slip casting (Tokyo Institute of Technology) ○Fajar Muhammad\*・Yoshida Katsumi・Yano Toyohiko・(National Institute for Materials Science) Suzuki Tohru S.
- 1D29 Neutron Irradiation Induced Lattice Parameter Changes of Highly Oriented Aluminum Nitride (Tokyo Institute of Technology) ○Pornphatdetadom Thanataon・Yoshida Katsumi\*・(National Institute for Materials Science,) Suzuki Tohru S.・(Tokyo Institute of Technology) Yano Toyohiko
- 1D30 Fabrication of translucent AlN ceramics (Yokohama National University) ○Akimoto Hayato・(Yokohama National University・Kanagawa Institute of Industrial Science and Technology) Tatami Junichi\*・Iijima Motoyuki・Takahashi Takuma・(Kanagawa Institute of Industrial Science and Technology) Yokouchi Yokouchi・Okuda Tetsuya

## ■ ■ September 05 (Wed) (Room E) ■ ■

### 09.Novel ceramic technology based on nanocrystals

#### (10:40) (Chairman 三村憲一)

- 1E06 ★ Nanopseudomorphic Chemistry: Novel Synthesis of Nanocrystals by Element Replacement (Kyoto University) ○TERANISHI Toshiharu\*
- 1E08 Fine structure analysis of SrTiO<sub>3</sub> photocatalytic particles for water splitting (Ibaraki University) ○NAKASHIMA Kouichi·YAMAZAKI Reina·KOBAYASHI Yoshio·ISHIGAKI Tohru·OHYOYAMA Kenji·(Japan Atomic Energy Agency) YONEDA Yasuhiro·(High Energy Accelerator Research Organization) ISHIKAWA Yoshihisa·(Osaka University) SEKINO Tohru·(Tohoku University) Yin Shu·KAKIHANA Masato·(Kyoto University) HIGASHI Masanobu·ABE Ryu
- 1E09 Synthesis of uniform dielectric nanoparticles in dense-solution systems (University of Yamanashi) ○UENO Shintaro\*·HATAKEYAMA Sakuya·KUNISADA Ryoichi·WATANABE Mutsuki·CHIKATA Tsukasa·FUJII Ichiro·WADA Satoshi

#### (14:20) (Chairman 谷口貴章)

- 1E17 Examination of high performance LSM-YSZ composite cathode by nanostructuring and composition control (Gunma University) ○TAMURA Kana·NANTHANA Pouy·SATO Kazuyoshi\*·(Osaka University) ABE Hiroya·(Gunma University) KANNARI Naokatsu
- 1E18 Synthesis of CeO<sub>2</sub>-ZrO<sub>2</sub>(CZ) and Al<sub>2</sub>O<sub>3</sub>-CZ nanocomposite and their behavior at high temperature. (Gunma University) ○Kuwabara Shun·Sato Kazuyoshi\*·Sekiguchi Natsumi·Nakazawa Hikaru·(Daiichi Kigenso Kagaku Kogyo) Yagishita Sadahiro
- 1E19 Preparation and characterization of Mo<sub>1-x</sub>Nb<sub>x</sub>S<sub>2</sub> nanosheets by liquid-phase exfoliated method. (Utsunomiya University) ○NARITA Yurika·TEZUKA Keitaro\*·Shan Yue Jin
- 1E20 Effect of starting materials on nanocube formation of sodium niobate (Ibaraki University) ○TOSHIMA Yasuharu·KOBAYASHI Yoshio·(Tohoku University) KAKIHANA Masato·(Ibaraki University) NAKASHIMA Kouichi\*
- 1E21 Preparation of barium titanate-nanocube highly-dispersed suspensions and assemblies (University of Yamanashi) ○HATAKEYAMA Sakuya·CHIKATA Tsukasa·FUJII Ichiro·UENO Shintaro·WADA Satoshi\*

#### (16:00) (Chairman 佐藤和好)

- 1E22 Crystal Growth Mechanism of KNbO<sub>3</sub> Nanocrystals (Japan Atomic Energy Agency) ○YONEDA Yasuhiro·(Graduate School, University of Yamanashi) KUNISADA Ryoichi·CHIKADA Tsukasa·UENO Shintaro·FUJII Ichiro·WADA Satoshi

#### (16:20) Break

- 1E24 ★ Hydrothermal synthesis, application, and synthetic mechanism of surface modified metal oxide nanocrystals (Nagoya University) ○TAKAMI Seiichi

#### (17:20) (Chairman 上野慎太郎)

- 1E26 Fabrication of self-assembled BaTiO<sub>3</sub> nanocube film via printing technology (National Institute of Advanced Industrial Science and Technology) ○MIMURA Kenichi·KATO Kazumi
- 1E27 Self-assembly of BaTiO<sub>3</sub> nanocube by electrospray deposition (Japan Fine Ceramics Center) ○SUEHIRO Satoshi·KIMURA Teiichi·TAKAHASHI Seiji·(National Institute of Advanced Industrial Science and Technology) MIMURA Kenichi·KATO Kazumi

#### (18:00) (Chairman 中島光一)

- 1E28 Synthesis of Pb(Zr,Ti)O<sub>3</sub> nanocrystals by a surfactant-assisted hydrothermal method (National Institute of Advanced Industrial Science and Technology) ○TAKADA Yoko·MIMURA Ken-ichi·KATO Kazumi
- 1E29 Analysis of the structure and transition behavior of ordered arrays of BaTiO<sub>3</sub> nanocubes (National Institute of Advanced Industrial Science and Technology) ○ITASAKA Hiroki·MIMURA Ken-ichi·(Kyoto University) NISHI Masayuki·(National Institute of Advanced Industrial Science and Technology) KATO Kazumi

## ■ ■ September 05 (Wed) (Room F) ■ ■

### 99\_01.Functions of Ceramics and Related Fields

#### (15:00) (Chairman 奥谷昌之)

- 1F19 Preparation and physical properties of Bi2223 phase cuprate superconductor (Yamagata University) ○shimabukuro yoshihito\*·kambe shiro·hayakawa ohji·hori yuri·suzuki saya
- 1F20 Evaluation of polaron conductivity in perovskite oxide by density functional theory (Nagoya Institute of Technology) ○Nojima Hirotosugu·Lee Hein·Tanibata Naoto·Nakayama Masanobu\*·(SHIBAURA ELECTRONICS CO., LTD) Suzuki Teiichi

### 99\_02.Process of Ceramics and Related Fields

- 1F21 Short time reproduction of frescoes -part 2- (Nagoya Institute of Technology) ○NAGATA Yohei·HASHIMOTO Sinobu\*·HONDA Sawao·DAIKO Yusuke·IWAMOTO Yuji

### 99\_03.Structure and Analysis of Ceramics and Related Fields

- 1F22 Effect of Mg-doped on excitonic stimulated emission from ZnO micro thin films (Kobe University) ○FUJII Shusuke·(National institute for materials science) AGACHI YUTAKA·(Kobe University) UCHINO TAKASHI\*

## ■■ September 05 (Wed) (Room G) ■■

### 03.Synthesis and Functionalities of Mixed Ion Compounds

#### (9:00) (Chairman 荻野拓)

1G01 ★ Mixed ion compounds based on oxide nanosheets (iMaSS, Nagoya University·MANA, National Institute for Materials Science) ○OSADA Minoru

#### (9:40) (Chairman 上田純平)

1G03 Novel red emitting phosphor  $\text{BaCN}_2:\text{Eu}^{2+}$  and its luminescence properties (Hokkaido University) ○NISHITANI Sayaka·MASUBUCHI Yuji\*·HIGUCHI Mikio·KIKKAWA Sinichi

1G04 Synthesis of Zinc Germanium Oxynitride with Nanotube Morphology by Nitridation of  $\text{Zn}_2\text{GeO}_4$  Nanorod and its Photocatalytic Activity (Tohoku University) ○Wang Jingwen·Asakura Yusuke\*·Yin Shu\*

#### (10:20) Break

#### (10:40) (Chairman 小林亮)

1G06 Local Coordination, Electronic Structure and Thermal Quenching of  $\text{Ce}^{3+}$  in Isostructural  $\text{Sr}_2\text{GdAlO}_5$  and  $\text{Sr}_3\text{AlO}_4\text{F}$  Phosphors (Kyoto University) ○Ji Haipeng\*·Xu Jian·Asami Kazuki·Ueda Jumpei·(University of Tartu) Brik Mikhail G.·(Kyoto University) Tanabe Setsuhisa\*

1G07 Synthesis and luminescence properties of layered mixed anion compounds with copper-chalcogenide layer (National Institute of Advanced Industrial Science and Technology) ○IWASA Yuki·OGINO Hiraku·SONG Dongjoon·(Osaka University) YAMANOI Kohei·SHIMIZU Toshihiko·(Kyoto University) UEDA Jumpei·TANABE Setsuhisa·(Osaka University) SARUKURA Nobuhiko

#### (11:20) (Chairman 上田純平)

1G08 ★ Development of Phosphors with Mixed Anions (Tohoku University) ○KOBAYASHI Makoto·KATO Hideki·KAKIHANA Masato

#### (14:20) (Chairman 桑原彰秀)

1G17 ★ Functional materials supporting the motorization of automobiles: Development of advanced energy materials and advanced analysis (NISSAN ARC LTD.) ○IMAI Hideeto

1G19 Crystal structural chemistry of oxyhydroxides with perovskite-related structures (Kanagawa University) ○SAITO Miwa\*·ARAI Kenji·TOMINAGA Nozomi·KAWAHARA Yoshiteru·MIYAMOTO Kohki·MOTOHASHI Teruki\*

1G20 Water incorporation behaviors of oxygen-deficient perovskites  $\text{Ba}(\text{Zn}_x\text{Nb}_{1-x})\text{O}_{3-\delta}$  (Kanagawa University) ○ARAI Kenji·SAITO MIWA·(Kyushu University) INADA Miki·HAYASHI Katsuro·(Kanagawa University) MOTOHASHI Teruki\*

1G21 Evaluation of Crystal Structure and Property of  $\text{Ba}_{1-x}\text{Ln}_x\text{FeO}_{3-\delta}$  and  $\text{BaFe}_{1-x}\text{Ln}_x\text{O}_{3-\delta}$  ( $\text{Ln}$ : Rare Earth Ion) (Nihon University) ○Matsumoto Yuunosuke·Takahashi Masahiro·Shimizu Shogo·Kitadume Masaki·Sato Tsubasa·Okiba Takashi·Hashimoto Takuya\*

#### (16:00) (Chairman 本橋輝樹)

1G22 Oxygen diffusion property of perovskite oxides with unusually high valence Fe (Kyoto University) ○Goto Masato·Guo Haichuan·Takashi Saito·Shimakawa Yuichi

#### (16:20) Break

1G24 ★ Oxygen Storage Performance of Sr-Fe Mixed Oxide (Kyoto University) ○HOSOKAWA Saburo

1G26 Development of  $\text{Pd}/\text{Ca}_2\text{AlMnO}_{5+\delta}$  catalyst for the purification of automobile exhaust gas (Kyoto University) ○Oshino Yudai·Beppu Kosuke·Hosokawa Saburo\*·Asakura Hiroyuki·Teramura Kentaro·Tanaka Tsunehiro\*

#### (17:40) (Chairman 細川三郎)

1G27 Systematic study on reductive water dissolution reaction by oxygen storage materials  $\text{BaLnMe}_2\text{O}_{5+\delta}$  ( $\text{Ln} = \text{La, Nd, Gd, Y}$ ;  $\text{Me} = \text{Mn, Fe}$ ). (Kanagawa University) ○OMORI Jumpei·SAITO Miwa·MOTOHASHI Teruki\*

1G28 Significant oxygen evolution reaction catalytic activity of novel melilite-type complex oxides (Kanagawa University) ○OGAWA Satoshi·SUZUKI Kenta·SAITO Miwa·(Hokkaido University) DOI Yoshihiro·(Kanagawa University) MOTOHASHI Teruki\*

1G29 Oxygen Evolution Catalysis of Quadruple Perovskite Oxides (Osaka Prefecture University) ○YAMADA Ikuya·TAKAMATSU Akihiko·ASAI Kaisei·OHZUKU Hideo·SHIRAKAWA Takuto·UCHIMURA Tasuku·IKENO Hidekazu·(Japan Synchrotron Radiation Research Institute) KAWAGUCHI Shogo·(Fuji Die Co., Ltd.) WADA Kouhei·(The University of Tokyo) YAGI Shunsuke

1G30 Oxygen evolution reaction catalysis on perovskite iron-cobalt oxides including oxygen deficiency (Osaka Prefecture University) ○ODAKE Takao·YAMADA Ikuya\*·(The University of Tokyo) YAGI Shunsuke·(Chuo University) OKA Kengo·(Osaka Prefecture University) ASAI Kaisei

## ■ ■ September 05 (Wed) (Room H) ■ ■

### 04. Crystal Science - New development of crystal growth technology and materials research -

#### (9:00) (Chairman 我田元)

- 1H01 Growth Mechanism of  $\text{Li}_2\text{NiPO}_4\text{F}$  anisotropic crystals (Shinshu University) ○YAMADA Tetsuya·Zettsu Nobuyuki·(Tohoku University) Yubuta Kunio·(Shinshu University) Teshima Katsuya\*
- 1H02 Liquid Phase Epitaxy of AlN films with Sn flux (National Institute for Materials Science·Waseda University) ○Song Yelim·Shimamura Kiyoshi\*·(National Institute for Materials Science) Kawamura Fumio·Taniguchi Takashi·Imura Masataka·(National Institute for Materials Science·Tokyo Institute of Technology) Ohashi Naoki
- 1H03 Preparation of titanate nanocrystal films using titanium alkoxide (Shinshu University) ○NISHIKIORI Hiromasa·EBARA Hiroyoshi·TAKAYAMA Hitoshi·ADACHI Shinnosuke·KOBAYASHI Naoya·HAYASHI Fumitaka·TESHIMA Katsuya

#### (10:00) (Chairman 黒澤俊介)

- 1H04 Preparation of  $\text{Li}_2\text{TiO}_3$  crystals by solid state and flux growth methods and their structural characterization before and after ion exchange reactions (Shinshu University) ○HAYASHI Fumitaka·MORIYA Yosuke·OGAWA Kazuya·SUDARE Tomohito·TESHIMA Katsuya\*
- 1H05 Tuning Anion Exchange Selectivity of Layered Double Hydroxide (LDH) by F-substitution (Shinshu University) ○Sudare Tomohito·Hayashi Fumitaka·Teshima Katsuya
- 1H06 Preparation of  $\text{LiZnBO}_3\text{:Mn}$  and its application to neutron imaging (Hokkaido University) KAWAMATA Shunsuke·(Hokkaido University·RIKEN) ○HIGUCHI Mikio\*·(Hokkaido University) KANEKO Junichi·(RIKEN) TAKETANI Atsishi·KOBAYASHI Tomohiro·WAKABAYASHI Yasuo·OTAKE Yoshie·(Hokkaido University) MIURA Akira·TADANAGA Kiyoharu

#### (11:00) (Chairman 樋口幹雄)

- 1H07 Single crystal growth and investigation of temperature dependence of light output for  $\text{Ce}^{3+}$  doped (Gd, La, Y) $_2\text{Si}_2\text{O}_7$  scintillator (Tohoku University) ○HORAI Takahiko·(Tohoku University·Yamagata University) KUROSAWA Shunsuke\*·(C&A corporation) MURAKAMI Rikito·(Tohoku University·C&A corporation) SHOJI Yasuhiro·(Tohoku University) YOSHINO Masao·YAMAJI Akihiro·OHASHI Yuji·(Tohoku University·C&A corporation) KAMADA Kei·(Tohoku University) YOKOTA Yuui·(Hamamatsu Photonics K. K.) ISHIZU Tomohiro·OHISHI Yasuo·NAKAYA Taisuke·(Yamagata University) OHNISHI Akimasa·KITAURA Mamoru·(Institute of Physics CAS) BABIN Vladimir·NIKLA Martin·(Tohoku University·C&A corporation) YOSHIKAWA Akira\*
- 1H08 Development of ceramics scintillators prepared by the SPS method 9 (Tohoku University·Yamagata University) ○KUROSAWA Shunsuke·(Tohoku University) Harata Koichi·Yamaji Akihiro·Ohashi Yuji·Yoshino Masao·Kamada Kei·Yokota Yuui·Yoshikawa Akira
- 1H09 ★ Single crystal scintillators for radiation detectors (Oxide Corporation) ○ISHIBASHI Hiroyuki

#### (14:20) (Chairman 田中功)

- 1H17 ★ Crystal Growth of Alloy Semiconductors under Microgravity (Shizuoka University) ○HAYAKAWA Yasuhiro\*·(Japan Aerospace Exploration Agency) VELU Nirmal Kumar·(Tagore Institute of Engineering and Technology) GOVINDASAMY Rajesh·(Anna University) MUKANNAN Arivanandhan·(Shizuoka University) KOYAMA Tadanobu·MOMOSE Yoshimi·(University of Tokyo) SAKATA Kaoruho·(Shizuoka Institute of Science and Technology) OZAWA Tetsuo·(Osaka University) OKANO Yasunori·(Japan Aerospace Exploration Agency) INATOMI Yuko
- 1H19 Choice of Fluxes Aimed at Growth of Large-sized  $\text{NaTaO}_3$  Crystals (Shinshu University) ○SUZUKI Sayaka·SAITO Haruka·(Tohoku University) YUBUTA Kunio·(Shinshu University) TESHIMA Katsuya
- 1H20 Seed-free hydrothermal synthesis with essential reagents and characterization of silica zeolite DDR (TMU) ○KAJIHARA Koichi\*·TAKAHASHI Ryo·KATO Hirohiko·KANAMURA Kiyoshi·(Rigaku Co.) NAMATAME Yukiko

#### (15:40) (Chairman 手嶋勝弥)

- 1H21 Growth of  $\text{La}_{2/3-x}\text{Li}_x\text{TiO}_3$  single crystals by TSFZ method (University of Yamanashi) ○MARUYAMA Yuki·MINAMIMURE Shiho·KOBAYASHI Chinatsu·NAGAO Masanori·WATAUCHI Satoshi·TANAKA Isao
- 1H22 IR photoresponse characteristics of  $\text{Mg}_2\text{Ge}$  pn-junction photodiodes fabricated by rapid thermal diffusion (National Institute for Materials Science·Waseda University) ○Elamir Ahmed·(National Institute for Materials Science) Ohsawa Takeo·Wada Yoshiki·Fu Xiuwei·(National Institute for Materials Science·Waseda University) Shimamura Kiyoshi\*·(National Institute for Materials Science·Tokyo Institute of Technology) Ohashi Naoki

#### (16:20) Break

### 05. Advanced Structure Science and the Analytical Techniques

#### (16:40) (Chairman 是枝聡肇)

- 1H24 Structural study of crystalline and non-crystalline materials by persistent homology analysis (Kyoto University·National Institute for Materials Science) ○ONODERA Yohei·(National Institute for Materials Science) KOHARA Shinji·(Tohoku University) OBAYASHI Ippei·(Kyoto University·National Institute for Materials Science) HIRAOKA Yasuaki
- 1H25 Correlation between structural defects and electrical properties in wide gap p-type oxide,  $\text{Sn}_2\text{Nb}_2\text{O}_7$  (Tokyo University of Science) ○SAMIZO Akane·Nagata Shinnya·(National Institute of Advanced Industrial Science and Technology) Kikuchi Naoto\*·Aiura Yoshihiro·(Tokyo University of Science) Nishio Keishi
- 1H26 Flux Growth of Doped Lanthanum Silicate Oxyapatite Crystals with Hexagonal Tabular Morphology (Nagoya Institute of Technology) ○TSUNODA Yuki·URUSHIHARA Daisuke·ASAKA Toru·FUKUDA Koichiro\*

#### (17:40) (Chairman 籠宮功)

- 1H27 Oxide-ion conductivity enhancement of polycrystalline lanthanum silicate oxyapatite included by BaO doping and grain alignment (Nagoya Institute of Technology) ○FUJINO Akihiro·WATANABE Ryoji·URUSHIHARA Daisuke·ASAKA Toru·FUKUDA Koichiro\*
- 1H28 Crystal Structure and Photoluminescence Properties of an Incommensurate Phase in  $\text{Eu}^{2+}$ -Doped  $\text{Ca}_2\text{SiO}_4$  Solid Solution (Nagoya Institute of Technology) ○HIRAMATSU Yuya·(National Institute for Materials Science) MICHIEUE Yuichi·FUNAHASHI Shiro·HIROSAKI Naoto·(Nagoya Institute of Technology) URUSHIHARA Daisuke·ASAKA Toru·FUKUDA Koichiro\*
- 1H29 The magnetic domain structure and properties of an X-type hexagonal ferrite  $\text{Sr}_2\text{Co}_2\text{Fe}_{28}\text{O}_{46}$  (Nagoya Institute of Technology) ○KOMABUCHI Mai·KIMATA Yusuke·ASAKA Toru\*·FUKUDA Koichiro·(Japan Fine Ceramics Center) YAMAMOTO Kazuo
- 1H30 Local structure analysis of electric ferroelectric  $\text{TmFe}_2\text{O}_4$  (Nagoya Institute of Technology) ○URUSHIHARA Daisuke\*·ASAKA Toru·FUKUDA Koichiro·(Kyoto University) KONISHI Shinya·TANAKA Katsuhisa

## ■ ■ September 05 (Wed) (Room J) ■ ■

### (9:00) (Chairman 藤森宏高)

- 1J01 ★ Advanced light-scattering spectroscopy techniques for functional materials (Ritsumeikan University) ○KOREEDA Akitoshi·FUJII Yasuhiro  
1J03 ☆ Mechanism of Highly Active Photocatalysts Studied by Time-resolved Absorption Spectroscopy (Toyota Technological Institute)  
○YAMAKATA Akira\*·Vequizo Junie Jhon

### (10:00) (Chairman 山方啓)

- 1J04 Ultraviolet Raman Spectroscopic System in the region of Low Frequency for *in situ* Measurements at High Temperatures (Yamaguchi University) ○FUJIMORI Hirota\*·(PHOTON Design Corporation) SHIMIDZU Ryosuke

### (10:20) Break

- 1J06 Morphotropic Phase Boundary and Dielectric Property on K-substituted  $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$  with Suppressing Evaporation of Bismuth (Yamaguchi University) ○YOSHIDA Keishiro·FUJIMORI Hirota\*

### (11:00) (Chairman 浅香透)

- 1J07 Crystal structures and protonic conductivities in  $\text{Sr}_2\text{TiO}_4$ -based layered perovskites (Nagoya Institute of Technology) ○YAGI Yutaro·KAGOMIYA Isao\*·KAKIMOTO Ken-ichi  
1J08 High pressure - high temperature synthesis and crystalline chemistry of post-spinel type tin nitride (Nagoya University) ○INAGAKI Tomoya·NIWA Ken·(National Institute of Advanced Industrial Science and Technology) LIU Zo·(Nagoya University) SASAKI Takuya·OHSUNA Tetsu·HASEGAWA Masashi\*  
1J09 Discovery of a new crystal structure type oxide-ion conductor  $\text{Ca}_3\text{Ga}_4\text{O}_9$  (Tokyo Institute of Technology) ○YASUI Yuta·MATSUI Masahiro·FUJII Kotaro·NIWA Eiki·YASHIMA Masatomo\*

## 24. Random Materials - Function and Physical Property Correlated with the Structure

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### 機能性ガラス

### (14:20) (Chairman 本間剛)

- 1J17 ★ Phase separation in glass and its applications to functional glass (University of Hyogo) ○YAZAWA Tetsuo  
1J19 Investigation of Mechanism of enhancement of luminescence of Eu doped silica glass by the addition of Al (National Institute of Advanced Industrial Science and Technology) ○AKAI Tomoko·MASAI Hirokazu·YAMASHITA Masaru

### (15:20) (Chairman 清水雅弘)

- 1J20 Fabrication of ultrathin tellurite glass film on a substrate by using a combination of glass blowing and direct bonding techniques (Tokyo Institute of Technology) ○Jeng Ray Jeng·Kishi Tetsuo\*·Matsushita Nobuhiro·Yano Tetsuji\*  
1J21 Preparation of Oxide Glasses by Liquid Phase Method (National Institute of Advanced Industrial Science and Technology) ○MASAI Hirokazu·(Ishizuka Glass Co. Ltd) YAMAMOTO Satoshi·NISHIBE Toru·NIIZUMA Takaaki·YOSIDA Miki  
1J22 study on in homogeneity in  $\text{ZnS}$ -doped  $\text{GeS}_2\text{-Sb}_2\text{S}_3\text{-CsCl}$  based glasses (Kyoto Institute of Technology) ○Nakatsuka Yutaro·Yamamoto Shigeru·wakasugi takashi·okada arihumi·kadono kohei\*

### (16:20) Break

### 構造・物性・評価

### (16:40) (Chairman 北村直之)

- 1J24 Quantification of outermost OH group on silica glass surface by high-resolution elastic recoil detection analysis (AGC Inc.)  
○YAMAMOTO Yuichi·(Kyoto University) SATO Koya·NAKAJIMA Kaoru·KIMURA Kenji  
1J25 Irradiation effects of molecular structure for minerals by molecular dynamics simulation (Chiba university) ○Okada Naoki·IWADATE YASUHIKO·OHKUBO Takahiro\*  
1J26 Ab initio molecular dynamics study of Li conduction mechanisms in lithium borate glasses (Chiba university) Yoshimizu Toshiki\*·Iwadate Yasuhiko·OHKUBO Takahiro

### (17:40) (Chairman 岸哲生)

- 1J27 Soret coefficient measurement of each oxide in sodium silicate glass melts (Kyoto University) ○FUKUYO Tsubasa·SHIMIZU Masahiro\*·KATO Takeyuki·NISHI Masayuki·(Kyoto University Center for the Promotion of Interdisciplinary Education and Research) HIRAO Kazuyuki·(Kyoto University) SHIMOTSUMA Yasuhiko·MIURA Kiyotaka\*  
1J28 The thermoelectric power measurement of  $\text{LiPO}_3$  glass (Kyoto University) ○KATO Takeyuki\*·SHIMIZU Masahiro·KOKUBO Ryohei·SHIMOTSUMA Yasuhiko·MIURA Kiyotaka  
1J29 Composition dependence of high temperature viscoelasticity in  $\text{Na}_2\text{O-B}_2\text{O}_3\text{-SiO}_2$  glass (National Institute of Advanced Industrial Science and Technology) ○KITAMURA Naoyuki

## ■ ■ September 05 (Wed) (Room K) ■ ■

### 15.Strategy for preparation of element-block materials with high functionalities

#### 分子元素ブロック

#### (14:20) (Chairman 郡司天博)

- 1K17 ★ Synthesis, Structures, and Properties of Linear, Cyclic, and Polycyclic Polysiloxanes from Silanols as the Key Intermediates (Sagami Chemical Research Institute) ○TANAKA Ryoji\* • FUKAWA Marina • (Kitasato University) ADACHI Takuto
- 1K19 Synthesis of cage-type siloxanes with silanol and alkoxy groups and their crystallization by hydrogen bonding (Waseda University) ○Miwa Ryuta • Sato Naoto • Wada Hiroaki • Shimojima Atushi • Kuroda Kazuyuki\*

#### (15:20) (Chairman 松川公洋)

- 1K20 Size-controlled preparation of ammonium-functionalized POSSs using aqueous superacid (Kagoshima University) MATSUMOTO Takatoshi • ○KANEKO Yoshiro\*
- 1K21 Preparation of POSSs with two kinds of ammonium substituents and their application to ionic liquids (Kagoshima University) ○HASEBE Ryoya • KANEKO Yoshiro\*
- 1K22 Correlation between the molecular structures and acid catalysts on the preparation of silsesquioxanes containing carboxyl groups (Kagoshima University) ○KOZUMA Tomoya • KANEKO Yoshiro\*

#### (16:20) (Chairman 下嶋敦)

- 1K23 ★ Preparation and application of flexible aerogels from organoalkoxysilane precursors (Kyoto University) ○KANAMORI Kazuyoshi\*
- 1K25 Development of thermal insulation materials based on bridged polysilsesquioxane (Hiroshima University) ○Nakanishi Yuki • Tsukada Satoru • (Yokohama City University) Ishimoto Takayoshi • (Hiroshima University) Kai Hiroyuki • (Mazda) Okada Kenta • (Hiroshima University) Adachi Yohei • Oshita Joji\*

#### (17:20) (Chairman 中建介)

- 1K26 Preparation of polysilsesquioxanes containing catechol structures in side-chains and their adhesive properties (Kagoshima University) SAINOHIRA Yusaku • ○KANEKO Yoshiro\*
- 1K27 Silylation of Fluoride Ion-containing Cage-type Germanoxanes (Waseda University) ○HAYASHI Taiki • SATO Naoto • TOCHIGI Kazuma • WADA Hiroaki • Shimojima Atsushi • KURODA Kazuyuki\*

#### (18:00) (Chairman 金森主祥)

- 1K28 ★ Bottom-up syntheses of metalate nanosheets and nanoflakes by aqueous solution processes (Gifu University) ○BAN Takayuki\*
- 1K30 Beads-on-String-Shaped Poly(azomethine) Applicable for Solution Processing of Bilayer Devices Without Using an Orthogonal Solvent (Faculty of Molecular Chemistry and Engineering, Kyoto Institute of Technology) ○NAKA Kensuke • FUJII Shunichi • IMOTO Hiroaki • (Faculty of Material Science and Technology, Kyoto Institute of Technology) MINAMI Saori • URAYAMA Kenji • (Department of Physics and Electronics, Graduate School of Engineering, Osaka Prefecture University) SUENAGA Yu • NAITO Hiroyoshi

## ■ ■ September 05 (Wed) (Room L) ■ ■

### 13. Chemical Design - Advanced materials based on chemical control of reactions and structures -

#### (10:20) (Chairman 伴隆幸)

- 1L05 Preparation of (N, Nb)-codoped Anatase TiO<sub>2</sub> with Cylindrical Mesopores (Waseda University) ○SAITO Yumi•SHIMASAKI Yuta•SHIMOJIMA Atsushi•WADA Hiroaki•KURODA Kazuyuki\*
- 1L06 Rutile titania supported with cobalt hydroxide nanoparticles for improvement of visible-light photocatalytic activity (Osaka Prefecture University) ○KISHIDA Yojiro•TOKUDOME Yasuaki\*•OKADA Kenji•TAKAHASHI Masahide
- 1L07 ☆ Photocatalytic activity of composite photocatalyst prepared by liquid processes (University of Yamanashi) ○YANAGIDA Sayaka•TAKEI Takahiro•KUMADA Nobuhiro•(Tokyo Institute of Technology) NAKAJIMA Akira•(Okayama University) KAMESHIMA Yoshikazu•(Tokyo Institute of Technology) ISOBE Toshihiro•Okada Kiyoshi
- 1L08 ★ Stable and visible-light-responsive photocatalysts consisting of mixed anions for solar hydrogen production (Kyoto University) ○ABE Ryu

#### (14:20) (Chairman 是津信行)

- 1L17 Sol-Gel Synthesis of ZnO Monolith with Co-Continuous Structure via Phase Separation (Kyoto University) ○LU Xuanming•KANAMORI Kazuyoshi•NAKANISHI Kazuki\*
- 1L18 A synthetic design of macroporous MIL101(Cr)@Cr<sub>2</sub>O<sub>3</sub> particles for efficient flow-through reactor (kyoto university) ○Hara Yosuke•Kanamori Kazuyoshi•Nakanishi Kazuki\*

#### (15:00) (Chairman 鎌田海)

- 1L19 Preparation of Hierarchically Porous Yttrium-based and Cerium-based Monoliths from Metal Salt Precursor (Kyoto University) ○MAKIMOTO Shota•KANAMORI Kazuyoshi•NAKANISHI kazuki\*
- 1L20 Liquid phase synthesis of hierarchically porous NaTaO<sub>3</sub> (Kyoto University) ○Mochizuki Naoto•Kanamori Kazuyoshi•Nakanishi Kazuki\*•(Institute for Molecular Science, National Institute of Natural Science) Sugimoto Toshiki
- 1L21 ☆ Synthesis and Functions of Titanium Phosphate and Hierarchical Titanium Dioxide Particles (Saga University) ○YADA Mitsunori
- 1L22 Bottom-up synthesis of titanophosphate nanosheets by solution processes (Gifu University) ○ASANO Keito•BAN Takayuki\*•OHYA Yutaka

#### (16:20) Break

#### (16:40) (Chairman 松田厚範)

- 1L24 Synthesis of soluble inorganic nanosheets in organic solvents and their application for enzymatic organic syntheses (Nagasaki University) ○KAMADA Kai•UEDA Taro•HYODO Takeo•SHIMIZU Yasuhiro
- 1L25 ★ Development of Nano-carbon-Modified Electrode for High Reproducible and High Efficient Enzyme Electrode Reaction (Saga University) ○TOMINAGA Masato

#### (17:40) (Chairman 武藤浩行)

- 1L27 Synthesis of new nitrogen-containing carbon solid by high pressure application to organic crystals (Hokkaido Univ.) YAMANE Ichiro•YANASE Takashi•NAGAHAMA Taro•○SHIMADA Toshihiro\*
- 1L28 Polymer-derived amorphous SiAlCN ceramics with unique hydrogen storage properties (Nagoya Institute of Technology) ○Tada Shotaro•Mizutani Koji•Ota Ikuya•(Institute of Research on Ceramics, CNRS) Samuel Bernard•(Technische Universität Darmstadt) Ralf Riedel•(Nagoya Institute of Technology) Daiko Yusuke•Honda Sawao•Iwamoto Yuji\*
- 1L29 Development of Novel Synthesis Process of Metal Oxynitrides Using Solid Nitrogen Sources (Hiroshima University) ○KATAKAMI Yuta•HAYASHI Yuki•KATAGIRI Kiyofumi\*•INUMARU Kei

## ■■September 05 (Wed) (Room M) ■■

### 14. Hybrid materials: Science and function enhanced by hybridization

#### 多孔質材料

##### (10:20) (Chairman 金森主祥)

1M05 ★ Preparation and properties of zinc oxide-supported mesoporous silica bulk bodies (Tokyo University of Science) ○GUNJI Takahiro・OOHASHI Masahiro・(Hiroshima University) TSUKADA Satoru・(Tokyo University of Science) YAMAMOTO Kazuki

##### (10:40) (Chairman 白幡直人)

1M06 A Study of a New Preparation Process of Transparent Aerogels from Methyltriethoxysilane (Kyoto University) ○Ueoka Ryota・Kanamori Kazuyoshi・Nakanishi Kazuki

1M07 ★ Design of non-silica-based hybrid frameworks, combined with porosity controlled techniques (National Institute of Advanced Industrial Science and Technology (AIST)) ○KIMURA Tatsuo

1M09 Preparation and characterization of aerogels based on inter-crosslinked hydrocarbon polymers and polysiloxane networks (Kyoto university) ○Kurita Masayuki・Zu Guoqing・Kanamori Kazuyoshi・Nakanishi Kazuki

#### 新規合成法

##### (14:20) (Chairman 金森主祥)

1M17 Preparation of monodisperse silica-polymer gel hybrid particles (Yokohama National University) ○Shimba Daigo・Tsuchiya Masaki・Kanai Toshimitsu

1M18 Preparation of ceramics-nanocarbon composite particles by dry impact-blending process (Osaka Research Institute of Industrial Science and Technology) ○HASEGAWA YASUNORI・SONOMURA HIROSUKE・OZAKI TOMOATSU・SUYAMA TAKESHI

##### (15:00) (Chairman 長谷川文二)

1M19 Facile preparation of highly dispersible metal oxide nanoparticles without hydrocarbon components and their hybridization (Kagoshima University) ○NAKAHARA TAISHI・KANEKO Yoshiro

1M20 Fabrication of Fe-polymer assemblies by spray-drying process (Nagoya Institute of Technology) ○Xie Di・FUCHIGAMI Teruaki・KAKIMOTO Ken-ichi

#### ガス特性の改良

##### (15:40) (Chairman 塚田学)

1M21 Preparation and gas barrier property of organic-inorganic hybrid gas barrier membranes using surface modified layered double hydroxide (Kobe University) ○KURAOKA Koji・MIKI Kazumi

1M22 Fabrication trial for CO<sub>2</sub> absorption composite Si/SiO<sub>x</sub>/Li<sub>4</sub>SiO<sub>4</sub> using Si ceramics (Chuo University) OH-ISHI Katsuyoshi・○KUSANO Hiroshi・ISHIZAKI Yuuki・OKA Kengo・(Tokyo City University) KOBAYASHI Ryota・(Tokyo Institute of technology) MAJIMA Yutaka

1M23 Preparation and characterization of organic - inorganic hybrid carbon dioxide separation membranes (Kobe University) ○ASAI Hiroyuki・KURAOKA Koji

##### (16:40) Break

#### 機能性膜

##### (17:00) (Chairman 蔵岡孝治)

1M25 ★ Liquid Phase Film Technology for Functional Thin Films and Composite Function (Mitsubishi Materials Corporation) ○FUJIWARA Kazutaka・KAKINUMA Hiroaki・YONEZAWA Takehiro

1M27 Mechanical properties of laminated alumina-polymer hybrid films prepared by anodization (National Institute for Materials Science・Tokyo University of Science) ○SEGAWA Hiroyo・NITANDA Koki・(National Institute for Materials Science) KAKISAWA Hideki・(Tokyo University of Science) IWASAKI Kenichiro・YASUMORI Atuo

1M28 Preparation of water-soluble polysilsesquioxanes containing ammonium, mercapto, and vinyl groups in side-chains and their adhesive properties (Kagoshima University) ○OSHIMA Kento・KANEKO Yoshiro

## ■ ■ September 05 (Wed) (Room N) ■ ■

### 06.The Forefront of Powder Processing for Development of Advanced Ceramics

#### 粉体材料設計

(9:20) (Chairman 高橋拓実)

- 1N02 Preparation of VO<sub>2</sub> supported hollow silica nanoparticle (JSPS Research Fellow·Nagoya Institute of Technology) ○TAKAI Chika·(Nagoya Institute of Technology) ANDO Masafumi·Razavi-Khosroshahi Hadi·FUJI Masayoshi
- 1N03 Fabrication of Silicon Nitride fiber powder using carbon fibers (National Institute of Advanced Industrial Science and Technology) ○SUGIMOTO Yoshiki·TOMINAGA Yuuichi·Hotta Yuji
- 1N04 Effect of water vapor partial pressure on solid-state synthesis of LiNi<sub>0.5</sub>Mn<sub>1.5</sub>O<sub>4</sub> high-voltage cathode (Osaka University) ○KOZAWA Takahiro·HIROBE Daiki·NAITO Makio
- 1N05 Preparation of core-shell cathode particles for Li-ion batteries designed by different active materials (Osaka University) ○Harata Toshiya·Kozawa Takahiro·Makio Naito

#### 粉体材料評価技術

(10:40) (Chairman 小澤隆弘)

- 1N06 ★ Solid-state NMR spectroscopy for studying powder samples (Yokohama National University) ○KAWAMURA Izuru
- 1N08 Characterization of the effects of molecular weights of polymer dispersants on consolidation behaviors of SiO<sub>2</sub> powder based on macroscopic and microscopic method (Yokohama National University) ○TAKI Naoya·IJJIMA Motoyuki·TATAMI Junichi
- 1N09 Surface structure characterization of alumina particles adsorbed with functional polymer dispersants by solid state NMR spectroscopy (Yokohama National University) ○IJJIMA Motoyuki·SHIGETA Arisu·KAWAMURA Izuru·TAKI Naoya·BATSAIKHAN Mijidдорj·Tatami Junichi

#### 構造制御と機能化 I

(14:40) (Chairman 飯島志行)

- 1N18 ◆ Solidification without firing and its application (Nagoya Institute of Technology) ○FUJI Masayoshi·(Nagoya Institute of Technology·JSPS Research Fellow) TAKAI Chika·(Nagoya Institute of Technology) Razavi-Khosroshahi Hadi
- 1N20 Effect of Superheated Steam on Rapid Debinding of Alumina Molded Bodies and Analysis of Residual Carbon of Debinding Molded Body (Takasago Industry Co., Ltd.·Osaka Prefecture University.) ○nakamura toshiki·(Takasago Industry Co., Ltd.) muto norio·(Osaka Prefecture University.) nakahira atsushi
- 1N21 Development of gypsum mold and homogeneous heating simulation for the carbon fiber reinforced plastic forming by microwave-irradiation (National Institute of Advanced Industrial Science and Technology) ○SHIMAMOTO Daisuke·SUGIMOTO YOSHIKI·HOTTA Yuji

### S2.Novel ceramic technology for excellent functionality and high reliability

#### 粉体プロセスにおける不均質

(16:00) (Chairman 打越哲郎)

- 1N22 ★ Compositinal and phase inhomogeneity in highly Nb-doped TiO<sub>2</sub> powders induced by high temperature heat treatment and their enhanced photocatalytic properties (Hosei University) ○ISHIGAKI Takamasa·(National Institute for Materials Science) TSUJIMOTO Yoshihiro·UCHIKOSHI Tetsuo

(16:40) Break

(17:00) (Chairman 堀田裕司)

- 1N25 In-situ observation of condensed slurry flowing in microchannel (Nagaoka University of technology) ○KAGAWA Youichi·TANAKA Satoshi
- 1N26 OCT observation of inhomogeneous structure in Al<sub>2</sub>O<sub>3</sub> ceramics (Kanagawa Institute of Industrial Science and Technology) ○TAKAHASHI Takuma·(Kanagawa Institute of Industrial Science and Technology·Yokohama National University) TATAMI Junichi·(Kanagawa Institute of Industrial Science and Technology) ITO Hidetaka
- 1N27 Three-dimensional and real-time observation of sintering process of alumina powder compact by optical coherence tomography (Yokohama National University) ○SAKAMOTO Fumika·(Kanagawa Institute of Industrial Science and Technology) TAKAHASHI Takuma·(Yokohama National University·Kanagawa Institute of Industrial Science and Technology) TATAMI Junichi·Iijima Motoyuki
- 1N28 In-situ observation of dewaxing process of ceramics by optical coherence tomography (Yokohama National University) ○MAYU Kato·(Yokohama National University·Kanagawa Institute of Industrial Science and Technology) JUNICHI Tatami·MOTOYUKI Iijima·(Kanagawa Institute of Industrial Science and Technology) TAKUMA Takahashi

**11. New Evolution of Dielectrics: Challenge the development of innovative solutions based on social demand**

- 1PA01 Solid-liquid composite ionic conductor for energy storage capacitor (Tokyo Institute of Technology) ○KOYAMA Yuki\*·KATAOKA Yusuke·HOSHINA Takuya·TAKEDA Hiroaki·TSURUMI Takaaki\*
- 1PA02 Fabrication of BaTiO<sub>3</sub>-La<sub>2</sub>CoMnO<sub>6</sub> Nanocomposite Films by a Two-step Sol-gel Deposition Process (Keio University) ○KAWAGUCHI Taiki·HAGIWARA Manabu\*·FUJIHARA Shinobu
- 1PA03 Synthesis of (Li, La)TiO<sub>3</sub>-dielectrics composite ceramics and its dielectric property (okayama university) ○nishikori yuki·teranishi takashi\*·kishimoto akira
- 1PA04 Structural Phase Transitions and Dielectric properties of Stuffed-Zeolite-Type Oxide Ca<sub>8</sub>[(Al<sub>1-x</sub>Ga<sub>x</sub>)O<sub>2</sub>]<sub>12</sub>(MoO<sub>4</sub>)<sub>2</sub> (Nagoya University) ○Maruyama Koji·(Hiroshima University) Nakahira Yuki·Abe Tomohiro·Kawamura Genta·Moriyoshi Chikako·Kuroiwa Yoshihiro·(Nagoya University) Terasaki Ichiro·Taniguchi Hiroki\*
- 1PA05 High-Pressure Synthesis, Crystal Structure and Dielectric Properties of A-Site Ordered Double Perovskite CaZnTi<sub>2</sub>O<sub>6</sub> (Gakushuin University) ○mori hironu·ueda koichiro·inaguma yoshiyuki\*·(Tokyo Institute of Technology) Fujii Kotaro·Yashima Masatomo
- 1PA06 Dielectric, ferroelectric and piezoelectric characteristics of BNEuT thin films heteroepitaxially grown in the *c*-axis direction (University of Hyogo) ○Obayashi Taiki·Kobune Masafumi\*·Kikuchi Takeyuki·Migita Tsubasa·Ito Ryoga·Fujisawa Hironori
- 1PA07 Fabrication and characterization of silver-niobate-based epitaxial thin films (The University of Tokyo) ○KAWATSUKI Atsushi·KITANAKA Yuuki·MIYAYAMA Masaru·NOGUCHI Yuji\*
- 1PA08 Fabrication and structural properties of BNEuT thin films heteroepitaxially grown by high-temperature sputtering (University of Hyogo) ○Ito Ryoga·Kobune Masafumi\*·Kikuchi Takeyuki·Migita Tsubasa·Obayashi Taiki
- 1PA09 Dielectric properties of BaTiO<sub>3</sub> nanocubes using scanning probe microscopy (Waseda University·National Institute for Materials Science) ○HAMAGAMI Shu·(Waseda University·National Institute for Materials Science·Nagoya University) OSADA Minoru\*·(National Institute of Advanced Industrial Science and Technology) MIMURA Kenichi·KATO Kazumi
- 1PA10 Introduction of epitaxial interface into BaTiO<sub>3</sub>/KNbO<sub>3</sub> composite ceramics by solvothermal solidification method and optimization of their microstructures (University of Yamanashi) ○ISOBE Yamato·UENO Shintaro·FUJII Ichiro·WADA Satoshi\*
- 1PA11 Photovoltaic effect in polarization-controlled ferroelectric BaTiO<sub>3</sub> single crystals (The University of Tokyo) ○TANIGUCHI Yuki·NOGUCHI Yuji\*·MIYAYAMA Masaru
- 1PA12 Sintered structure and insulation characteristics of (Li,Na,K)NbO<sub>3</sub> ceramics (Nagoya Institute of Technology) ○NAGAMATSU Noa·KAKIMOTO Ken-ichi\*
- 1PA13 Optimization of Poling Conditions for <110> Grain-oriented 0.85(Bi<sub>0.5</sub>Na<sub>0.5</sub>)TiO<sub>3</sub>-0.15BaTiO<sub>3</sub> Ceramics (University of Yamanashi) ○KAWACHI Kosuke·FUJII Ichiro·UENO Shintaro·WADA Satoshi\*
- 1PA14 Direct measurements of electrocaloric effect in BaTiO<sub>3</sub>-based ceramics (The university of Tokyo) ○Shiono Tsubasa·Noguchi Yuji\*·Miyayama Masaru
- 1PA15 Electron energy loss spectroscopy analysis in CaCu<sub>3</sub>Ti<sub>4</sub>O<sub>12</sub> ceramics (Kyushu University) ○FUJINAKA Syota·SATO Yukio\*·TERANISHI Ryo·KANEKO Kenji
- 1PA16 Optimization of spark plasma sintering condition of composite ceramics using BaTiO<sub>3</sub>-Bi(Mg<sub>0.5</sub>Ti<sub>0.5</sub>)O<sub>3</sub>-BiFeO<sub>3</sub>core-BaTiO<sub>3</sub> shell particles (University of yamanashi) ○SAEGUSA Yuya·FUJII Ichiro·UENO Shintaro·WADA Satoshi\*
- 1PA17 Investigation of observation condition of PNR in Pb(Mg<sub>1/3</sub>Nb<sub>2/3</sub>)O<sub>3</sub> by TEM imaging and electron diffraction (Kyushu University) ○YAMAGUCHI Syo·Yukio SATO\*·(Tokyo Institute of Technology) SHIMIZU Takao·(Nagoya University) TANIGUCHI Hiroki·(Kyushu University) TERANISHI Ryo·KANEKO Kenji
- 1PA18 Hydrothermal synthesis of nanocube particles with multi-compositions (Nagoya Institute of Technology) ○HASHIMOTO Hiroto·FUCHIGAMI Teruaki·KAKIMOTO Ken-ichi\*
- 1PA19 Electrical Properties of (Bi<sub>0.5</sub>Na<sub>0.5</sub>)TiO<sub>3</sub>-based Ceramics with Some Additive Dopants for Low Sintering Temperature (Tokyo University of Science) ○KUJIRAI Takuya·NAGATA HAJIME\*·TAKENAKA TADASHI

**12. Global Innovation by Ceramic Coating**

- 1PB01 Guidelines to Control Elastic Constants and Thermal Expansion Coefficient of Rare-Earth Disilicate (Osaka University) ○YAMAMOTO Shotaro·SUMI Yusuke·FUJII Susumu·(Osaka University·Japan Fine Ceramics Center) YOSHIYA Masato\*
- 1PB02 Evaluation of shear delamination toughness in thermal barrier coatings (Japan Fine Ceramics Center) ○TANAKA Makoto·OGAWA Shusui·YOKOE Daisaku·KITAOKA Satoshi·(TOCALO Co., Ltd.) HABU Yoichiro
- 1PB03 Crystal structure and thermal properties of ytterbium titanate (Gifu University) ○ASAI Kenta·(Japan Fine Ceramics Center) TANAKA Makoto\*·OGAWA Takafumi·KAWASHIMA Naoki·KITAOKA Satoshi·(Gifu University) YOSHIDA Michiyuki·SAKURADA Osamu
- 1PB04 Formation of the High-dense Structure Composed of Short Carbon Fibers by Fiber Aerosol Deposition Method (Ryukoku University) ○MORI Masakazu·NISHIKAWA Masato·(Okayama University) IKEDA Nao·AOYAGI Yumito·KANO Jun
- 1PB05 Synthesis of Al<sub>2</sub>O<sub>3</sub>-TiO<sub>2</sub> thin film by sol gel method and nitridation (Gifu University) ○WATANABE Yutaro·OHYA Yutaka\*·BAN Takayuki
- 1PB06 Nitridation of sol-gel synthesized TiO<sub>2</sub> and gel films (Gifu University) ○Kon Masahiro·Ban Takayuki·Ohya Yutaka\*·(Gifu Prefectural Ceramics Research Institute) Ibaraki Yasuhiro
- 1PB07 Controlled optical properties of nanocomposites films formed by aerosol deposition method (Toyohashi University of Technology) ○Tan Wai Kian\*·Yokoi Atsushi·Kawamura Go·Matsuda Atsunori·Muto Hiroyuki\*

**10. Ceramics technology for next generation power electronics**

- 1PC01 Synthesis of BN fillers from boron oxide and urea and thermal conductivity of their epoxy composites (Kagawa University) ○KOMETANI Ryouhei·KUSUNOSE Takafumi\*·(Osaka University) SEKINO Tohru
- 1PC02 Fabrication of agglomerated boron nitride fillers from fine boron nitride particles: part 2 (Kagawa University) ○UNO Yoshinori·KUSUNOSE Takafumi\*·(Osaka University) SEKINO Tohru
- 1PC03 Effects of phosphorous content on generation and propagation of cracks in electroless nickel-phosphorous platings on copper-metallized silicon-nitride substrates induced by thermal cycling (National Institute of Advanced Industrial Science and Technology) ○FUKUDA Shinji·SHIMADA Kazuhiko·IZU Noriya·MIYAZAKI Hiroyuki·HIRAO Kiyoshi

- 1PC04 Dielectric breakdown of silicon nitride substrate (National Institute of Advanced Industrial Science and Technology) MATSUNAGA Chika· Zhou You· (Japan Fine Ceramics Co., Ltd.) Kusano Dai· (National Institute of Advanced Industrial Science and Technology) ○Hyuga Hideki·Hirao Kiyoshi
- 1PC05 Fabrication and Electrical Properties of bismuth layer-structure ferroelectrics including potassium (Tokyo University of Science) ○KUROISHI Kouske·Nagata Hajime\*·Takenaka Tadashi
- 1PC06 Enhanced Dielectric properties for Bismuth Layer-Structured Ferroelectrics with fine particles (National Institute of Advanced Industrial Science and Technology) ○SUZUKI Muneyasu·TSUCHIYA Tetsuo·AKEDO Jun
- 1PC07 Electrode degradation mechanisms of a RuO<sub>2</sub> resistor during the current loading test in acceleration conditions (The University of Tokyo) ○NAKAMURA Yoshinobu·KITANAKA Yuuki·MIYAYAMA Masaru· (KOA Co.) ITOH Takeshi·NAGATA Hisakazu·MATSUI Takahiro·(AIST) NAKAJIMA Tomohiko·TSUCHIYA Tetsuo

### 08.New trend of engineering ceramics

- 1PD01 Room-temperature plastic deformation of zinc sulfide single crystals in darkness (Nagoya University) ○OSHIMA Yu·NAKAMURA Atsumoto\*·(Nagoya University·Japan Fine Ceramics Center) MATSUNAGA Katsuyuki\*
- 1PD02 Oxygen partial pressure dependence of temporary strengthening in ceria ceramics utilizing the chemical expansion (Okayama University) ○Oomoto Naoya·Teranishi Takashi\*·Kishimoto Akira\*
- 1PD03 Fabrication of Translucent Aluminum Oxynitride (AlON) by Reactive Spark Plasma Sintering (Shibaura Institute of Technology·National Institute for Materials Science) ○Kawaguchi Tomoya\*·(Shibaura Institute of Technology) Kiyono Hajime\*·(National Institute for Materials Science) Suzuki Tohru
- 1PD04 Decrease in Electrical Resistivity of Al<sub>2</sub>O<sub>3</sub> Ceramics by Dispersion of a small amount of long SWCNT (Kagawa University) ○KINOSHITA Ryota·KUSUNOSE Takafumi\*·(Osaka University) SEKINO Tohru
- 1PD05 Si-O-C compacts obtained by Spark Plasma Sintering (Osaka Prefecture University) ○Hanatani Rintaro\*·Narisawa Masaki·Inoue Hirofumi·(National Institute for Materials Science) Segawa Hiroyo·Nishimura Toshiyuki
- 1PD06 Fabrication of monodispersed spherical composite aggregate via electrostatic nano-assembly technique (Toyoashi University of Technology) ○NONOMURA Koki·INOUE Sota·TAN Wai Kian·KAWAMURA Go·MATSUDA Atsunori·MUTO Hiroyuki\*

### 03.Synthesis and Functionalities of Mixed Ion Compounds

- 1PG01 Band engineering of layered bismuth oxyhalide photocatalysts : Madelung analysis (Kyoto University) ○KATO Daichi·Higashi Masanobu· (Japan Advanced Institute of Science and Technology) Hongo Kenta·Maezono Ryo·(Kyoto University) Abe Ryu\*·Kageyama Hiroshi\*
- 1PG02 Evaluation of local structure around B-site cations, oxygen content and oxygen absorption/desorption property for SrFe<sub>1-x</sub>Co<sub>x</sub>O<sub>3-δ</sub> (Kochi University) ○OSHIMA Natsumi·FUJISHIRO Fumito\*·(Tokushima University) DOI Takuya·OISHI Masatsugu
- 1PG03 Magnetic Properties of Layered Iron Oxyselenide (Hokkaido University) SUGIMOTO YOJI·○WAKESHIMA MAKOTO·DOI YOSHIHIRO·HINATSU YUKIO
- 1PG04 Electronic Structure of The Layered Pnictide Zr<sub>2</sub>MnAs<sub>3</sub> (Kyoto University) ○MURAKAMI Taito·KAGEYAMA Hiroshi\*
- 1PG05 Structural instability of Ba<sub>1-x</sub>Sr<sub>x</sub>Al<sub>2</sub>O<sub>4</sub> on the border of ferroelectricity (Osaka Prefecture University) OUCHI Yuya·○ISHII Yui\*·(Japan Synchrotron Radiation Research Institute) KAWAGUCHI Syogo·(Osaka Prefecture University) ISHIBASHI Hiroki·KUBOTA Yoshiki·MORI Shigeo
- 1PG06 High-pressure synthesis of fluorine rich perovskite-type oxyfluorides K<sub>2</sub>MTiO<sub>6-x</sub> (M = Mn, Ni, x = 1, 2) (Gakushuin University) ○SUGIMOTO Ken·HAMASAKI Yosuke·UEDA Koichiro·INAGUMA Yoshiyuki\*
- 1PG07 High-pressure synthesis of novel perovskite-related oxynitrides in the MO-TaON system (M = Fe, Co, Ni, Cu) (Nagoya University) ○MORI Yuito·HOJAMBERDIEV Mirabbos·SASAKI Takuya·NIWA Ken·HASEGAWA Masashi\*
- 1PG08 Single Crystal Growth of Sillen-Aurivillius Perovskite compounds (Kyoto University) ○ZHONG Chengchao·KATO Daichi·(Tokyo Institute of Technology) FUJII Kotaro·YASHIMA Masatomo·(Kyoto University) ABE Ryu\*·KAGEYAMA Hiroshi\*
- 1PG09 Exploration for oxonitridosilicates containing divalent and trivalent cations (Tohoku University) ○YASUNAGA Takuya·KATO Hideki·KOBAYASHI Makoto·WEN Dawei·KAKIHANA Masato\*

### 04.Crystal Science - New development of crystal growth technology and materials research -

- 1PH01 Growth of Ta<sub>3</sub>N<sub>5</sub> Crystals from Chloride-Sodium Carbonate Fluxes and Evaluation of Their Water Oxidation Activity (Shinshu University) ○ANDO Ryota·SUZUKI Sayaka·TESHIMA Katsuya\*
- 1PH02 Flux Growth of LaFeO<sub>3</sub> Crystals and Control of their Crystal Size (Meiji University) ○WAGATA Hajime·Nishiwaki Junpei
- 1PH03 Flux Growth of Highly Dense Fluorapatite Crystals on Ca/P Precursor-Layer-Introduced Substrate (Shinshu University) ○HIRONO Kazuki·SUDARE Tomohito·HAYASHI Humitaka·TESHIMA Katsuya\*
- 1PH04 Development and evaluation of Cs<sub>2</sub>HfX<sub>6</sub> (X is Cl, Br, I) scintillators (Institute for Materials Research, Tohoku University) ○Kodama Shohei\*·(New Industry Creation Hatchery Center, Tohoku University·Yamagata University) Shunsuke Kurosawa\*·(Institute for Materials Research, Tohoku University) Yoshino Masao·Yamaji Akihiro·(New Industry Creation Hatchery Center, Tohoku University) Ohashi Yuji·(New Industry Creation Hatchery Center, Tohoku University·C&A corporation) Kamada Kei·(New Industry Creation Hatchery Center, Tohoku University) Yokota Yuui·(Czech Academy of Science, Institute of Physics) Martin Nikl·(Institute for Materials Research, Tohoku University·New Industry Creation Hatchery Center, Tohoku University·C&A corporation) Yoshikawa Akira
- 1PH05 Crystal growth and luminescence properties of organic crystal scintillators for α-rays detection (Tohoku University) ○YAMATO Shinnosuke·YAMAJI Akihiro\*·(Tohoku University·YAMAGATA University) KUROSAWA Shunsuke\*·(Tohoku University) YOSHINO Masao·OHASHI Yuji·YOKOTA Yuui·(Tohoku University·C&A corp.) KAMADA Kei·YOSHINO Akira
- 1PH06 Preparation of Transparent Conductive ZnO Film by Non-Seed CBD method (Meiji University) ○Shioiri Naoya·Wagata Hajime\*
- 1PH07 Fabrication of ZnO: rGO Composite Films by Spin Spray Method (Meiji University) ○Taniguchi Hiroaki·Wagata Hajime\*
- 1PH08 Shape-controlled Growth of Li<sub>1.2</sub>Ti<sub>0.4</sub>Mn<sub>0.4</sub>O<sub>2</sub> Single Crystals from a KCl Flux (Shinshu University) ○ASOU Hiroshi·ZETTSU Nobuyuki\*·TESHIMA Katsuya\*
- 1PH09 Computational Studies on Surface Structure of Li<sub>4</sub>Ti<sub>5</sub>O<sub>12</sub> Crystal using *Ab initio* DFT Calculations (Shinshu University) ○HARA Kenjiro·SHIIBA Hiromasa·ZETTSU Nobuyuki·TESHIMA Katsuya\*
- 1PH10 Effects of Microstructures on Electrochemical Characterization in TiN-coated Li<sub>4</sub>Ti<sub>5</sub>O<sub>12</sub> Crystals / Li<sub>3</sub>BO<sub>3</sub> Glass Composite Electrodes. (Shinshu University) ○HORIKAWA Taisuke·ZETTSU Nobuyuki\*·TESHIMA Katsuya\*
- 1PH11 Pulsed electric current bonding of sapphire and transparent Nd: YAG ceramics (Kitami Institute of Technology) ○KOIKE Yuki·FURUSE Hiroaki\*·(National Institute for Fusion Science) YASUHARA Ryo

- 1PH12 Self-flux growth of  $\text{Na}_2\text{Ga}_2\text{Sn}_4$  single crystals and their thermoelectric properties (Tohoku university) ○Takahashi Taiki·YAMADA Takahiro·YAMANE Kazunori\*
- 1PH13 Control of  $\text{SrZrO}_3$  phase precipitation on crystal growth of novel ferroelectric  $\text{Sr}_3\text{Zr}_2\text{O}_7$  (University of Yamanashi) ○FUKASAWA Ikuya·MARUYAMA Yuki·NAGAO Masanori·WATAUCHI Satoshi·TANAKA Isao\*
- 1PH14 Float zone growth of Yb-doped  $\text{K}_2\text{NiF}_4$ -type and melilite-type oxide single crystals (Hokkaido University) ○CHIKAZOE Shinya·(Hokkaido University·RIKEN) HIGUCHI Mikio\*·(RIKEN) OGAWA Takayo·WADA Satoshi·MIDORIKAWA Katsumi·(Hokkaido University) MASUBUCHI Yuji·MIURA Akira·TADANAGA Kiyoharu
- 1PH15 Growth of  $\text{Cr}_2\text{N}$  single crystal in nitrogen atmosphere by FZ method (University of Yamanashi) ○SAKAGUCHI Ryouichi·MARUYAMA Yuki·NAGAO Masanori·WATAUCHI Satoshi·TANAKA Isao\*
- 1PH16 Crystal Growth of Early Transition Metal Nitrides using Ammonium Chloride under High Temperature and Pressure (Nagoya University) ○IKOMA Takahide·SASAKI Takuya·NIWA Ken·HASEGAWA Masashi\*
- 1PH17 Synthesis of (111)- $\text{Co}_3\text{O}_4$  Sheets Using  $\alpha$ ,  $\beta$ - $\text{Co}(\text{OH})_2$  Precursors (Gifu University) ○HAYASHI Kensuke·YAMADA Keisuke·SHIMA Mutsuhiro\*
- 1PH18 Flux Growth of Highly Laminated Ni-Co LDH Crystals toward High Efficient Removal of Toxic Anion in Water (Shinshu University) ○TAMURA Shuhei·SUDARE Tomohito·HAYASHI Fumitaka·TESHIMA Katsuya\*
- 1PH19 Growth of Layered  $\text{Na}_2\text{Ti}_3\text{O}_7$  Nanocrystals from Nitrate-Based Fluxes (Shinshu University) ○SAKAMAKI Taichi·HAYASHI Fumitaka·SUDARE Tomohito·TESHIMA Katsuya\*

## 05.Advanced Structure Science and the Analytical Techniques

- 1PH20 Magnetic structure and energy stability of antiferromagnetic oxide grain boundaries (Nagoya University) ○KAWANO Seigo\*·YOKOI Tatsuya·NAKAMURA Atsutomu·MATSUNAGA Katsuyuki
- 1PH21 Phase stability and new phase formation of palladium phosphide in high pressures and temperatures (Nagoya University) ○MATSUO Taku·NIWA Ken·SASAKI Takuya·HASEGAWA Masashi\*
- 1PH22 High pressure synthesis and morphology of  $\text{PtN}_2$  thin film (Nagoya University) ○IIZUKA Tomoki·NIWA Ken·SASAKI Takuya·HASEGAWA Masashi\*
- 1PH23 Discovery of a New Structure Family of Oxide-ion Conductors  $\text{Ca}_2\text{Ge}_7\text{O}_{16}$  (Tokyo Institute of Technology) ○MATSUI Masahiro·FUJII Kotaro·NIWA Eiki·YASHIMA Masatomo\*
- 1PH24 Structural phase transition and physical properties in the double perovskite Co oxides  $\text{TbBaCo}_2\text{O}_{5+\delta}$  ( $\delta \leq 0.5$ ) (Nagoya Institute of Technology) ○IWAMA Hiroataka·SUZUKI Tatsuya·URUSHIHARA Daisuke·ASAKA Toru\*·FUKUDA Koichiro·(The University of Tokyo) ABE Nobuyuki·ARIMA Takahisa
- 1PH25 High pressure syntheses of novel compounds in Pb-3d transition metal binary system (Nagoya University) ○INDEN Masahiro·SASAKI Takuya·NIWA Ken·HASEGAWA Masashi\*
- 1PH26 Oxygen storage and structural change of mixed valence oxide  $\text{YFe}_2\text{O}_{4+\delta}$  (Nagoya Institute of Technology) ○NAKAJIMA Kenta·URUSHIHARA Daisuke·ASAKA Toru\*·FUKUDA Koichiro·(Kyoto University) KONISHI Shinya·TANAKA Katsuhisa
- 1PH27 Oxygen permeation properties of  $\text{La}_{0.5}\text{A}_{0.5}\text{FeO}_{3-\delta}$  ( $\text{A}=\text{Ca}, \text{Sr}, \text{Ba}$ ) (Nagoya Institute of Technology) ○Minami Shintaro·Kagomiya Isao\*·Kakimoto Kenichi
- 1PH28 Discovery of Dion-Jacobson-Type Oxide-Ion Conductors:  $\text{CsR}_2\text{Ti}_2\text{NbO}_{10}$  ( $\text{R}=\text{La}, \text{Pr}, \text{Nd}, \text{Sm}$ ) (Tokyo Institute of Technology) ○ZHANG Wenrui·FUJII Kotaro·NIWA Eiki·YASHIMA Masatomo\*
- 1PH29 Free-carrier evaluation of polycrystalline 3C-SiC film by micro-Raman spectroscopy (CoorsTek KK) ○Tomonori Uchimaru·Kenji Suzuki·Chikara Hamano·Yousuke Suzuki
- 1PH30 Evaluation of Chemical Bonding Condition for Oxide Single Crystal by Soft-X-ray Emission Spectroscopy (KRI) ○TANAKA Kiyotaka\*
- 1PH31 Crystal structures and oxygen permeation properties of Ca-substrated  $\text{LaFeO}_3$  (Nagoya Institute of Technology) ○KAGOMIYA Isao\*·MURAYAMA Tomoki·TSUNEKAWA Kyosuke·KAKIMOTO Ken-ichi·(Toho Gas Co. Ltd.) OGURA Yusuke
- 1PH32 Structure origin of the high oxide-ion conductivity in the apatite-type lanthanum silicates (Tokyo Institute of Technology) ○FUJII Kotaro·YASHIMA Masatomo·HIBINO Keisuke·SHIRAIWA Masahiro·(Nagoya Institute of Technology) FUKUDA Koichiro·(National Institute of Technology, Niihama College) NAKAYAMA Susumu·(Nagoya Institute of Technology) ISHIZAWA Nobuo·(The Comprehensive Research Organization for Science and Society (CROSS)) HANASHIMA Takayasu·(Japan Atomic Energy Agency) OHHARA Takashi
- 1PH33 Super Quenching Synthesis and the Phase Diagram of  $\text{CeO}_2\text{-GdO}_{1.5}$  System Using an Arc Image Furnace (Yamaguchi University) ○FUJIMORI Hiroataka\*·KUBOTA Koichi

## 15.Strategy for preparation of element-block materials with high functionalities

- 1PK01 Synthesis of various precursors with carbosilane backbone structures obtained by controlled thermal condensation reaction (Osaka Prefecture University) ○NARISAWA Masaki·YAMADA Kouya·SAKURA Ukyo·INOUE Hirofumi
- 1PK02 Nitrogen-doped carbon catalyst derived from precursor polymer utilizing ion implantation technique (QST) ○IDESAKI Akira·YAMAMOTO Syunya·SUGIMOTO Masaki·YAMAKI Tetsuya

## 13.Chemical Design - Advanced materials based on chemical control of reactions and structures -

- 1PL01 Facile synthesis of transparent functional nanocomposite films based on octahedral metal atom clusters for UV blocking application (National Institute for Materials Science) ○Nguyen Ngan Thi Kim\*·Dubernet Marion Anne·Grasset Fabien·(Institute of Chemical Sciences of Rennes) Dumait Noee·Amela-Cortes Marian·Cordier Stephane·Molard Yann·Renaud Adele·(National Institute for Materials Science) Uchikoshi Tetsuo
- 1PL02 Effects of Electrolyte Solvent for the High Voltage Durability in the Fluoroalkylsilane Monolayer Coated  $\text{LiNi}_{0.5}\text{Mn}_{1.5}\text{O}_4$  Electrodes (Shinshu University) ○Todoki Hitomi·Zetsu Nobuyuki\*·teshima Katsuya
- 1PL03 Shape-controlled flux growth of monodisperse  $\text{LiNbO}_3$  crystals by topotactic reaction (Shinshu University) ○NAKANISHI Takumi·SUDARE Tomohito·YUASA Satoshi·(Tohoku University) YUBUTA Kunio·(Shinshu University) ZETTSU Nobuyuki\*·TESHIMA Katsuya
- 1PL04 Adsorption Behavior of Organic Ligands onto Titanate Nanoflakes (Gifu University) ○YAMADA Hiroki·INOUE Tomohiro·BAN Takayuki\*·OHYA Yutaka

## 17.Ceramics Synthesis Achieved by Aqueous Solution Process - Discussion of Aqueous and Non-aqueous Solution Processes Aiming at Morphological Control and High functionalization of Materials -

- IPS01 Synthesis of lithium titanate using rapid hydrolysis of titanium alkoxide (National Institute of Technology, Hachinohe College) ○KUSAKABE Yui•KADOMA Yoshihiro•HONMA Tetsuo•HASEGAWA Akira\*
- IPS02 Hydrothermal Synthesis of Titanosilicates with additives (Osaka Prefecture University) ○Sakuma Takeshi•Kamegawa Takashi•Murata Hidenobu•Nakahira Atsushi\*
- IPS03 Low temperature synthesis of barium titanate using rapid hydrolysis of titanium alkoxide (National Institute of Technology, Hachinohe College) ○TATEYAMA Nami•KADOMA Yoshihiro•HONMA Tetsuo•HASEGAWA Akira\*
- IPS04 Control of ZnO crystal orientation by hydrothermal synthesis in high magnetic field (Shibaura Institute of Technology•National Institute for Materials Science) ○OZAWA Hiroto•(National Institute for Materials Science) SUZUKI Tohru\*•(Shibaura Institute of Technology) KIYONO Hajime\*
- IPS05 Polymerized complex synthesis and photocatalytic activity of perovskite-type oxide  $ATbO_3$  ( $A = Sr$  and  $Ba$ ) (National Institute of Technology, Gunma College) ○TAIRA Nobuyuki•TAKEBUCHI Yuuma
- IPS06 Influence of Fatty Acid Alkyl Chain Length on Crystal Growth of Copper Nitride (National Institute of Advanced Industrial Science and Technology) ○NAKAMURA Takashi

## 20. Materials Innovation for Environmental Problems and Water Resources

- IPT01 Removal of strontium ion using sodium titanate (University of Hyogo) ○Gogo Hitoshi\*•Nishioka Hiroshi
- IPT02 Synthesis and Properties of Titanosilicate Adsorbent with High Distribution Coefficient of Strontium (University of Hyogo) ○Soda Kenta\*•Nishioka Hiroshi•(Hitachi chemical Co., Ltd.) Iwai akihiro•johmen masayoshi•saitou kouichi
- IPT03 Synthesis of titanosilicate adsorbent using titanium oxide and adsorption of cesium ion and strontium ion (University of Hyogo) ○Shimada Yutaro\*•Nishioka Hiroshi
- IPT04 Development of Complete Combustion Catalysts for Ethyl Acetate based on Manganese Oxides (Kobe City College of Technology) ○IDE Hajime•YASUDA Keisuke\*
- IPT05 Preparation of Layered Perovskite Hybrid by Soft Chemical Treatment and Its Ammonia Decomposition Property (University of Yamanashi) ○FUKASAWA Chihiro•TAKEI Takahiro\*•YANAGIDA Sayaka•KUMADA Nobuhiro
- IPT06 Nitrogen oxide selective reduction catalytic ability of Sn-hollandite type oxides (Tokyo University of Science) ○ICHIKAWA TAKAHIRO•AIMI AKIHISA•(National Institute of Advanced Industrial Science and Technology) YAMAGUCHI ARITOMO•(Tokyo University of Science) FUJIMOTO KENJIRO\*
- IPT07 Concentrating  $CO_2$  from Air by  $CeO_2$  Nanoparticles and their Adsorption and Desorption Properties (Yamagata University) ○KANAHARA Keita•(Hitachi Chemical) YOSHINARI Yasuhiko•SHIMAZAKI Toshikatsu•(Yamagata University) MATSUSHIMA Yuta\*
- IPT08 Synthesis and photocatalytic activity of Bi substituted tricalcium phosphate (Kogakuin University) ○Inoue Naoyuki\*•Yoshida Naoya•Okura Toshinori
- IPT09 Microstructure Control and Evaluation for Development of High Strength Porous Ceramics (Osaka Research Institute of Industrial Science and Technology) ○OZAKI Tomoatsu\*•SUYAMA Takeshi

## 19. Exploration of Basic Sciences for Advanced Bio-related Materials Developments

- IPU01 Preparation of anti-infective apatite nanoparticles and elucidation of antibacterial mechanism (Kindai University) ○OSHITA Mari•AZUMA Yoshinao•FURUZONO Tsutomu\*
- IPU02 Evaluation of anaphylactoid reaction for hydroxyapatite nanoparticles doped with various ions (Kindai University) ○UMEDA Koji•AZUMA Yoshinao•FURUZONO Tsutomu\*
- IPU03 Evaluation of novel bone hemostasis materials fabricated by combination of hydroxyapatite and plant-derived natural polymer (Sophia University) ○ITATANI Kiyoshi\*•NOH YEONJEONG•(Toho University) MUSHI Yoshiro•(Sophia University) UMEDA Tomohiro
- IPU04 Fabrication of Hydroxyapatite/cellulose-fiber composite with three-dimensional structure (National Institute of Advanced Industrial Science and Technology (AIST)•Chubu University) ○WATANABE Shota•(National Institute of Advanced Industrial Science and Technology (AIST)) NAGATA Fukue\*•MIYAJIMA Tatsuya•(Chubu University) SAKURAI Makoto•(National Institute of Advanced Industrial Science and Technology (AIST)•Chubu University) SUZUKI Aoi•(National Institute of Advanced Industrial Science and Technology (AIST)) KATO Katsuya
- IPU05 Evaluation of Mn-containing bone-like calcium phosphate cement (Nihon University) ○Toda Kazuki•Uchino Tomohiro\*
- IPU06 Specific Adsorption of Milk Proteins onto Porous Zirconia (Aichi Institute of Technology•National Institute of Advanced Industrial Science and Technology) ○Kaneko Takamasa•(National Institute of Advanced Industrial Science and Technology) Nagata Fukue•(Aichi Institute of Technology) Kugimiya Shinichi•(National Institute of Advanced Industrial Science and Technology) Kato Katsuya\*

## 01. Research Trend on Advanced Ceramic Technology for Energy Conversion Devices

- IPV01 Preparing and characterization of carbon materials for all solid state cell (Osaka Research Institute of Industrial Science and Technology) ○SONOMURA Hirosuke
- IPV02 Effect of Compressed Pressure and Volume Change of Active Materials for Cell Performance of Sulfide-based All-solid-state Battery (Osaka Research Institute of Industrial Science and Technology) ○YAMAMOTO Mari•TERAUCHI Yoshihiro•(Osaka Prefecture Univ.) SAKUDA Atsushi•(Osaka Research Institute of Industrial Science and Technology) KATO Atsutaka•TAKAHASHI Masanari
- IPV04 The substitution effect on the Li-ion conductivity in the NASICON-type  $LiZr_2(PO_4)_3$  (Gakushuin University) ○FUNAYAMA Kouki•UEDA Koichiro•INAGUMA Yoshiyuki\*•(National Institute for Materials Science) IKEDA Minoru•OHNO Takahisa•MITHUISHI Kazutaka
- IPV05 Effects of the different element addition on synthesis of  $Li_3Zn_{0.5}SiO_4$  (The University of Tokai) ○SUZUKI Ryuya•MUNGKOE Orasa•ONO Seiji•SATO Masashi•AKIYAMA Yasunobu•HIGUCHI Masashi\*
- IPV06 Electrolyte effect on electrochemical properties of  $LiMn_2O_4$  evaluated with impedance measurements (Univ. Hyogo) ○NISHIKAWA Shintaro•MINESHIGE Atsushi\*•SHINMEI Yuka•INAMOTO Jun-ichi•MATSUO Yoshiaki•YAZAWA Tetsuo
- IPV07 Fabrication of  $\beta$ - $NaGaO_2$  thin film by mist CVD method (Tohoku University) ○TAKEMURA Sayuri•SUZUKI Issei\*•OMATA Takahisa\*
- IPV08 Synthesis of  $LiFeSi_2O_6$  by polymerized complex method and electrochemical properties (Gakushuin University) ○AO Takahiro•SUDO Nahoko•NASU Arata•AIBA Maiko•KAMINISHI Yuma•BAN Kazune•MORI Daisuke•UEDA Koichiro•INAGUMA Yoshiyuki\*
- IPV09 Synthesis and electrode properties of layered rock-salt type  $Li(Ni,Co,Fe)_{1-x}Ti_xO_2$  ( $0 \leq x \leq 0.2$ ) (Tokyo University of Science) ○Tanaka Yuri•Aimi Akihisa•Fujimoto Kenjiro\*
- IPV11 Electrical properties of  $Ba_2TiO_4$  (Univ. Hyogo) ○MINESHIGE Atsushi•TERAMURA Kazuki•HARA Takumi•KOBUNE Masafumi
- IPV12 Fabrication of dense ceramics and their total conductivity of yttrium lanthanum germanate oxyapatite (Tokyo University of Science) ○TERAI Takaya•(Tokyo University of Science•National Institute for Materials Science) KOBAYASHI Kiyoshi\*•(Tokyo University of Science) HIGUCHI Tohru\*•(National Institute for Materials Science) SUZUKI Tohru

- 1PV13 Analysis of SrZrO<sub>3</sub> formation for Solid Oxide Fuel Cell (Kyushu University) ○INOUE Yuko (Kyushu University•Kurume National College of Technology) CHOU Jyh-Tyng (Kyushu University) KAWABATA Tsutomu•MATSUDA Junko•TANIGUCHI Shunsuke•SASAKI Kazunari
- 1PV14 Electric conductivity and local structure analysis of fluorite type structure Ce<sub>1-x</sub>La<sub>x</sub>O<sub>2-δ</sub> (0 ≤ x ≤ 0.5) (Tokushima University) ○MINATO Ryunosuke•HATAI Kengo•OTANI Yasumasa•MINAKATA Ryota•LIU Xue•MURAI Kei-ichiro•MORIGA Toshihiro\* (Central Research Institute of Electric Power Industry) MORI Masashi
- 1PV15 Reoxidation effect of multiple step heat-treatment on the electrical conductivity of lanthanum silicate oxyapatite (Hosei University) ○Yamazoe Atsushi\* (National Institute for Materials Science) Kobayashi Kiyoshi\*•Uchikoshi Tetsuo\* (Hosei University) Akashi Takaya\* (National Institute for Materials Science) Suzuki Tohru
- 1PV16 Synthesis and protonic conductivities of LaMg<sub>2/3</sub>Nb<sub>(1-x/3)</sub>Ti<sub>x/3</sub>O<sub>3-δ</sub> ceramics (Meijo University) ○Niwa Yuta•Kan Akinori\*•Ogawa Hirota\*•Takahashi Susumu
- 1PV17 First-principles calculations of phase stabilities and transition mechanisms in perovskite-structured LaScO<sub>3</sub> (Japan Fine Ceramics Center) ○FISHER Craig\*•Taguchi Ayako•Ogawa Takafumi•Kuwabara Akihide
- 1PV18 Development of protonic ceramic fuel cells toward ultra-high energy conversion efficiency (National Institute of Advanced Industrial Science and Technology) ○SHIMADA Hiroyuki•YAMAGUCHI Toshiaki•YAMAGUCHI Yuki•FUJISHIRO Yoshinobu
- 1PV20 The effect of millimeter-wave irradiation heating on SOFC performance based on doped CeO<sub>2</sub> electrolyte (Okayama University) ○FUJII Yuri•Salmie Suhana Che Abdullah•TERANISHI Takashi•HAYASHI Hidetaka•KISHIMOTO Akira\*

## 02.Materials Innovation on Thermal Energy Conversion and Harnessing

- 1PV21 Bottom-up Synthesis of SrTiO<sub>3</sub>/TiN Nanocomposites and their Thermal and Electrical Transport Behavior (Kyushu University) ○WATANABE Kosuke•MATSUZAKI Akitaka•SUEKUNI Koichiro•OHTAKI Michitaka
- 1PV22 Simple synthesis and characterization of SrTi<sub>0.8</sub>Co<sub>0.2</sub>O<sub>3</sub> thermoelectric conversion material using molten salt method (Tokushima university) ○Nishiura Takuya•Nagata Ryutaro•Murai Kei-ichiro\*•Moriga Toshihiro
- 1PV23 Fabrication of Textured CuFeO<sub>2</sub> Ceramics by the Reactive Templated Grain Growth Method Using Fe-containing Hydroxides and Their Thermoelectric Properties (Keio University) ○Tato Masahiko•SHIMONISHI Rina•HAGIWARA Manabu\*•FUJIHARA Shinobu
- 1PV24 Synthesis and thermoelectric properties of porous oxide nanocomposites containing metal nanoparticles (Kyushu University) ○HIRATA Shinji•OHTAKI Michitaka\*•WATANABE Kosuke•SUEKUNI Koichiro
- 1PV25 Evaluation of thermal conductivity in spin thermal conductivity materials of La-Ca-Cu-O system and its electric field effects (Tohoku University) ○Nara Yoshinori•Terakado Nobuaki•Takahashi Yoshihiro•Fujiwara Takumi\*
- 1PV26 Thermoelectric properties of Y<sub>x</sub>Al<sub>y</sub>B<sub>14</sub> prepared by reactive spark plasma sintering (National Institute for Materials Science•University of Tsukuba) ○SON Hyoung-Won\* (National Institute for Materials Science) GUO Quansheng\* (National Institute for Materials Science•University of Tsukuba) Mori Takao\*
- 1PV27 High temperature durability of n-type Mg<sub>2</sub>Si fabricated by vertical Bridgman method (Tokyo University of Science) ○Kodama Takuya•Tokumura Mako•Hamba Hiroto•Shiojiri Daishi•Iida Tsutomu\*
- 1PV28 The thermoelectric properties of Mg<sub>2</sub>Si doped with p-type impurity B and isoelectric impurity Zn (Tokyo University of Science) ○SAIGA Masaya•HIRAYAMA Naomi•SAKAMOTO Mariko•TAKEMOTO Shouji•SHIOJIRI Daishi\*•IIDA Tsutomu\*
- 1PV29 Thermoelectric performance of Mg<sub>2</sub>Si doped with C<sub>60</sub> as an isoelectronic impurity (Tokyo University of Science) ○SHIIBA Shuntaro•KONDO Shunsuke•NAKATANI Mitsunobu•MATSUOKA Takeshi•SHIOJIRI Daishi\*•IIDA Tsutomu\*
- 1PV30 Fabrication of polycrystalline Mg<sub>2</sub>Si by two-steps temperature rising by Vertical Bridgman method (Tokyo University of Science) ○Takemura Atsushi•Tokumura Mako•Hamba Hiroto•Kodama Takuya•Shiojiri Daishi•Iida Tsutomu\*

## ■■September 05 (Wed) (Room Q) ■■

### 18.Functional Materials Innovation through Energy Consumption Reduction Processing (Green Processing)

#### 溶液プロセス

##### (10:00) (Chairman 渡邊友亮)

- 1Q04 Preparation of Aeschynite-type Fine Crystals by Hydrothermal Method (Aichi Institute of Technology) ○HIRANO Masanori・TAKAGI Yuki
- 1Q05 Fabrication of Nitrogen-Doped ZnO Nanorod Arrays without using Post-Doping (Tokyo Institute of Technology) ○KOBAYASHI Ryosuke・KISHI Tetsuo・YANO Tetsuji・MATSUSHITA Nobuhiro\*
- 1Q06 Effect of molecular design of precursor for CSD-derived PZT thin films on Si substrate (Shizuoka University) ○KONAGAYA Akiyoshi・KAWAGUCHI Takahiko・SAKAMOTO Naonori・WAKIYA Naoki・SUZUKI Hisao\*

##### (11:00) (Chairman 山口修平)

- 1Q07 Characterization of PZT Thin Film on Microstructured Porous Si Substrate (Shizuoka University) ○SATO Akira・TAKABAYASHI Kazuki・KAWAGUCHI Takahiko・(Tokyo University of Agriculture and Technology) KOSHIDA Nobuyoshi・(Tokyo Institute of Technology) SHINOZAKI Kazuo・(Shizuoka University) SAKAMOTO Naonori・SUZUKI Hisao・WAKIYA Naoki\*
- 1Q08 Preparation of Lead-free Piezoelectric KNN-BNZ Thin Film on a Si wafer by Chemical Solution Deposition (Kitami Institute of Technology) ○TANAKA Sadaaki・HIRAI Shigeto・MATSUDA Takeshi・(Shizuoka University) SAKAMOTO Naoki・SUZUKI Hisao・(Tohoku University) KIGUCHI Takanori・(Kitami Institute of Technology) OHNO Tomoya\*
- 1Q09 Effect of Composition on Electrical Properties of Piezoelectric Thin Films in BaTiO<sub>3</sub> System (Shizuoka University) ○Katayama Takaaki・Kawaguti Takahiko・Sakamoto Naonori・(Kitami Institute of Technology) Ohno Tomoya・(Shizuoka University) Wakiya Naoki・Suzuki Hisao\*

#### 低エネルギー消費プロセス

##### (14:40) (Chairman 宮崎英敏)

- 1Q18 ★ Toward High Performance of Energy Storage Devices and Processes (Nagasaki University) ○YAMADA Hirotooshi
- 1Q20 Relationship between crystal structure and synthesis temperature of oxides fine powder (National Institute of Advanced Industrial Science and Technology) ○YAMAGUCHI Yuki・SHIMADA Hiroyuki・FUJISHIRO Yoshinobu
- 1Q21 Synthesis of chabazite from chemical reagents and its Cs adsorption properties (Ehime university) ○TAKEUCHI YUTA・Erni Johan・ITAGAKI YOSHITERU・AONO Hiromichi\*
- 1Q22 Low temperature crystallization of 12CaO・7Al<sub>2</sub>O<sub>3</sub> by liquid plasma processing (Shizuoka University) ○SAKAMOTO Naonori\*・SUZUKI Shuto・MANEYAMA Shiori・KAWAGUCHI Takahiko・WAKIYA Naoki・SUZUKI Hisao
- 1Q23 Effects of hardening conditions on fabrication of non-fired ceramics with humidity control function (Hokkaido Research Organization) ○SHIGYO Tatsuhiro・MORI Takeshi・NOMURA Takafumi

##### (16:40) Break

#### 触媒

##### (17:00) (Chairman 松田晃史)

- 1Q25 Development and Evaluation of Surface Modification Process for Ta<sub>3</sub>N<sub>5</sub> Photoelectrode (ARPCHEM, NEDO・Meiji University) ○YIN GE・Watanabe Tomoaki・(ARPCHEM, NEDO・Tokyo University・Shinshu University) Domen Kazunari
- 1Q26 Effects of adding various carboxylic acid into hydrothermal reaction for fabricating CuFeO<sub>2</sub>/Fe photocathodes (Meiji University) ○ITO Mizuki・WATANABE Tomoaki\*
- 1Q27 Fabrication of an Efficient Particulate Photocatalyst Sheets for Large-Scale Water Splitting Using a Low-Cost Roll-to-Roll Method (Japan Technological Research Association of Artificial Photosynthetic Chemical Process) ○XIAO Xiong・WANG Qian・(Japan Technological Research Association of Artificial Photosynthetic Chemical Process・Shinshu University) Hisatomi Takashi・(Japan Technological Research Association of Artificial Photosynthetic Chemical Process・The University of Tokyo・Shinshu University) Domen Kazunari・(Japan Technological Research Association of Artificial Photosynthetic Chemical Process・Meiji University) Watanabe Tomoaki
- 1Q28 VOC adsorption and photocatalytic properties of zeolite-titanium dioxide composite materials prepared from titanium exchanged zeolite (Ehime university) ○SEIKE DAISUKE・Erni Johan・ITAGAKI YOSHITERU・AONO Hiromichi\*
- 1Q29 PM oxidation over Ag-loaded perovskite-type oxide catalysts prepared by thermal decomposition of heteronuclear cyano complex precursor (Ehime University) ○YAMAGUCHI Syuhei・TAKAHASHI Hiroki・FUKUOKA Makoto・YAMAURA Hiroyuki・YAHIRO Hidenori

## 16. Material Design and Processing Design

### 粉体合成デザイン

(9:00) (Chairman 林大和)

1R01 ★ Challenge for environmental-friendly and low-cost syntheses of difficult-to-synthesize oxides (University of Tsukuba) ○SUZUKI Yoshikazu

(9:40) (Chairman 久保正樹)

1R03 Influence of pH adjuster on crystallinity of hydroxyapatite (Nagoya Institute of Technology Advanced Ceramics Research Center) ○ANDO Yuri·XIN Yunzi·HONDA Unhi·SHIRAI Takashi\*

1R04 Preparation of strontium titanate particles with high specific surface area by hot water conversion of porous hydrous titania (Chiba University) ○UJIIE Kazuya·KOJIMA Takashi\*·OTA Kousuke·(Khon Kaen University) THONGSRI Oranich·MEETHONG Nonglak·(Chiba University) UEKAWA Naofumi

### 反応場とマテリアルデザイン

(10:20) (Chairman 林大和)

1R05 ★ Development of functional materials using powder surfaces as a reaction field and its applications (Nagoya Institute of Technology) ○SHIRAI Takashi

(11:00) (Chairman 久保正樹)

1R07 Synthesis of HAp/TiO<sub>2</sub> composite particles by different synthesis method and its control of morphology (Nagoya Institute of Technology Advanced Ceramics Research Center) ○KOBAYASHI Fumiaki\*·XIN Yunzi·HONDA Unhi·NISHIKAWA Harumitsu·SHIRAI Takashi

1R08 Influence on mechanochemical effect in different waste inorganic particles and its application (Nagoya Institute of Technology Advanced Ceramics Research Center) ○KAMEYAMA Kengo\*·KATO Hinako·XIN Yunzi·HONDA Unhi·SHIRAI Takashi

1R09 Study on the structure and functional properties of metal oxide in silicate compound (Nagoya Institute of Technology Advanced Ceramics Research Center) ○SHIDO Sota\*·HONDA Unhi·Xin Yunzi·SHIRAI Takashi

### 光と反応場・光と物性

(14:20) (Chairman 林大和)

1R17 ★ Sonoluminescence and the extreme conditions realized by acoustic cavitation (Meiji University) ○CHOI Pak-Kon

1R19 ★ Development of novel scintillators and related spectroscopic study (Tohoku University) ○KOSHIMIZU Masanori

(15:40) (Chairman 中村貴宏)

1R21 ◆ Construction of an artificial photosynthetic system combining the functions of semiconductors and molecular catalysts (Toyota Central R&D Labs., Inc.) ○MORIKAWA Takeshi

(16:20) Break

### 溶媒と合成デザイン

(16:40) (Chairman 小島隆)

1R24 Fabrication of silver nanowire transparent conductive film by controlling the arrangement of acicular nanoparticles using a dispenser (Tohoku University) ○FUJITA Kyosuke·HAYASHI Yamato\*·FUKUSHIMA Jun·TAKIZAWA Hirotsugu

1R25 Numerical investigation of structure formation of nanoparticles during solvent evaporation of dense suspension (Tohoku University) ○KUBO Masaki\*·USUNE Shin·TAKAHASHI Taro·SHOJI Eita·TSUKADA Takao·(Products Innovation Association) KOIKE Osamu·(The University of Tokyo) TATSUMI Rei·(Josai University) FUJITA Masahiro·(Tohoku University) ADSCHIRI Tadamuni

### 材料デザインと物性

(17:20) (Chairman 木村禎一)

1R26 Compression Test of Submicrometer Spherical Particles using SEM Nanoindenter (I) (Hokkaido University) ○NAKAMURA Daizen·(Green Electronics Research Institute, Kitakyushu) SHISHIDO Nobuyuki·(Nagoya Institute of Technology) KAMIYA Shoji·(National Institute of Advanced Industrial Science and Technology) ISHIKAWA Yoshie·(Hokkaido University) KOSHIZAKI Naoto\*

1R27 Compression Test of Submicrometer Spherical Particles using SEM Nanoindenter (II) (Hokkaido University) ○KOSHIZAKI Naoto\*·KONDO Mitsuhiko·(Green Electronics Research Institute, Kitakyushu) SHISHIDO Nobuyuki·(Nagoya Institute of Technology) KAMIYA Shoji·(University of Tokyo) KUBO Atsushi·UMENO Yoshitaka·(National Institute of Advanced Industrial Science and Technology) ISHIKAWA Yoshie

1R28 Influence of in-situ synthesized Ba-β-Al<sub>2</sub>O<sub>3</sub> on mechanical properties and thermal shock resistance of ZTA/Ba-β-Al<sub>2</sub>O<sub>3</sub> composites (Tottori University) ○LIU Lei·ONDA Tetsuhiko·CHEN Zhong-Chun\*

(18:20) (Chairman 林大和)

1R29 ★ Microstructural Design and Materials Properties/Performance in Ceramics (National Institute of Advanced Industrial Science and Technology (AIST)) ○OHJI TATSUKI

## ■ ■ September 05 (Wed) (Room S) ■ ■

### 17. Ceramics Synthesis Achieved by Aqueous Solution Process - Discussion of Aqueous and Non-aqueous Solution Processes Aiming at Morphological Control and High functionalization of Materials -

#### ソルボサーマル法

##### (9:00) (Chairman 小林亮)

- 1S01 Synthesis of Hydroxyapatite by solvothermal process using carboxylic acid (Osaka University) ○GOTO Tomoyo (Tohoku University) YIN Shu • ASAKURA Yusuke (Osaka University) CHO Sung Hun • SEKINO Tohru
- 1S02 One-Step Hydrothermal Synthesis and Temperature Effect of Thermochromic Halogen-doped Vanadium Dioxide Nanoparticles (Institute of Multidisciplinary Research for Advanced Materials, Tohoku University) ○RIAPANITRA ANUNG • ASAKURA YUSUKE • YIN SHU\*
- 1S03 Solvothermal Synthesis of Photocatalysts and the Activity Enhancement of Their Composites (IMRAM, Tohoku University) Komatsuda Shio • Asakura Yusuke (Toyota Technological Institute) Junie Jhon M. Vequizo • Yamakata Akira (IMRAM, Tohoku University) ○YIN Shu

##### (10:00) (Chairman 横井太史)

- 1S04 Hydrothermal synthesis of TiO<sub>2</sub> nanoparticles for electron transport layer of perovskite solar cells (Tokai University) ○KUNIYOSHI Mizuki • SHAHIDUZZAMAN Md • ISOMURA Masao (Hiroshima University) KATAGIRI Kiyofumi (Tohoku University) KOBAYASHI Makoto • KAKIHANA Masato (Tokai University) TOMITA Koji\*

##### (10:20) Break

#### 硫化物

##### (10:40) (Chairman 横井太史)

- 1S06 Synthesis of aqueous dispersions of copper sulfide nanoparticles prepared by liquid phase sulfurization of metal hydroxide (Osaka Prefecture University) ○Kariya Kohei • Tokudome Yasuaki\* • Okada Kenji • Takahashi Masahide
- 1S07 Synthesis and electrochemical properties of amorphous Co-Mo-S based chalcogenide (National Defense Academy) ○WATABE Shohei • AONO Masami • KITAZAWA Nobuaki\*

#### 複合体

##### (11:20) (Chairman 殷シュウ)

- 1S08 Synthesis and investigation of NASICON-type compound/carbon composites derived from citric acid gel precursors (kyushu university) ○AKIYAMA YUTO • hasegawa george\* • akamatsu hirohumi • hayashi katsuro
- 1S09 Formation control of titania nanotubes / polyaniline nano-hybrid by photopolymerization (Osaka University) ○TSUKATANI Kota • (Tohoku University) TSUKUDA Satoshi (Osaka University) GOTO Tomoyo • CHO Sunghun • NISHIDA Hisataka • SEKINO Tohru\*

#### 反応制御

##### (14:20) (Chairman 後藤知代)

- 1S17 ★ Control of reaction kinetics in liquid phase for the formation of metal hydroxides with well-defined mesoporosity. (Osaka Prefecture University) ○TOKUDOME Yasuaki (Hosei University) TARUTANI Naoki (Osaka Prefecture University) TAKAHASHI Masahide
- 1S19 Crystallization of porous hydrous titania particles by hot water and humid environment treatment (Chiba University) ○KOJIMA Takashi • UEDA Mitsuki • YUKITA Chieko • UEKAWA Naofumi

##### (15:20) (Chairman 徳留靖明)

- 1S20 Effect of coexistent cations on formation of layered titanate particles by hydrolysis reaction of Ti alkoxide in gluconic acid solution (Chiba University) ○IZUMI Hikaru • TSUKAMOTO Shun • KOJIMA Takashi • UEKAWA Naofumi\*
- 1S21 Preparation of Nb-doped TiO<sub>2</sub> nanoparticles using dialysis of ethylene glycol solution and investigation of photochromic property with visible light irradiation (Chiba University) ○INAGAKI Yugo • KOBAYASHI Minoru • KOJIMA Takashi • UEKAWA Naofumi\*
- 1S22 Synthesis of organically-modified layered calcium phosphate in a reaction system with precisely controlled pH (Japan Fine Ceramics Center) ○YOKOI Taishi\* (Osaka University) GOTO Tomoyo (Japan Fine Ceramics Center) KITAOKA Satoshi

##### (16:20) Break

##### (16:40) (Chairman 長谷川文二)

- 1S24 Influence of bridging ligands on formation of three-dimensional complex nanostructure (Nagoya Institute of Technology) ○FUCHIGAMI Teruaki\* • KIMATA Ryosuke • YAMAMOTO Hayato • KAKIMOTO Ken-ichi
- 1S25 ★ Shape Control Effects of Metal Oxide Thin Films on Metal Nanoparticles (Kyushu University) ○TAKAHASHI Yukina

## ■ ■ September 05 (Wed) (Room T) ■ ■

### 20. Materials Innovation for Environmental Problems and Water Resources

#### 触媒

##### (14:20) (Chairman 笹井亮)

- 1T17 Morphological control of  $\text{Co}_3\text{O}_4$  nanoparticles for low temperature catalytic activity (Nagoya Institute of Technology) ○KIMATA Ryosuke • FUCHIGAMI Teruaki • HANEDA Masaaki • KAKIMOTO Ken-ichi\*
- 1T18 Hydrogen peroxide decomposition by various iron based layered double hydroxides (LDH) (Okayama University) ○KAMESHIMA Yoshikazu • TAGASHIRA Masaki • NISHIMOTO Shunsuke • MIYAKE Michihiro

##### (15:20) Break

#### 放射性物質

##### (15:40) (Chairman 笹井亮)

- 1T21 ★ Tritium extraction from water by water-hydrogen chemical exchange (Nagoya University) ○SUGIYAMA Takahiko

##### (16:20) Break

#### 光触媒

##### (16:40) (Chairman 西本俊介)

- 1T24 Synthesis of tungsten oxide based on layered organic-inorganic nanocomposite (Osaka Prefecture University) ○MORIYA Takao • KAMEGAWA Takashi • MURATA Hidenobu • NAKAHIRA Atushi\*
- 1T25 Preparation of  $\text{ZnGa}_2\text{O}_4$  from amorphous metal hydroxide precursors for the application of  $\text{CO}_2$  photo-reduction catalyst (Osaka prefecture University) ○takemoto masanori • tokudome yasuaki\* (Kyoto University) teramura kentaro • kikkawa soichi • tanaka tsunehiro • (Osaka prefecture University) okada kenji • takahashi masahide
- 1T26 Preparation and evaluation of  $(\text{Ce,Bi})\text{O}_{2.6}$  modified with  $\text{MnO}_x$  (Tokyo Institute of Technology) ○Otsuka Nobutomo • Isobe Toshihiro • Matsushita Sachiko • Nakajima Akira\*
- 1T27 Preparation and photocatalytic activity of Mo-modified Ti-HAp (2) (Tokyo Institute of Technology) ○JIRABORVORNPNONGSA Noppakhate • ISOBE Toshihiro • MATSUSHITA Sachiko • (NIMS) OSHIKIRI Mitsutake • (Fujitsu Laboratories Ltd.) WAKAMURA Masato • (Tokyo Institute of Technology) FUJII Kotaro • YASHIMA Masatomo • NAKAJIMA Akira\*

##### (18:00) (Chairman 稲田幹)

- 1T28 Photocatalytic water purification by  $\text{H}_2\text{O}_2$  and Au-loaded  $\text{TiO}_2$  (Okayama University) ○IZUMI Tomonari • NISHIMOTO Shunsuke • KAMESHIMA Yoshikazu\* • MIYAKE Michihiro
- 1T29 Preparation of silver particles by acid treatment of Ag-deposited ZnO rods (Okayama University) ○YOKOI Junki • NISHIMOTO Syunsuke • KAMESHIMA Yoshikazu\* • MIYAKE Michihiro
- 1T30 Synthesis and evaluation of Zirconia-based photocatalyst (The University of Kitakyushu) OGAWA Tomoya • ○Suzuki Takuya

## ■ ■ September 05 (Wed) (Room U) ■ ■

### 19. Exploration of Basic Sciences for Advanced Bio-related Materials Developments

#### (9:20) (Chairman 土谷享)

- 1U02 Control of chemical durability on layered calcium silicate modified with phenyl group (Nagoya University) ○NAKAMURA Jin • SUGAWARA-NARUTAKI Ayae • OHTSUKI Chikara
- 1U03 Fabrication of antibacterial titanium dioxide nanosheet with superstructure. (Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University) ○NOZAKI Kosuke • (Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University) HAYASHI Kenichiro • (Dalian University of Technology) TAN Zhenquan • (Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University) HORIUCHI Naohiro • YAMASHITA Kimihiro • (Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University) MIURA Hiroyuki • (Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University) NAGAI Akiko • (Joining and Welding Research Institute Osaka University) OHARA Satoshi
- 1U04 Synthesis of iron oxide nanoparticles under the coexistence of polymers with different molecular weights (Kyushu Institute of Technology) ○TANGE Takayuki • (Tohoku University) KAWASHITA Masakazu • (Kyushu Institute of Technology) MIYAZAKI Toshiki\*

#### (10:20) Break

#### (10:40) (Chairman 中村仁)

- 1U06 Fabrication of porous  $\beta$  tricalcium phosphate using dicalcium phosphate bridge (Kyushu University) ○ISHIKAWA Kunio\* • Putri Tansza • Tsuchiya Akira • (Kyushu University • Fukuoka Dental College) Tsuru Kanji
- 1U07 Fabrication of apatite coated calcium sulfate as a bone augmentation material (Kyushu University) ○Tsuchiya Akira • Ishikawa Kunio

#### (11:20) (Chairman 城崎由紀)

- 1U08 ☆ Nano-, Microstructured Ceramics for Biomedical Applications (Osaka City University) ○YOKOGAWA Yoshiyuki

#### (14:20) (Chairman 野崎浩佑)

- 1U17 Silicate or phosphate ion effects on osteoblast-like cell mineralization (Nagoya Institute of Technology) ○FURUYA Riku • (University College London) Azadeh Rezaei • Gavin Jell • (Nagoya Institute of Technology) OBATA Akiko\* • KASUGA Toshihiro
- 1U18 Osteoblastic cell response toward siloxane units released from chitosan-siloxane hybrids (Kyushu Institute of Technology) ○SHIROSAKI Yuki • YASUTOMI Saki • MASUDA Kodai
- 1U19 Control of cellular arrangement by siloxane-containing vaterite / poly(lactic acid) composite fibermats (Osaka University) ○LEE Sungho • KIYOKANE Yuriko • (Nagoya Institute of Technology) KASUGA Toshihiro • (Osaka University) NAKANO Takayoshi

#### (15:20) (Chairman 堀内尚紘)

- 1U20 Fabrication of nitrogen-doped hydroxyapatite ceramics and their biological evaluation (Meiji University) ○KANEKO Nao • NAMIKI Ryota • SUZUKI Yuhei • IZAWA Chihiro • FUKAZAWA Tomoko • HONDA Michiyo • WATANABE Tomohiro • AIZAWA Mamoru\*
- 1U21 Preparation and evaluation of hydroxyapatite/octacalcium phosphate granules loaded with drugs (Tohoku University) ○KAMITAKAHARA Masanobu\* • ISHII Airi • MATSUBARA Hideaki • KAWASHITA Masakazu • FURUYA Maiko • KANETAKA Hiroyasu

#### (16:00) (Chairman 吉岡朋彦)

- 1U22 ★ Morphology-based Informatics for Cell Culture Evaluation (Nagoya University) ○KATO Ryuji

#### (16:40) Break

#### (17:00) (Chairman 上高原理暢)

- 1U25 Isotope Microscopic Observation of Reutilizing of Synthesized HAp Implant in Osteogenesis Process (Faculty of Advanced Life Science, Hokkaido University • Global Institution for Collaborative Research and Education, Hokkaido University • Center for Innovation and Business Promotion, Hokkaido University) ○NONOYAMA Takayuki • (Graduate School of Life Science, Hokkaido University) SUZUKI Yuki • KIYAMA Ryuji • (Graduate School of Medicine, Hokkaido University • Global Institution for Collaborative Research and Education, Hokkaido University) WANG Lei • TSUDA Masumi • YASUDA Kazunori • TANAKA Shinya • (Graduate School of Science, Hokkaido University) NAGATA Kosuke • (Creative Research Institute, Hokkaido University) FUJITA Ryusuke • SAKAMOTO Naoya • (Graduate School of Science, Hokkaido University) YURIMOTO Hisayoshi • (Faculty of Advanced Life Science, Hokkaido University • Global Institution for Collaborative Research and Education, Hokkaido University • Center for Innovation and Business Promotion, Hokkaido University) GONG Jian Ping
- 1U26 Biological Evaluation of Organic/Inorganic Hybridized Paste-like Artificial Bones with Various Cross-linked Gelatin Particles as Pore-forming Agents (Meiji University) ○SHIMAKAWA Kaede • NAGATA Kohei • (GUNZE LIMITED) KIMINAMI Keishi • (Meiji University) ASANO Yoshinori • NAKANO Kazuaki • NAGAYA Masaki • NAGASHIMA Hiroshi • AIZAWA Mamoru\*
- 1U27 Bone tissue reactions of hydroxyapatite/collagen nanocomposite—(3-glycidoxypropyl)trimethoxysilane paste (Meiji University) ○SATO Taira • (Kyushu Institute of Technology) SHIROSAKI Yuki • (National Institute for Materials Science • Ibaraki University) OSHIMA Sho • (National Institute for Materials Science) KOYAMA Yoshihisa • (Meiji University) AIZAWA Mamoru\* • (National Institute for Materials Science) KIKUCHI Masanori\*

#### (18:00) (Chairman 橋本雅美)

- 1U28 Effect of Zr on bioactivity of surface treated Ti-Zr alloy (Kyushu Institute of Technology) ○HOSOKAWA Tomoya • Yokoyama Ken'ichi • (Nagasaki University) Shiraishi Takanobu • (Kyushu Institute of Technology) Miyazaki Toshiki\*
- 1U29 Electro-assisted sol-gel deposition of bioactive gels and their characterization (Okayama University) ○MIYAMOTO Naoki • YOSHIOKA Tomohiko\* • HAYAKAWA Satoshi

## ■■September 05 (Wed) (Room V) ■■

### 02.Materials Innovation on Thermal Energy Conversion and Harnessing

#### 熱エネルギー変換

##### (9:00) (Chairman 大瀧倫卓)

- 1V01 ★ Development on a flexible thermoelectric module of a Bi<sub>2</sub>Te<sub>3</sub> - PEDOT:PSS composite (Kyushu Institute of Technology) ○MIYAZAKI Koji
- 1V03 Double thermoelectric power factor of a 2D electron system, SrTiO<sub>3</sub>-based superlattice (Hokkaido University) ○ZHANG Yuqiao (The University of Tokyo) FENG Bin (Kyoto University) HAYASHI Hiroyuki (National Chiao Tung University) CHANG Cheng-ping (SHEU Yu-Miin (Kyoto University) TANAKA Isao (The University of Tokyo) IKUHARA Yuichi (Hokkaido University) OHTA Hiromichi
- 1V04 Preparation of Ca<sub>1-x</sub>Bi<sub>x</sub>Mn<sub>1-y</sub>Ni<sub>y</sub> (0≤x≤0.1, 0≤y≤0.01) dense sintered body and its thermoelectric property (Tokyo University of Science) ○YAMADA YUSUKE • AKIBA KISHU • AIMI AKIHISA\* • NISHIO KEISI • FUJIMOTO KENJIRO\*
- 1V05 High temperature thermal energy conversion using solar selective absorber coatings (Japan Fine Ceramics Center) ○OKUHARA Yoshiki • KUROYAMA Tomohiro • YOKOE Daisaku • KATO Takeharu • TAKATA Masasuke (Toyota Industries Corporation) Tsutsui Takuhito • Noritake Kazuo

#### 熱制御・熱解析

##### (10:40) (Chairman 渡邊厚介)

- 1V06 New reflective thermal shielding based on surface plasmon excitations of transparent oxide semiconductors (The University of Tokyo) ○Matsui Hiroaki\*
- 1V07 ★ New Progresses in Thermal Management Materials and Heat Transportation Physics with Informatics Methods (National Institute for Materials Science) ○Xu Yibin
- 1V09 Analysis for energy and melting point of hydrate materials using molecular dynamics calculation (Salesian Polytechnic) ○YAGI Yuta • KUROKI Yuichiro\*

### 01.Research Trend on Advanced Ceramic Technology for Energy Conversion Devices

#### 蓄電池・エネルギー貯蔵材料

##### (14:20) (Chairman 北村尚斗)

- 1V17 Phase stability and ionic conductivity evaluation of NASICON type Li ion conductor by material simulation (Nagoya Institute of Technology) ○Koki Nakano • Otake Masanari • Miyaji Yasuhiro (National Institute for Material Science) Noda Yusuke (Nagoya Institute of Technology • National Institute for Material Science) Kobayashi Ryo (Nagoya Institute of Technology) tanibata naoto (Nagoya Institute of Technology • National Institute for Material Science • Kyoto University) nakayama masanobu\*
- 1V18 Synthesis of metal polysulfide cathode by equal-channel angular pressing (National Institute of Advanced Industrial Science and Technology) ○HAMAMOTO Koichi • YAMAGUCHI Yuki • TAKEUCHI Tomonari • SAKAEBE Hikari • KOBAYASHI Hironori (Kyoto University) MATSUBARA EIICHIRO
- 1V19 Synthesis of spinel-type oxides having double-pore-structures and its application to magnesium rechargeable batteries (Keio University) ○SONE Kazuki • DOI Shunsuke • ISE Ryuta • OAKI Yuya • IMAI Hiroaki\*

##### (15:20) (Chairman 秋本順二)

- 1V20 ★ Interfacial ionic conduction in solid-state batteries (National Institute for Materials Science) ○TAKADA Kazunori

##### (16:20) (Chairman 片岡邦光)

- 1V23 Electrochemical estimation of lithium battery with solid electrolyte and composite cathode with ionic liquid (Tokyo Metropolitan University) ○SHOJI Mao • Munakata Hirokazu • Kanamura Kiyoshi
- 1V24 Fabrication of Li<sup>+</sup> Ionic Conductive Solid/ Liquid Composite-type Electrolyte Using Al-doped Li<sub>7</sub>La<sub>2</sub>Zr<sub>2</sub>O<sub>12</sub> (Tokyo Metropolitan University) ○KIMURA Takeshi • CHENG Jianfeng • SHOJI Mao • MUNAKATA Hirokazu • KANAMURA Kiyoshi
- 1V25 Characterization of novel Na<sub>2</sub>V<sub>3</sub>O<sub>7</sub> electrode for Na<sup>+</sup> ion battery and first-principles calculations on the diffusion mechanism (Nagoya Institute of Technology • ESICB, Kyoto University) ○TANIBATA Naoto (Nagoya Institute of Technology) MAEDA Masaki • KONDO Yuki • YAMADA Shohei (Nagoya Institute of Technology • ESICB, Kyoto University) TAKEDA Hayami (Nagoya Institute of Technology • ESICB, Kyoto University • National Institute for Materials Science) NAKAYAMA Masanobu

##### (17:20) (Chairman 谷端直人)

- 1V26 Operando measurement of synchrotron radiation soft X-ray absorption spectroscopy and microscopic photoelectron spectroscopy of Li<sub>4</sub>Ti<sub>5</sub>O<sub>12</sub> by all-solid-state lithium-ion batteries (National Institute of Advanced Industrial Science and Technology • AIST-UTokyo Advanced Operando-Measurement Technology Open Innovation Laboratory) ○HOSONO Eiji\* (The University of Tokyo) AKADA Keishi (National Institute of Advanced Industrial Science and Technology) SUDAYAMA Takaaki • KITAURA Hirokazu (National Institute of Advanced Industrial Science and Technology • AIST-UTokyo Advanced Operando-Measurement Technology Open Innovation Laboratory) MATSUDA Hirofumi • ASAKURA Daisuke (National Institute for Materials Science) NAGAMURA Naoka (The University of Tokyo) OSHIMA Masaharu • MIYAWAKI Jun (AIST-UTokyo Advanced Operando-Measurement Technology Open Innovation Laboratory • The University of Tokyo) HARADA Yoshihisa
- 1V27 Development of Li ion battery with high-rate capability utilizing dielectric interface (Okayama University) ○YOSHIKAWA Yumi • TERANISHI Takashi\* • KATSUJI Naoto (Tokyo Institute of Technology) YASUHARA Sou • YASUI Shintaro • ITOH Mitsuru (Okayama University) KISHIMOTO Akira

##### (18:00) Break

##### (18:20) (Chairman 濱本孝一)

- 1V29 First-principles calculations of fluorine-ion migration in graphite (Japan Fine Ceramics Center, Nanostructures Research Laboratory • National Institute for Materials Science) ○MORIWAKE Hiroki (Japan Fine Ceramics Center, Nanostructures Research Laboratory) KUWABARA Akihide • FISHER Craig • YOSHIDA Kaname • SAITOH Motofumi • UKYO Yoshio (Japan Fine Ceramics Center, Nanostructures Research Laboratory • The University of Tokyo) IKUHARA Yuichi
- 1V30 Atomic arrangement modeling of disorder rocksalt type Li<sub>1.3</sub>(Nb,M)<sub>0.7</sub>O<sub>2</sub> by reverse Monte Carlo method (Tokyo University of Science) ○araki yusuke • KITAMURA Naoto\* • ISHIDA Naoya • IDEMOTO Yasushi

## ■■September 05 (Wed) (Room W) ■■

### 23. Photoceramics - Synthesis, Functions and Applications of Optical and Colorful Ceramics -

#### (10:20) (Chairman 河野直樹)

- 1W05 Photoluminescence and scintillation properties of Yb<sup>2+</sup>-doped SrX<sub>2</sub> (X = Cl, Br) crystals (Tohoku University) ○SEKINE Dai • FUJIMOTO Yutaka • KOSHIMIZU Masanori\* (NAIST) NAKAUCHI Daisuke • YANAGIDA Takayuki • (Tohoku University) ASAI Keisuke
- 1W06 Evaluation of temperature dependency and non-radiative process in Cs<sub>2</sub>HfCl<sub>6</sub>:Te<sup>4+</sup> crystalline scintillators (Tohoku University) ○FUJIMOTO Yutaka • SAEKI Keiichiro • (Nara Institute of Science and Technology) NAKAUCHI Daisuke • YANAGIDA Takayuki • (Tohoku University) KOSHIMIZU Masanori • (Kanazawa Institute of Technology) FUKADA Haruki • (Tohoku University) ASAI Keisuke

#### (11:20) (Chairman 濱上寿一)

- 1W08 Crystal structure and luminescence property of a new Sr-B-Al-Si nitride phosphor (Mitsubishi Chemical Corp. • Tohoku Univ.) ○YOSHIMURA Fumitaka\* (Tohoku Univ.) YAMANE Hisanori
- 1W09 Novel Synthesis Methods for Phosphor Materials (Niigata University) ○TODA Kenji

#### (14:20) (Chairman 増井敏行)

- 1W17 ★ Material design concept for red emitting oxide phosphors with Eu<sup>2+</sup> and Ce<sup>3+</sup> (Kochi University) ○HASEGAWA Taakuya\* • UEDA Tadaharu • (Niigata University) TODA Kenji • SATO Mineo
- 1W19 Orange-red light emitting YAG:Ce prepared by polymerizable complex method (AIST) ○NAKAMURA Hitomi • SHINOZAKI Kenji • YAMASHITA Masaru • AKAI Tomoko

#### (15:20) (Chairman 植田和茂)

- 1W20 High-pressure synthesis and photoluminescence properties of a novel barium aluminate phosphor (Nagoya University) ○SASAKI Takuya • NIWA Ken • HASEGAWA Masashi
- 1W21 Investigation of site engineering in Ca<sub>6</sub>BaP<sub>4</sub>O<sub>17</sub>:Eu<sup>2+</sup> (Niigata University) ○Iwaki Masato • Uhematsu Kazuyoshi • Toda Kenji\* • Sato Mineo

#### (16:00) Break

#### (16:20) (Chairman 小玉展宏)

- 1W23 Microstructural control and fluorochromic properties of Eu<sup>3+</sup>-activated tungstate phosphors (Keio University) ○FUJIHARA Shinobu • YE Hong • HARA Risako • HAGIWARA Manabu
- 1W24 Ratiometric temperature probe of deep red fluorescence of R line and pair emission in Cr<sup>3+</sup> doped LaAlO<sub>3</sub> nano particle (The University of Kyoto) ○Nambu Hiroshi • Ueda Jumpei • Tanabe Setsuhisa\*

#### (17:00) (Chairman 藤原忍)

- 1W25 Liquid phase synthesis of rare-earth doped YAlO<sub>3</sub> nanopowder and its fluorescent properties (Kitami Institute of Technology) ○KAWAHARA Hiroki • FURUSE Hiroaki\* • (Osaka University) FUJIOKA Kana • (Kitami Institute of Technology) YAN JIAYUE
- 1W26 Photoluminescence properties of Pr<sup>3+</sup> and Tb<sup>3+</sup> doped CaMO<sub>3</sub> (M=Ti, Zr, Sn) solid solution (Kyushu Institute of Technology) ○YAMAMOTO Ryo • UEDA Kazushige\*
- 1W27 Photoluminescence from Eu<sup>3+</sup> ions site-selectively doped in perovskite-type LaLuO<sub>3</sub> (Kyushu Institute of Technology) YAMAMOTO Ryo • ○YOSHINO Takuma • UEDA Kazushige\*

## ■ ■ September 06 (Thu) (Room A) ■ ■

### 11. New Evolution of Dielectrics: Challenge the development of innovative solutions based on social demand

#### 薄膜

##### (9:00) (Chairman 佐藤祐介)

- 2A01 Influence of Compressive Stress on Polycrystalline Bismuth Layer-Structured Ferroelectrics Film prepared by AD method (National Institute of Advanced Industrial Science and Technology) ○SUZUKI Muneyasu •NOMOTO Junichi •YAMAGUCHI Iwao •TSUCHIYA Tetsuo •AKEDO Jun
- 2A02 ☆ Synthesis of polymer brush-immobilized Ba-Ti oxide and fabrication of dense film (Kyushu University) ○NISHIBORI Maiko •NOSUE Kohei
- 2A03 Control of misfit strain in ferroelectric BaTiO<sub>3</sub> thin-film capacitors with SrRuO<sub>3</sub>-based electrodes on (Ba, Sr)TiO<sub>3</sub>-buffered SrTiO<sub>3</sub> substrates (The University of Tokyo) ○NOGUCHI Yuji\* •MAKI Hisashi •KITANAKA Yuuki •MATSUO Hiroki •MIYAYAMA Masaru

##### (10:00) Break

#### 構造解析

##### (10:20) (Chairman 藤井一郎)

- 2A05 Ferrielectric and ferroelectric properties and electric-field phase diagram of Li-substituted AgNbO<sub>3</sub> (The University of Tokyo) ○TABATA Riho •KITANAKA Yuuki •NOGUCHI Yuji\* •MIYAYAMA Masaru •(Hiroshima University) NAKAHIRA Yuki •MORIYOSHI Chikako •KUROIWA Yoshihiro
- 2A06 In-situ atomic-scale observation of Pb(Mg<sub>1/3</sub>Nb<sub>2/3</sub>)O<sub>3</sub>-PbTiO<sub>3</sub> single crystal (Kyushu University) ○SATO Yukio\* •Syota Fujinaka •Teranishi Ryo •Kaneko Kenji
- 2A07 Domain structure analysis by piezoresponse force microscopy and its correlation to oxygen defects (Nagoya Institute of Technology) ○MAEDA Shinsaku •NISHIYAMA Hiroshi •KAKIMOTO Ken-ichi\*

##### (11:20) (Chairman 藤井康裕)

- 2A08 Preparation and structure refinement of LiNbO<sub>3</sub> type oxide CuTaO<sub>3</sub> and Li<sub>0.5</sub>Cu<sub>0.5</sub>TaO<sub>3</sub> (Tokai University) ○OKAZAKI Yurika •(Gakushuin University) UEDA Koichiro •(Tokai University) KATSUMATA Tetsuhiro\*
- 2A09 Relationship between Curie temperature and tolerance factor in layered perovskite ferroelectrics (Kyoto University) ○YOSHIDA Suguru •(Kyushu University) AKAMATSU Hirofumi •(Kyoto University) TSUJI Ryosuke •(Univ Rennes) HERNANDEZ Olivier •(Pennsylvania State University) PADMANABHAN Haricharan •SEN GUPTA Arnab •(Rutherford Appleton Lab) GIBBS Alexandra •(Nagoya Institute of Technology) MIBU Ko •(Kyoto University) MURAI Shunsuke •(Pennsylvania State University) GOPALAN Venkatraman •(Kyoto University) TANAKA Katsuhisa •FUJITA Koji\*

## ■ ■ September 06 (Thu) (Room B) ■ ■

### 12.Global Innovation by Ceramic Coating

#### 我が国の CMC および EBC の動向

(9:00) (Chairman 北岡諭)

- 2B01 ★ Research and development of CMCs and EBCs (Katayanagi Institute, Tokyo University of Technology) ○KAGAWA Yutaka\*
- 2B03 ☆ In-situ observation of high-speed MI(Melt infiltration) (IBIDEN CO.,LTD.) ○KATO Hideo•ITO Takashi•KAWAGUCHI Akihide•TAKAGI Takashi•IWATA Yoshiyuki•KUBO Syuichi
- 2B04 ☆ Cross-section observation of the specimen manufactured by high-speed MI(Melt infiltration) (IBIDEN.CO.,LTD) ○ITO Takashi•KATO Hideo•KAWAGUCHI Akihide•TAKAGI Takashi•IWATA yoshiyuki•KUBO Syuichi

#### SiC 系 CMC

(10:20) (Chairman 垣澤英樹)

- 2B05 ☆ Advanced Melt Infiltration (MITSUBISHI HEAVY INDUSTRIES AERO ENGINES, LTD.) USHIDA Masanori•FUKUSHIMA Akira•○NOGAMI Ryoma•TAMUGI Azusa•(MITSUBISHI HEAVY INDUSTRIES) NISHIKAWA Kosuke
- 2B06 Stress Analysis of SiC Monofilament using Raman Spectroscopy (Tokyo University Of Technology) ○KOYAMA Tomohiro•FUKUSIMA Naoki•ARAI Yutaro•IWASAKI Masako•FULUI Mitsuki\*•SATO Mitsuhiko•KAGAWA Yutaka
- 2B07 ☆ Mechanical properties of the SiC-based fibers effected by different heat treatment conditions (IHI Corporation) ○KANAZAWA Shingo•KISHI Tomonori•KUBUSHIRO Keiji•NAKAMURA Takeshi

#### 酸化物系 CMC

(11:20) (Chairman 和田匡史)

- 2B08 ☆ Development of Oxide Matrix Composites for Aero Engines (Mitsubishi Heavy Industries Aero Engines, Ltd.) USHIDA Masanori•○FUKUSHIMA Akira\*•NOGAMI Ryouma•TAMUGI Azusa•(Mitsubishi Heavy Industries, Ltd.) NISHIKAWA Kosuke•KURIMURA Takayuki•MATSUMOTO Mineaki•(National Institute for Materials Science) KAKIZAWA Hideki•(Art Kagaku Co., Ltd.) HASEGAWA Yoshio•(Nitivy Co., Ltd.) KUMETA Kazuhiro
- 2B09 Fabrication and mechanical properties of Al<sub>2</sub>O<sub>3</sub>/Al<sub>2</sub>O<sub>3</sub> fiber bundle composites. (Tokyo University of Science•JAXA Institute of Space and Astronautical Science) ○YAMAMOTO Shohei•GOTO Ken\*•(Tokyo University of Science) KOGO Yasuo•INOUE Ryo

### S3.Creation of innovative component devices by advanced materials and processes - Realization of high performance long-term reliability

(14:40) (Chairman 鈴木達)

- 2B18 ◆ Research and development of ceramics through the academic field of interface mechanics (Tokyo University of Technology) ○KAGAWA Yutaka
- 2B21 ★ Development of metal/ceramics nanocomposite (Toshiba Corporation) ○HARADA Kouichi
- (16:20) (Chairman 三村憲一)
- 2B23 ★ Potentiality of SOFCs for Electro-actuation of Airplane System (Chubu University) ○HASHIMOTO Shin-ichi
- 2B25 ★ All-solid-state battery - Developments of lithium solid electrolytes and ceramic batteries (Tokyo Institute of Technology) ○KANNO Ryoji\*

## ■ ■ September 06 (Thu) (Room C) ■ ■

### 10. Ceramics technology for next generation power electronics

#### (9:00) (Chairman 武田博明)

2C01 Development of the high temperature resistor (AIST) UZAWA Yuko • NAKAJIMA Tomohiko • SUZUKI Muneyasu • YAMAGUCHI Iwao • NOMOTO Junichi • TSUCHIYA TETSUO

#### (9:20) (Chairman 真部高明)

2C02 The origin of piezoelectricity of melilite-type single crystals (Tokyo Institute of Technology) Ousui haruki\* • hoshina takuya • takeda hiroaki\* • turumi takaaki

#### (9:40) (Chairman 武田博明)

2C03 ★ Enhancing characteristics of oxide field-effect transistors by thin-film synthesis and interface engineering (Tohoku University) ○FUJIWARA Kohei\* • TSUKAZAKI Atsushi

#### (10:20) Break

#### (10:40) (Chairman 真部高明)

2C06 ★ The Direction of Dielectric Materials for the Multi-Layer Ceramic Capacitors to Use Resonant Circuits for Wireless Power Transfer (Murata Manufacturing Co., Ltd.) ○Naito Masahiro • Ogawa Yuya • Isota Shinya • Okamoto Tetsuo • Nada Kenichi • Sano Harunobu

#### (11:20) (Chairman 中村吉伸)

2C08 Electro-acoustical constants and acoustic wave propagation characteristics of calcium aluminate silicate  $\text{Ca}_2\text{Al}_2\text{SiO}_7$  single crystals (Tokyo Institute of Technology) ○TAKEDA Hiroaki\* • AKIMOTO Kyohei • OSHIMA Takuto • (Shizuoka University) KONDOH Jun • (Tokyo Institute of Technology) MATSUTANI Akihiro • HOSHINA Takuya • TSURUMI Takaaki

2C09 Sintering mechanism in high thermal- and oxidation- durable  $(\text{Ba},\text{Sr})\text{RuO}_3$  conducting ceramics —Role of a small amount of  $\text{CuO}$  and  $\text{SiO}_2$ — (The University of Tokyo) ○NOGUCHI Yuji\* • (Tokyo Institute of Technology) TADA Masaru • (The University of Tokyo) KITANAKA Yuuki • MAKI Hisashi • MIYAYAMA Masaru

## ■ ■ September 06 (Thu) (Room D) ■ ■

### 08. New trend of engineering ceramics

#### SiC 複合材料

#### (9:00) (Chairman 吉田克己)

2D01 ★ Present / Past / Future of SiC fiber from business point of view (NGS Advanced Fibers Co., Ltd.) ○Okamura Mitsuyasu

2D03 Development of Production Process of SiC/SiC composites for High Efficiency Aircraft Engine (1) Project Overview (Kyoto University) ○HINOKI Tatsuya • (Marui Orimono Co., Ltd.) KANAYAMA Takuo • YAMAOKA Koutarou • EDANO Akira • (Fujimi Incorporated) OOGITANI Satoshi • FUKUHARA Shunsuke • KAMOSHIDA Keigo • (National Institute for Materials Science) SHIMODA Kazuya • (Kobe Material Testing Laboratory Co., Ltd.) TSURUI Nobuhito

2D04 Development of Production Process of SiC/SiC composites for High Efficiency Aircraft Engine (2) The Development of 2D Woven Technology for High Temperature Grade Silicon Carbide Continuous Fiber (MARUI ORIMONO Co., Ltd.) ○Kanayama Takuo • Yamaoka Koutarou • Edano Akira • Igawa Kouhei

#### (10:20) Break

#### (10:40) (Chairman 山田鈴弥)

2D06 Development of Production Process of SiC/SiC composites for High Efficiency Aircraft Engine (3) Development of prepreg (FUJIMI INCORPORATED) ○KAMOSHIDA Keigo • KATO Akihiro • TAGUCHI Soma • TOUJINBARA Kazuma • ARATANI Shin • MIWA Naoya • ASHITAKA Keishi • OGITANI Satoshi • (National Institute for Materials Science) SHIMODA Kazuya • (Kyoto University) HINOKI Tatsuya

2D07 Development of Production Process of SiC/SiC composites for High Efficiency Aircraft Engine (4) Development of BN particle dispersed SiC composites (KYOTO UNIVERSITY) ○KAWASAKI KANJIRO • SHINODA FUJIO • HASHIMOTO AKIRA • HINOKI TATSUYA

2D08 Development of Production Process of SiC/SiC composites for High Efficiency Aircraft Engine (5) Fatigue life evaluation of particle dispersed SiC composites (Kobe Material Testing Laboratory Co., Ltd.) ○TSURUI Nobuhito\* • HOKARI Shota • (Kyoto University) HINOKI Tatsuya • KAWASAKI Kanjiro • SHINODA Fujio

2D09 Improvement of High Temperature Strength of  $\text{HfB}_2$ -SiC Composite (National Institute for Materials Science) ○GUO Shuqi • PING De-Hai • NISHIMURA Toshiyuki

## ■■September 06 (Thu) (Room E) ■■

### 09. Novel ceramic technology based on nanocrystals

(9:00) (Chairman 杉山直大)

- 2E01 Oriented oxide film from metal hydroxide quasi-single crystal (Osaka Prefecture University) ○OKADA Kenji·SHIRASHIKI Shuhei·TOKUDOME Yasuaki·TAKAHASHI Masahide
- 2E02 Thermal stability and solid acid catalytic property of spiky-shaped niobium oxide nanoparticles (Nagoya Institute of Technology) ○FUCHIGAMI Teruaki\*·KURODA Mami·KIMATA Ryosuke·YAMAMOTO Hayato·NAKAMURA Shuichi·HANEDA Masaaki·KAKIMOTO Ken-ichi

(9:40) (Chairman 谷口貴章)

- 2E03 Weatherable Coating using Metal Oxide Nanoparticles (3M Japan Limited) ○IHARA Taiki\*·Sugiyama Naota
- 2E04 UV curable hardcoat using surface modified nanoparticle (3M Japan Limited) ○SUGIYAMA NAOTA\*·IHARA TAIKI

(10:20) Break

(10:40) (Chairman 上野慎太郎)

- 2E06 ★ A New Intercalation and Exfoliation Chemistry for Organic/Inorganic Layered Materials (Keio University·JST PRESTO) ○OAKI Yuya\*

(11:20) (Chairman 佐藤和好)

- 2E08 Structure analysis of TiO<sub>2</sub> and WO<sub>3</sub> quantum dots by using surface enhanced Raman spectroscopy (Tokyo Metropolitan Industrial Technology Research Institute) ○WATANABE Hiroto\*·(Keio University) IMAI Hiroaki
- 2E09 Thin-film metamaterials based on metal oxide nanosheets: fabrications and applications to electromagnetic shielding (National Institute for Materials Science) ○TANIGUCHI Takaaki\*·Li Shisheng·Takehira Hiroshi·(National Institute for Materials Science·Nagoya University) Osada Minoru

## ■■September 06 (Thu) (Room F) ■■

### 22. Smart Sensor Materials - Sensors and Actuators

(9:00) (Chairman 橋新剛)

- 2F01 Preparation of cobalt oxide particles with nano-sized pores and gas sensor properties (National Institute of Advanced Industrial Science and Technology) ○AKAMATSU Takafumi·ITOH Toshio·Masuda Yoshitake·Shin Woosuck·Matsubara Ichirou·(NGK Spark Plug Co.,Ltd.) Kida Masahito
- 2F02 Local structure and ionic conductivity of (Li, La)NbO<sub>3</sub> polycrystals (The University of Tokyo) ○Kawahara Kazuaki·Ishikawa Ryo·Nakayama Kei·Higashi Takuma·(Japan Fine Ceramics Center) Kimura Teiichi·Ikuhara Yumi·(The University of Tokyo·Japan Fine Ceramics Center) Shibata Naoya·Ikuhara Yuichi
- 2F03 Effect of N<sub>2</sub> annealing on electrical characteristics of Ca<sub>2</sub>AlMnO<sub>5+δ</sub>-based ceramics. (Nagaoka University of Technology) ○ikedate shuhei·okamoto tomoitirou\*
- 2F04 Material design for new LiNbO<sub>3</sub>-type piezoelectric material by first-principles calculation (CRIEPI) ○Nakamura Kaoru·Ohnuma Toshiharu

(10:20) Break

(10:40) (Chairman 西堀麻衣子)

- 2F06 ★ In situ synchrotron X-ray diffraction study of supercritical solvothermal synthesis of nano-particle. (University of Tsukuba) ○NISHIBORI Eiji

(11:20) (Chairman 渡邊賢)

- 2F08 Evaluation of reaction of volatile organic compounds on semiconductive gas sensor materials for smell monitoring (National Institute of Advanced Industrial Science and Technology (AIST)) ○ITOH Toshio·(National Institute of Advanced Industrial Science and Technology (AIST)·Nagoya Institute of Technology) OTSUKA Chiaki·(National Institute of Advanced Industrial Science and Technology (AIST)) AKAMATSU Takafumi·SHIN Woosuck·(Nagoya Institute of Technology) KASUGA Toshihiro
- 2F09 Disaster prediction by tin oxide coated carbon nanotube sensor (Kumamoto University) ○HASHISHIN Takeshi\*·MATSUDA Motohide·KUBOTA Hiroshi

## ■ ■ September 06 (Thu) (Room G) ■ ■

### 03.Synthesis and Functionalities of Mixed Ion Compounds

(9:00) (Chairman 朝倉裕介)

- 2G01 Epitaxial Growth of Oxynitride Thin Films by Dynamic Aurora PLD (Shizuoka University) ○KAWAGUCHI Takahiko·Aoshima Futa·Sakamoto Naonori·Suzuki Hisao·Wakiya Naoki
- 2G02 Nitrogen doping into indium oxide thin film using an amide solution (Hokkaido University) ○Naruse Masahiro·Miura Akira\*·Rosero-Navarro Nataly Carolina·(Nissan Chemical Industries) Isaji Tadayuki·Maeda Shinichi·Fujimoto Osamu·(Hokkaido University) Tadanaga Kiyoharu

### S1.Inorganic Materials Innovation

(9:40) (Chairman 手嶋勝弥)

- 2G03 ★ New methodology for the preparation of zeolites (The University of Tokyo) ○WAKIHARA TORU

(10:20) Break

(10:40) (Chairman 荻野拓)

- 2G06 ★ Materials Science of High-Density Hydrides -Starting-up the Scientific Research on Innovative Areas HYDROGENOMICS- (Tohoku University) ○ORIMO Shin-ichi\*

(11:20) (Chairman 加藤丈晴)

- 2G08 ★ Exploration of Novel Ion-Conductive Ceramics using Microscopy and Diffractometry toward Innovative Functions (Nagoya Institute of Technology) ○FUKUDA Koichiro

### 03.Synthesis and Functionalities of Mixed Ion Compounds

(14:20) (Chairman 本橋輝樹)

- 2G17 ◆ Novel inorganic materials design utilizing mixed anion effect (Osaka University) ○IMANAKA Nobuhito\*

(15:20) (Chairman 鱒淵友治)

- 2G20 New hydride conductors with anion ordered  $K_2NiF_4$ -type structures (Institute for Molecular Science) ○TAKEIRI Fumitaka·(Institute for Molecular Science·Tokyo Institute of Technology) WATANABE Akihiro·(Institute for Molecular Science·SOKENDAI) HAQ Nawaz·(KEK) YONEMURA Masao·(Tokyo Institute of Technology) KANNO Ryoji·(Institute for Molecular Science·SOKENDAI) KOBAYASHI Genki
- 2G21 Ionic conduction in Fluoro-apatites (Chuo University) ○OKA Kengo·OH-ISHI Katsuyoshi·(Gakushuin University) FUNAYAMA Koki·UEDA Koichuro·INAGUMA Yoshiyuki
- 2G22 Structural and transport properties of Ag-Bi-I (京都大学) ○Koedtrud Anucha·Goto Masato·Saito Takashi·Kan Daisuke·Shimakawa Yuichi\*

## ■ ■ September 06 (Thu) (Room H) ■ ■

### 05.Advanced Structure Science and the Analytical Techniques

(9:00) (Chairman 加藤丈晴)

- 2H01 ☆ Characterization of crystal interfaces by measuring local lattice distortions using scanning transmission electron microscopy (Japan Fine Ceramics Center) ○KOBAYASHI Shunsuke·UKYO Yoshio·(Japan Fine Ceramics Center·The University of Tokyo) IKUHARA Yuichi
- 2H02 A study of the relationship between local structure and Li-ion conductivity of LLTO grain boundary (The University of Tokyo) ○SASANO Shun·ISHIKAWA Ryo·(Hokkaido University) OHTA Hiromichi·(The University of Tokyo·Japan Fine Ceramics Center) SHIBATA Naoya·IKUHARA Yuichi\*

(14:20) (Chairman 藤井孝太郎)

- 2H17 ★ Local ordering and functionality in functional materials (Osaka Prefecture University) ○MORI Shigeo\*
- 2H19 ☆ Grain boundary structures and excess free energy in MgO (Nagoya University) ○YOKOI Tatsuya·ARAKAWA Yuki·NAKAMURA Atsutomo·MATSUNAGA Katsuyuki

(15:20) (Chairman 小林俊介)

- 2H20 Proton Trapping in Yttrium-Doped Barium Zirconate: A First-Principles Study (Kyoto University) ○TOYOURA Kazuaki·MENG Weijie·UDA Tetsuya
- 2H21 Oxygen ion conduction mechanisms of neodymium silicate apatite electrolytes from first principles calculations (Nagoya University·Toho Gas co., Ltd.) ○OGURA Yusuke·(Nagoya University) YOKOI Tatsuya·MATSUNAGA Katsuyuki\*·(Kyoto University) TOYOURA Kazuaki
- 2H22 A new structure family of oxide-ion conductor  $Ca_{0.8}Y_{2.4}Sn_{0.8}O_6$  discovered by a combined technique of the bond-valence method and experiments (Tokyo Institute of Technology) ○YASHIMA Masatomo\*·INOUE Ryota·SHIRAIWA Masahiro·FUJII Kotaro·NIWA Eiki

## ■■September 06 (Thu) (Room J) ■■

### 24.Random Materials - Function and Physical Property Correlated with the Structure

#### フォトニクス

##### (9:00) (Chairman 高橋 儀宏)

- 2J01 Structure and the emission property of Mn-doped zinc phosphate glasses (National Institute of Advanced Industrial Science and Technology) ○MASAI Hirokazu (Nara Institute of Science and Technology) OKADA Go • KAWAGUCHI Noriaki • YANAGIDA Takayuki (Japan Synchrotron Radiation Research Institute) OFUCHI Hironori • OHARA Koji (Chiba University) OHKUBO Takahiro (Ritsumeikan University) FUJII Yasuhiro • KOREEDA Akitoshi
- 2J02 Impact of rare earth ions on crystallization behavior of BaF<sub>2</sub>-ZnO-B<sub>2</sub>O<sub>3</sub> glasses (National Institute of Advanced Industrial Science and Technology) ○SHINOZAKI Kenji • AKAI Tomoko
- 2J03 Preparation and fluorescence properties of Mn<sup>4+</sup> doped GeO<sub>2</sub>-SrO glass-ceramics (National Institute of Technology, Suzuka College) ○YAMASHITA You • WADA Noriyuki\* (Ritsumeikan University) KOJIMA Kazuo
- 2J04 Synthesis of ferroelastic β'-Gd<sub>2</sub>(MoO<sub>4</sub>)<sub>3</sub> bulk glass-ceramics by melt slow cooling method and their characterization (Nagaoka University of Technology) ○TSUCHIYA Hiroki • HONMA Tsuyoshi • KOMATSU Takayuki\* (BAM Federal Institute for Materials Research and Testing) RALF Mullar

##### (10:20) Break

#### 結晶化・ガラスセラミックス

##### (10:40) (Chairman 篠崎 健二)

- 2J06 ★ Development of glass-ceramics in NEG (Nippon Electric Glass Co., Ltd) ○FUJITA Shunsuke
- 2J08 Formation of transparent glass-ceramics in Na<sub>2</sub>O-MO-SiO<sub>2</sub> system (Nagaoka Univ. Tech.) ○TERASAWA Miyuri • HONMA Tsuyoshi\* • KOMATU Takayuki
- 2J09 Control of crystallization behavior of 33Li<sub>2</sub>O-67SiO<sub>2</sub> (mol%) supercooled liquid on platinum substrate (Tohoku University) ○Tashiro Masanori • Sukenaga Sohei • Shibata Hiroyuki

##### (14:40) (Chairman 正井 博和)

- 2J18 Development of transparent, high thermal conductivity glass composites by precipitation of saturated MgO. (The University of Tohoku) ○yoshimine toshikazu • kozawa ryusei • terakado nobuaki • takahashi yoshihiro • fujiwara takumi\*
- 2J19 Development of ultra-lightweight and thermally-stable space optics using low thermal expansion ceramics (Japan Aerospace Exploration Agency) ○KAMIYA Tomohiro • MIZUTANI Tadahito
- 2J20 Evaluation of changes in physical properties of low thermal expansion ceramics and glass induced by radiation (Japan Aerospace Exploration Agency) ○UENO Haruka • KAMIYA Tomohiro • MIZUTANI Tadahito
- 2J21 Crystallization behavior of bismuth borate glass in hydrogen atmosphere (Nagaoka Univ. Tech.) ○HONMA Tsuyoshi\* • OMORI Yusuke • KOMATSU Takayuki

## ■■September 06 (Thu) (Room L) ■■

### 13.Chemical Design - Advanced materials based on chemical control of reactions and structures -

##### (9:00) (Chairman 伴 隆幸)

- 2L01 Evaluation of reactivity of silanol groups in phenyl-methyl siloxane oligomer (Osaka prefecture University) ○KINO Daisuke • OKADA Kenji • TOKUDOME Yasuaki • TAKAHASHI Masahide\*
- 2L02 Preparation of transparent thick films of phenylsilsesquioxane with SiO<sub>2</sub> filler (Hokkaido University) ○INOUE Yuta • Rosero-Navarro Nataly Carolina • MIURA Akira • TADANAGA Kiyoharu\* (Kansai University) KASASAKU Mamoru • KOUDUKA Hiromitsu • (LIXIL Corporation) YONEDA Hirokazu • SHINKAI Seiji
- 2L03 Effect of Molecular Design of Alkoxide-derived Precursor on Low-temperature Crystallization of α-Al<sub>2</sub>O<sub>3</sub> (Shizuoka University) ○NAKAMURA Asuka • SUZUKI Shogo • SUZUKI Saki • KAWAGUCHI Takahiko • SAKAMOTO Naonori • WAKIYA Naoki • SUZUKI Hisao\*

## ■ ■ September 06 (Thu) (Room M) ■ ■

### 14. Hybrid materials: Science and function enhanced by hybridization

#### 熱物性の改良

(9:20) (Chairman 高見剛)

- 2M02 Property evaluation of Al/SiC Metal Matrix Composites (Mitsubishi Electric corporation) ○MASAMI KUME・ITO Youhei  
2M03 Preparation and properties of  $Zr_2SP_2O_{12}$ /polymer composites with low thermal expansion coefficient (Tokyo Institute of Technology)  
○ADACHI Yuri・ISOBE Toshihiro\*・MATSUSHITA Sachiko・NAKAJIMA Akira

### S4. New trends in bottom-up processes for ceramics and hybrid materials

(10:00) (Chairman 松田厚範)

- 2M04 ★ Carbon nanotubes as an energy conversion material (International Institute for Carbon-Neutral Energy Research, Kyushu University)  
○NAKASHIMA Naotoshi  
2M06 ☆ Complex three dimensional nanostructure: synthesis through bridging ligand-assisted hydrothermal treatment (Nagoya Institute of Technology) ○FUCHIGAMI Teruaki\*・KAKIMOTO Ken-ichi

(11:00) (Chairman 菅原義之)

- 2M07 ★ New Hybrid Materials (Kyoto University) ○CHUJO Yoshiki  
2M09 ☆ Development of hybrid reverse osmosis membrane based on structural design of organosilica precursors (Tokyo University of Science)  
○YAMAMOTO Kazuki

(14:20) (Chairman 瀬川浩代)

- 2M17 ★ Material and Device Designs by Computational Science: High-Throughput Developments of Highly-Efficient Organic Light-Emitting Materials and Devices (Kyoto University) ○KAJI Hironori\*  
2M19 ☆ Synthesis of Bridged Poly(silsesquioxane) Gels towards Porous Non-oxide Ceramics (Kyushu University) ○HASEGAWA George

## ■ ■ September 06 (Thu) (Room N) ■ ■

### 06. The Forefront of Powder Processing for Development of Advanced Ceramics

#### 構造制御と機能化Ⅱ

(9:00) (Chairman 下之菌太郎)

- 2N01 Development of spray drying system with improved powder recovery rate in lower of drying chamber (Preci Co.Ltd.) ○KAWAGUCHI Shinya・KATO Shinsuke・SATO Takayuki・MISUMI Yuichi・HONBO Takanobu  
2N02 Characterization of porous alumina sintered using spherical porous powder as raw material (Japan Fine Ceramics Center) ○TAKAHASHI Seiji\*・SUEHIRO Satoshi・OKAWA Hajime・KIMURA Teiichi

(9:40) (Chairman 嶋村彰紘)

- 2N03 Fabrication of Solid Crosslinked Silica using Non-firing Process and Strength Development Mechanism (Nagoya Institute of Technology)  
○ISHIDA Hajime・RAZAVI-KHOSROSHAHI Hadi・TAKAI Chika・ISHIHARA Masahiro・FUJI Masayoshi\*

(10:00) Break

- 2N05 Mechanical and Thermal Properties of Porous Yttria-Stabilized Zirconia (Kagoshima University) ○SHIMONOSONO Taro・UENO Takuya・HIRATA Yoshihiro

(10:40) (Chairman 冨永雄一)

- 2N06 Fabrication and thermal conductive characterization of silicon carbide ceramics using non-firing solidification process (Nagoya Institute of Technology) ○HORI Masahiro・TAKAI Chika・RAZAVI-KHOSROSHAHI Hadi・ISHIHARA Masahiro・HONJO Yumiko・FUJI Masayoshi\*  
2N07 Fabrication of non-firing ceramic in consideration of packing state of particles (Gifu Prefectural Ceramics Research Institute) ○OBATA Seizo・TATEISHI Kenji・(Nagoya Institute of Technology) Razavi-Khosroshahi Hadi・TAKAI Chika・FUJI Masayoshi  
2N08 ★ Rapid Prototyping of ceramic core using 3D-Printer (NORITAKE CO., LIMITED) ○KAWAHARA Akihiro・HORI Kenjiro・MIYAJIMA Keita

#### スラリーの設計と評価

(14:20) (Chairman 島本太介)

- 2N17 Numerical simulation analysis of the particle packing in slip casting (The University of Tokyo) ○TATSUMI Rei・(Products Innovation Association) KOIKE Osamu・YAMAGUCHI Yukio・(The University of Tokyo) TSUJI Yoshiko  
2N18 Design of poly(acrylic acid)-oleyl amine complex toward dispersion control of nonaqueous slurries (Yokohama National University)  
○MORITA Seitaro・IJJIMA Motoyuki\*・TATAMI Junichi  
2N19 Effect of dispersion differences of high concentration slurries using BN nanoparticles on formation of particle aggregation by the time (National Institute for Materials Science (NIMS)) ○SHIMODA Kazuya・YOSHIHARA Hiromi・(MARUKA) KATO Hiroyasu

(15:20) (Chairman 高井千加)

- 2N20 Effect of Chemical Structures of additive on Dispersibility of Hexagonal Boron Nitride Particles (National Institute of Advanced Industrial Science and Technology) ○TOMINAGA Yuichi\*・HOTTA Yuji  
2N21 ★ Multi-lateral characterization of various kinds of materials by gas adsorption and LDSA (MicrotracBEL Corp.) ○YOSHIDA Masayuki\*

## ■ ■ September 06 (Thu) (Room P) ■ ■

12:20-14:20

### 22.Smart Sensor Materials - Sensors and Actuators

- 2P01 Lamination thickness of MnO<sub>2</sub> nanosheet thin-film and its hydrogen gas response (Tokyo University of Science) ○ Mizukoshi Hideyuki·Aimi Akihisa·(National Institute of Advanced Industrial Science and Technology) Yamaguchi Yuki·(Tokyo University of Science) Fujimoto Kennjiro\*
- 2P02 Synthesis of porous silica and catalytic activity of supported Pd catalyst for CH<sub>4</sub> oxidation (Nagoya Institute of Technology) ○ ITO Yoshitaka·HANEDA Masaaki\*
- 2P03 Dry etching of strain sensitive multilayered thin films for high-temperature pressure sensors (Osaka Research Institute of Industrial Science and Technology) ○ KAKEHI Yoshiharu·SATO Kazuo·KANAOKA Yusuke·(Nippon Liniax Co., Ltd.) MATSUMOTO Mitsuteru·INOUE Masayuki·DOTE Yasunari·TAKADA Suguru
- 2P04 Exploring of the Zirconium Oxide Based Afterglow Phosphors (Tokyo University of Science) ○ TAKAHASHI Hiroaki·AIMI Akihisa·FUJIMOTO Kenjiro\*

### 99\_01.Functions of Ceramics and Related Fields

- 2PF01 The effect of M(Cu,Ni) addition on the sinterability and electrical property of Sr(Zr,Y)O<sub>3-α</sub> (Meijo University) ○ SASAKI Masaya\*·TOYA Ryota·IKEBE Yumiko·BAN Eriko
- 2PF02 Sinterability and electrical conductivity of SrZrO<sub>3</sub> co-doped with In and M (Zn, Co) (Meijo University) ○ TOYA Ryota\*·SASAKI Masaya·IKEBE Yumiko·BAN Eriko
- 2PF03 Behavior of Fe thin films deposited on metal, silicon, and glass substrate using vacuum arc deposition (Nagasaki University) ○ SHIRAIWA Yuto·INOUE Naoya·YAMASHITA Akihiro·YANAI Takeshi·NAKANO Masaki\*·HUKUNAGA Hirotooshi
- 2PF04 Various properties of R(Nd or Pr)-Fe-B thick-film magnets deposited on glass and Si substrates using PLD (Nagasaki University) ○ OMOTO Masataka·TAKEICHI Shyou·YAMASHITA Akihiro·YANAI Takeshi·NAKANO Masaki\*·HUKUNAGA Hirotooshi
- 2PF05 Changes in the electronic conductivities of metal-dispersed Ti<sub>2</sub>O<sub>3</sub> composites due to the metal-insulator transition (Tokyo University of Science) ○ KOGA Yusaku·TAKEMOTO Shoji·KAYAMA Yuki·SHIOJIRI Daishi\*·IIDA Tsutomu\*
- 2PF06 Mechanical properties of Mg<sub>2</sub>Si prepared by plasma active sintering method (Tokyo University of Science) ○ FUJII Yuki·SHIOJIRI Daishi\*·IIDA Tsutomu\*
- 2PF07 The influences of precious metal additives on the hydrogen sensing properties of Co<sub>3</sub>O<sub>4</sub> nanoparticulate films (National Institute of Advanced Industrial Science and Technology) ○ KOGA Kenji
- 2PF08 Experimental study of perovskite BNT-base ferroelectric solid solutions. (Fukuoka University) ○ ASAKURA Kazuki·KIBA Kazumasa·(JAEA) SAITO Jun-ichi·(Fukuoka University) TAKESUE Naohisa\*
- 2PF09 Experimental study of perovskite BT-BZ base ferroelectric solid solitons (Fukuoka University) ○ KIBA Kazumasa·ASAKURA Kazuki·(JAEA) SAITO Jun-ichi·(Fukuoka University) TAKESUE Naohisa\*
- 2PF10 Surface treatment of aluminum nitride for epoxy composites with enhanced thermal conductivity (Nagoya University) ○ YASUDA Takumi·UJIHARA Toru\*·HARADA Shunta·TAKEUCHI Yukihisa
- 2PF11 Properties of nanoparticle-fabricated bulk dielectrics (Fukuoka University) ○ TAKESUE Naohisa·KIBA Kazumasa·ASAKURA Kazuki·(Japan Atomic Energy Agency) SAITO Jun-ichi
- 2PF12 Ni-based alloy electrodes for thermoelectric Mg<sub>2</sub>Si modules (Tokyo University of Science) ○ SHIOJIRI Daishi·IKEDA Kai·KAITA Koki·KAWAMURA Tomoya·IIDA Tsutomu

### 99\_02.Process of Ceramics and Related Fields

- 2PF13 Effect of ammonia nitridation conditions on synthesis of titanium nitride nano-particles by direct nitridation of titanium oxide (Shibaura Institute of Technology) ○ ALHUSSAIN Hanan·MISE Takuto·MATSUO Yasuyuki·KIYONO Hajime\*
- 2PF14 Synthesis of boron doped diamond by arc discharge (National Institute of Technology, Hachinohe College) ○ SAITO Takayuki·GAMATA Yoshiki·KAWAMURA Syunsuke·FUKUMATU Takahiro
- 2PF15 Development of dispersant for nanoparticles (NOF CORPORATION) ○ Yoshikawa Fumitaka·Honda Takuya·Oda Kazuhiro·Matsui Tatsuya
- 2PF16 Development of Acrylic Polymer for Conductive Paste (NOF CORPORATION) ○ TANAKA Masahiro·NAGASAWA Atsushi·YAMADA Akihiro·SAKAMOTO Nobuyuki·MARUYAMA Kei-ichi
- 2PF17 Low temperature formation of polysilazane-derived high gas barrier film on organic film with heat-resistance by photo irradiation (Shibaura Institute of Technology) ○ ICHIKAWA Kosei·OHISHI Tomoji\*
- 2PF18 Preparation and gas barrier characteristics of polysilazane-derived SiO<sub>2</sub> thin films on organic film using photoirradiation (Shibaura Institute of Technology) ○ Isono Satoki\*·Ohishi Tomoji\*

### 99\_03.Structure and Analysis of Ceramics and Related Fields

- 2PF19 Preparation, crystal structure analysis and characterization of new compounds in the TiO<sub>2</sub>-Ga<sub>2</sub>O<sub>3</sub>-Bi<sub>2</sub>O<sub>3</sub> system (Tohoku University) ○ Yagi Ryota·Yamane Hisanori\*·(Hokkaido University) Masubuchi yuji
- 2PF20 The cation site preference in Al<sub>2(1-x)</sub>Ga<sub>2x</sub>TiO<sub>5</sub> solid solution series (Nihon University) ○ Sunaga Mao·Sugimoto Takayuki·Fujimori Hiroki\*
- 2PF21 Hydrothermal synthesis and characterization of a new sodium bismuth oxide (University of Yamanashi) ○ AKUTSU Shuhei·KUMADA Nobuhiro\*·YANAGIDA Sayaka·TAKEI Takahiro·(Tohoku University) YAMANE Hisanori·(Kurashiki University of science and the arts) KUSANO Yoshihiro

### 24.Random Materials - Function and Physical Property Correlated with the Structure

- 2PJ01 In-situ observation of the evolution of phase separation in Ni<sup>2+</sup>-doped sodium borosilicate glass melts by optical absorption spectroscopy (The University of Shiga Prefecture) ○ IDE Kazuma·YAMADA Akihiro·YOSHIDA Satoshi·MATSUOKA Jun\*
- 2PJ02 Shear-induced structural changes and the densification in aluminosilicate glasses at room temperature (The University of Shiga Prefecture) ○ OSADA Kosei·YAMADA Akihiro\*·(Ritsumeikan University) YOSHIMURA Masashi·(The University of Shiga Prefecture) YOSHIDA Satoshi·MATSUOKA Jun
- 2PJ03 Changes of structure and physicochemical properties of silica and borosilicates by mechanochemical reaction (Kobe University) ○ KAJINAMI Akihiko·KYOGUCHI Takahiro·MORIUCHI Ryota·NARIAI Hiroyuki

- 2PJ04 The thermoelectric power measurement of alkali borate glass (Kyoto University) ○Kokubo Ryohei\*·Shimizu Masahiro·Kato Takeyuki·Shimotsuma Yasuhiko·Miura Kiyotaka
- 2PJ05 Viscosity of CaO-R<sub>2</sub>O-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub>(R=Na, K) melts (Tohoku University) ○Baba Shuhei·Sukenaga Sohei\*·(NIPPON STEEL & SUMITOMO METAL CORPORATION) Kanehashi Kouji·(Tohoku University) Shibata Hiroyuki
- 2PJ06 MD and RMC simulation on BaF<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub>-B<sub>2</sub>O<sub>3</sub> glasses and luminescence of Ce<sup>3+</sup> in the glasses (National Institute of Advanced Industrial Science and Technology) ○SHINOZAKI Kenji·(NARA Institute of Science and Technology) OKADA Go·(Tohoku University) SUKENAGA Sohei·SHIBATA Hiroyuki·(Japan Synchrotron Radiation Research Institute) OHARA Koji·(National Institute of Advanced Industrial Science and Technology) MASAI Hirokazu·(NARA Institute of Science and Technology) KAWAGUCHI Noriaki·YANAGIDA Takayuki
- 2PJ07 Emission properties of Pr-doped aluminosilicate glasses (National Institute of Advanced Industrial Science and Technology) ○MASAI Hirokazu·(Nara Institute of Science and Technology) OKADA Go·KAWAGUCHI Noriaki·YANAGIDA Takayuki

## 06.The Forefront of Powder Processing for Development of Advanced Ceramics

- 2PN01 Structural control of silica frame in the synthesis of skeletal silica nanoparticles using calcium carbonate coated with organic acid. (Nagoya Institute of Technology) ○IKEDA Hiroki·FUJIMOTO Kyoichi·TAKAI Chika·Hadi Razavi·ISHIHARA Masahiro·FUJI Masayoshi\*
- 2PN02 Preparation and shell thickness control of TiO<sub>2</sub> hollow particles with enhanced photocatalytic activity (Nagoya Institute of Technology) ○SHAO Wenhao\*·TAKAI Chika·Razavi-Khosroshahi Hadi·FUJI Masayoshi\*
- 2PN03 Influence of alkali treatment condition and low temperature foaming on Shirasu (Nagoya Institute of Technology) ○HAMASAKI Koichi·NAKAYAMA Ichiro·ISHIHARA Masahiro·TAKAI Chika·RAZAVI-KHOSROSHAHI Hadi\*·FUJI Masayoshi
- 2PN04 Functional improvement of low temperature sintered aluminum nitride ceramics by addition of AlN whisker (Tokyo City University) ○OKAZAKI Hiroya·KOBAYASI Ryota\*·HASHIMOTO Rei·(Tohoku University) HARATA Koichi·GOTO Takashi
- 2PN05 Bulk Characteristics of Alumina Powder Prepared by Spray Freeze Granulation Method (PRECI Co., Ltd.) ○MISUMI Yuichi·KAWAGUCHI Shinya·HOMBO Takanobu·(Malvern Panalytical, Spectris) HIRAMURA Yukiyo
- 2PN06 Effects on the Phase Formation and Mechanical Properties of Mo<sub>2</sub>NiB<sub>2</sub>-Ni based Cermets with CaO additive. (Tokyo City University) ○TAZAWA Takumi·TAKAHASHI Keiichiro·MARUYAMA Satofumi\*·FUJIMA Takuya·SHIRAKI Naoto
- 2PN07 Improved thermal insulation and mechanical properties of silica ceramics using cellulose nanofibers (Nagoya Institute of Technology) ○SUTHABANDITPONG WALAIORN·Takai Chika·Razavi-Khosroshahi Hadi·Fuji Masayoshi\*
- 2PN08 Effect of cellulose composition on silica ceramics using non-firing process (Nagoya Institute of Technology) ○Kawabata Hideaki·Takai Chika·Razavi-Khosroshahi Hadi·Fuji Masayoshi\*
- 2PN09 Effect of CNTs on morphology and electromagnetic properties of non-firing CNTs/silica composite ceramics (Nagoya Institute of Technology) ○PENG Bo·TAKAI Chika·Razavi-Khosroshahi Hadi·FUJI Masayoshi\*
- 2PN10 Improved Dispersion of ZrW<sub>2</sub>O<sub>8</sub> Particles via a Bead Milling Process using Small Beads (Tokyo Metropolitan Industrial Technology Research Institute) ○KOBAYASHI Hiroki·NAMIKI Hiromasa·SAKUMA Norikazu·TACHIBANA Naoki

## 07.Inhomogeneous engineering for excellent property and reliability of ceramics

- 2PN11 Evaluation of oxygen separation membrane layer composed of BSCF-based Mixed Ionic-Electronic Conductor (MIEC) fabricated by Sequential Electrophoretic Deposition (EPD) (Hokkaido university·National Institute for Materials Science) ○ISHII Kento·(National Institute for Materials Science) MATSUNAGA Chika·(Saint-Gobain CREE) Stevenson Adam J.·Tardivat Caroline·(Hokkaido university·National Institute for Materials Science) UCHIKOSHI Tetsuo\*
- 2PN12 Microstructure development and mechanical properties of zirconia/mica composites. (Shinshu University) ○Yamaguchi Issei·Yamakami Tomohiko·Yamaguchi Tomohiro·Taruta Seiichi\*
- 2PN13 Fabrication of c-axis-oriented Ba<sub>2</sub>NaNb<sub>5(1-x)</sub>Ta<sub>5x</sub>O<sub>15</sub> ceramics using colloid processing in high magnetic field (Nagaoka University of Technology) ○TANIKAWA Kazuki·TANAKA Satoshi\*·KAMO Yuta
- 2PN14 Fabrication of crystal-oriented rare-earth doped hydroxyapatite ceramics using magnetic field (Nagaoka University of Technology) ○ISHIZEKI Yuki·TANAKA Satoshi\*
- 2PN15 Microstructural Design of functionally graded materials by use of spherical composite aggregate. (Toyohashi University of Technology) ○INOUE Sota\*·NONOMURA Koki·TAN Wai Kian·KAWAMURA Go·MATSUDA Atsunori·MUTO Hiroyuki

## 18.Functional Materials Innovation through Energy Consumption Reduction Processing (Green Processing)

- 2PQ01 Fabrication of LiCoO<sub>2</sub> positive electrode for Li-ion rechargeable batteries by a pulsed electrophoretic deposition method (Shimane University) ○Mimaru Yu·Makinose Yuki·(Nagasaki University) Yamada Hirotohi·(The University of Tokyo) Mutai Toshiki·(Nagoya Institute of Technology) Ota Toshitaka·(Shizuoka University) Suzuki Hisao·(Shimane University) Miyazaki Hidetoshi\*
- 2PQ02 Room-temperature synthesis of wide-gap β-Ga<sub>2</sub>O<sub>3</sub> epitaxial thin film by UV photoexcitation (Tokyo Institute of Technology) ○MORITA Hiroyuki·OGA Tomoaki·(TOSHIMA Manufacturing) TSUCHIMINE Nobuo·(Kanagawa Institute of Industrial Science and Technology·Tokyo Institute of Technology) KANEKO Satoru·(Tokyo Institute of Technology) MATSUDA Akifumi·YOSHIMOTO Mamoru\*
- 2PQ03 Development of process for surface modification of Ta<sub>3</sub>N<sub>5</sub> photoanode using Roll Press method (Meiji University) ○Iijima Mai·Watanabe Tomoaki\*
- 2PQ04 Fabrication of BaNbO<sub>2</sub>N photoanode prepared from Ba<sub>5</sub>Nb<sub>4</sub>O<sub>15</sub> by hydrothermal synthesis (Meiji University) ○KURITA Kenji·ITO Mizuki·WATANABE Tomoaki\*
- 2PQ05 Fabrication of Ta<sub>3</sub>N<sub>5</sub> photoelectrode using KTaO<sub>3</sub> precursor derived from flux method (Meiji University) ○TAKEMURA Yuji·ITO Mizuki·WATANABE Tomoaki\*
- 2PQ06 Enabling NaTaO<sub>3</sub> to response to visible light by depositing Au nanoparticles (Meiji University) ○Misu Kaname\*·Watanabe Tomoaki\*
- 2PQ07 Synthesis and characterization of Ca<sub>2</sub>Nb<sub>3</sub>O<sub>10-x</sub>N<sub>x</sub> nanosheets photocatalyst by liquid phase method (Meiji University) ○Hirokawa Yuko·Watanabe Tomoaki\*
- 2PQ08 Low temperature synthesis and elucidation of formation mechanism for Perovskite-type (AA')(BB')O<sub>3</sub> (A, A' = Sr, Ba; B, B' = Ti, Zr) (Tokyo University of Science) ○AIMI Akihisa·OIKAWA Atsushi·ITO Shigeru·FUJIMOTO Kenjiro·(National Institute of Advanced Industrial Science and Technology) YAMAGUCHI Yuki
- 2PQ09 Design of Radiation Cooling device using Si<sub>2</sub>N<sub>2</sub>O (The University of Shimane) ○NOTSU Ryota·MIYAZAKI Hidetoshi\*·(The Nagoya Institute of Technology) OTA Toshitaka·(The University of Shizuoka) SUZUKI Hisao

## 16. Material Design and Processing Design

- 2PR01 Synthesis of spherical alumina and strontium aluminate particles by metal alkoxide method (Chiba University) ○KONISHI Yurie·KOJIMA Takashi\*·UEKAWA Naofumi
- 2PR02 Synthesis and process parameters of manganese violet pigment (University of Tsukuba) ○Kimura Saho·Suzuki Yoshikazu\*
- 2PR03 Preparation and characterization of NiCo<sub>2</sub>O<sub>4</sub> particles for supercapacitor (University of Tsukuba) ○Fukui Kazuki·(Osaka University) Abe Hiroya·(University of Tsukuba) Suzuki Yoshikazu\*
- 2PR04 Preparation and nanofilter application of porous spinel thin films (University of Tsukuba) ○KAMATO Yoko·SUZUKI Yoshikazu\*
- 2PR05 Synthesis of spherical zirconia and Zr-based perovskite-type oxide particles from hydrous zirconia (Chiba University) ○INAGAKI Misa·KOJIMA Takashi\*·YANAGIHARA Yuuya·UEKAWA Naohumi
- 2PR06 Hydrothermal synthesis of alkali metal titanate particles from hydrous titania and reconversion to titania (Chiba University) ○KIMURA Yuki·KOJIMA Takashi\*·UEKAWA Naohumi
- 2PR07 Influence of Flowability of Filament in Fabrication of Three-dimensional Zirconia Ceramics by Material Extrusion. (Kagawa Industrial Technology Center) ○KATAOA Yoshitaka·YOKOTA Kozo
- 2PR08 Morphology of nano-holes drilled in borates and aluminate silicates by single femtosecond pulsed laser irradiation (Akita University) ○INOUE Takuya·TAKAHASHI Tomoko·KODAMA Nobuhiro\*·(Osaka University) TUKAMOTO Masahiro
- 2PR09 Preparation of Cr-Al-Si intermetallic compounds using a Na flux and their thermoelectric properties (Tohoku University) ○MATSUDA Yukito·YAMADA Takahiro\*·YAMANE Hisanori\*
- 2PR10 Macrostructural control of ceramic-added composite polymer materials by use of wireframe template fabricated by 3D printing technique (Toyohashi University of Technology) ○OGASAWARA Ryota\*·TAN Wai Kian·KAWAMURA Go·MATSUDA Atsunori·MUTO Hiroyuki
- 2PR11 Analysis of Stress Electric Field Properties for Organic-Inorganic Hybrid Material (Nagaoka Univ of Tech) NAKAYAMA Tadachika\*·○Vu TRAN KHAC·Tokutake Sumito·Suematsu Hisayuki·Niihara Koichi
- 2PR12 Structural evaluation of functional ceramics by terahertz spectroscopy (nagaoka Univ of Tech) NAKAYAMA Tadachika\*·○Kai Kazuho·Suematsu Hisayuki
- 2PR13 Preparation of Oriented Sr<sub>3</sub>Co<sub>2</sub>Z hexaferrite sintered by Particle Morphology Control (University of Hyogo) ○KIKUCHI Takeyuki·ICHINO Genta·KOBUNE Masafumi·(Okayama University) NAKANISHI Makoto·FUJII Tatsuo
- 2PR14 Preparation and magnetic properties of boron carbonitride nanosheets (Hokkaido Univ.) ○LIU Wei·YANASE Takashi·NAGAHAMA Taro·SHIMADA Toshihiro\*

## 23. Photoceramics - Synthesis, Functions and Applications of Optical and Colorful Ceramics -

- 2PW01 Radiation response properties of Mg doped Al<sub>2</sub>O<sub>3</sub> Transparent Ceramic Prepared by SPS (Nara Institute of Science and Technology) ○KATO Takumi\*·OKADA Go·KAWAGUCHI Noriaki·YANAGIDA Takayuki
- 2PW02 Growth and characterization of the Nd-doped LiCaAlF<sub>6</sub> single crystal for high-dose dosimetry (NAIST) ○KAWAGUCHI Noriaki·NAKAUCHI Daisuke·OKADA Go·(Tokuyama Corp.) FUKUDA Kentaro·(NAIST) YANAGIDA Takayuki
- 2PW03 Scintillation properties of SrBr<sub>2</sub>:Eu transparent ceramics produced by the SPS method (Nara Institute of Science and Technology) ○KIMURA Hiromi·KATO Takumi·OKADA Go·KAWAGUCHI Noriaki·YANAGIDA Takayuki\*
- 2PW04 Dosimetric characteristics of undoped and Eu-doped AlN ceramics prepared by the SPS method (Nara Institute of Science and Technology) ○ONODA Yusuke·KIMURA Hiromi·KATO Takumi·OKADA Go·KAWAGUCHI Noriaki·YANAGIDA Takayuki\*·(Tokuyama Corp.) FUKUDA Kentaro
- 2PW05 Synthesis and evaluation of scintillation properties of Ce:CaHfO<sub>3</sub> single crystals (NAIST) ○Fukushima Hiroyuki\*·Nakauchi Daisuke·Okada Go·Kawaguchi Noriaki·Yanagida Takayuki
- 2PW06 Synthesis and evaluations of scintillation properties of Nd differently doped YLiF<sub>4</sub> single crystals (Nara Institute of Science and Technology) ○YANAGIDA Takayuki\*·OKADA Go·KAWAGUCHI Noriaki·(Tokuyama Corp.) FUKUDA Kentaro
- 2PW07 Scintillation properties of (Gd<sub>1-x</sub>Y<sub>x</sub>)AlO<sub>3</sub> single crystal doped with Nd by Floating Zone method (Nara Institute of Science and Technology) ○Akatsuka Masaki·Okada Go·Kawaguchi Noriaki·Yanagida Takayuki\*
- 2PW08 Photoluminescence and scintillation properties of Ce-doped Dy<sub>3</sub>Al<sub>5</sub>O<sub>12</sub> single crystals synthesized by the Floating Zone method (Nara Institute of Science & Technology) ○YOSHIDA Yasuki\*·OKADA Go·KAWAGUCHI Noriaki·YANAGIDA Takayuki
- 2PW09 Radioluminescence properties of Eu-doped SrAl<sub>2</sub>O<sub>4</sub> translucent ceramic and single crystal (Nara Institute of Science and Technology) ○NAKAUCHI Daisuke\*·Nakamura Fumiya·Okada Go·Kawaguchi Noriaki·Yanagida Takayuki\*
- 2PW10 Photoluminescence and scintillation properties of Ce-doped AE<sub>2</sub>MgSi<sub>2</sub>O<sub>7</sub> (AE = Ca, Sr, Ba) crystals synthesized by FZ method (Nara Institute of Science and Technology) ○OGAWA Taiki·NAKAUCHI Daisuke·OKADA Go·KAWAGUCHI Noriaki·YANAGIDA Takayuki\*
- 2PW11 Dosimeter properties of Tm-doped 50Li<sub>3</sub>PO<sub>4</sub>-50B<sub>2</sub>O<sub>3</sub> glasses (Nara Institute of Science and Technology) ○ISOKAWA Yuya·OKADA Go·KAWAGUCHI Noriaki·YANAGIDA Takayuki\*
- 2PW12 Synthesis and dosimeter properties of Ce-doped K<sub>2</sub>O-Al<sub>2</sub>O<sub>3</sub>-P<sub>2</sub>O<sub>5</sub> glasses (Nara Institute of Science and Technology) ○SHIRATORI Daiki·ISOKAWA Yuya·SAMIZO Hayata·OKADA Go·KAWAGUCHI Noriaki·YANAGIDA Takayuki\*
- 2PW13 Dosimetric Properties of Tm-doped B<sub>2</sub>O<sub>3</sub>-Al<sub>2</sub>O<sub>3</sub>-SrO glasses (Akita University) ○KAWANO Naoki·(Nara Institute of Science and Technology) KAWAGUCHI Noriaki·OKADA Go·(Tohoku University) FUJIMOTO Yutaka·(Nara Institute of Science and Technology) YANAGIDA Takayuki
- 2PW14 Radio-photoluminescence Properties Observed in Sr<sub>2</sub>SiO<sub>4</sub>:Eu (Nara Institute of Science and Technology) ○ASADA Shota\*·OKADA Go·KAWAGUCHI Noriaki·YANAGIDA Takayuki
- 2PW15 Scintillation properties of Eu-doped Phosphate glass (Nara Institute of Science and Technology) ○Samizo Hayata\*·Kato Takumi·Okada Go·Kawaguchi Noriaki·Yanagida Takayuki
- 2PW16 Development of TiCl-SrCl<sub>2</sub> scintillator crystals (Tohoku University) ○Arai Miki\*·Takahashi Keisuke·Fujimoto Yutaka·Koshimizu Masanori\*·(NAIST) Yanagida Takayuki·(Tohoku University) Asai Keisuke
- 2PW17 Phosphor concentration requirements in plastic scintillators containing bismuth oxide nanoparticles (Tohoku University) ○MAGI Arisa\*·KAGAMI kei·ARAI Sae·YOKO Akira·SEONG Gimyeong·TOMAI Takaaki·ADSCHIRI Tadafumi·KOSHIMIZU Masanori\*·FUJIMOTO Yutaka·(KEK) KISHIMOTO Shunji·HARUKI Rie·(QST) NISHIKIDO Fumihiko·(Tohoku University) ASAI Keisuke

- 2PW18 Synthesis and X-ray detection properties of Bi loaded plastic scintillator using solvent evaporation method (Tohoku University)  
 ○KAGAMI Kei\*·KOSHIMIZU Masahiro\*·(High Energy Accelerator Research Organization) KISHIMOTO Syunji·HARUKI Rie·  
 (National Institutes for Quantum and Radiological Science and Technology) NISHIKIDO Fumihiko·(Tohoku University) ASAI Keisuke
- 2PW19 Heavy-particle- or X-ray-induced thermoluminescence of Tb<sup>3+</sup>-doped CaO-Al<sub>2</sub>O<sub>3</sub>-B<sub>2</sub>O<sub>3</sub>-based glasses (Tohoku University) ○Kawamura  
 Ichiro\*·Kawamoto Hiroki·Fujimoto Yutaka·Koshimizu Masanori\*·(Nara Institute of Science and Technology) Okada Go·(National  
 Institutes for Quantum and Radiological Science and Technology) Koba Yusuke·(Nara Institute of Science and Technology) Yanagida  
 Takeyuki·(Tohoku University) Asai Keisuke
- 2PW20 Investigation of radiophotoluminescence center formation mechanism in Ag-doped phosphate glass from the view of temperature  
 dependence of RPL intensity (Tohoku University) ○KAWAMOTO Hiroki·KOSHIMIZU Masanori·FUJIMOTO Yutaka·(Nara Institute of  
 Science and Technology) OKADA Go·YANAGIDA Takayuki·(Tohoku University) ASAI Keisuke\*
- 2PW21 Analysis of structure of Ag-doped phosphate glass exhibiting radiophotoluminescence using X-ray absorption fine structure measurements  
 (Tohoku University) ○KAWAMOTO Hiroki·KOSHIMIZU Masanori·FUJIMOTO Yutaka·(National Institute of Advanced Industrial  
 Science and Technology) MASAI Hirokazu·(Tohoku University) ASAI Keisuke\*
- 2PW22 Efficient near-infrared down-conversion luminescence in Tb<sup>3+</sup>/Yb<sup>3+</sup> co-doped transparent glass ceramics containing ZrO<sub>2</sub> nanocrystal  
 (Nagoya Institute of Technology) ○ISOGAI Masato·HAYAKAWA Tomokatsu\*·(Limoges University) DECLERE Jean Rene·THOMAS  
 Philippe
- 2PW23 Preparation and optical estimation of alkali metal-doped CaTiO<sub>3</sub>:Pr<sup>3+</sup> sol-gel thin film (Nagoya Institute of Technology) ○FUKAYA  
 Akihiro·HAYAKAWA Tomokatsu\*
- 2PW24 Relationship between photoluminescence properties and Pr<sup>3+</sup> occupation site of Na-doped SrTiO<sub>3</sub>:Pr<sup>3+</sup> (Gakushuin University) ○YAMANE  
 Maiko·HAMASAKI Yosuke·UEDA Koichiro·INAGUMA Yoshiyuki\*·(Kyushu Institute of Technology) UEDA Kazushige·(National  
 Institute of Advanced Industrial Science and Technology) BANDO Kyoko
- 2PW25 Time and Temperature Dependence of Self-Trapped Exciton Luminescence in Sr-substituted Ca<sub>2-x</sub>Sr<sub>x</sub>T<sub>3</sub>O<sub>7</sub> (T=Al,Si,Mg) Melilite Crystals  
 (Akita University) ○KUBOTA Hisanori·TAKAHASHI Tomoko·KODAMA Nobuhiro\*
- 2PW26 Synthesis of Mn<sup>2+</sup> Chloride Phosphor by a Novel Low Temperature Synthesis Method (Niigata University) ○Chijiwa Naoto·Uematu  
 Kazuyoshi·Sato Mineo·Toda Kenji\*
- 2PW27 Luminescent properties of Fe<sup>3+</sup>, Mn<sup>4+</sup>, and Cr<sup>3+</sup> in defect-type disordered spinel compound aluminum lithium fluoride oxide (Yamagata  
 University) ○TAMURA Hideto·KOBAYASHI Riho·KAMADA Yuki·SATO Chika·(Tohoku University) KAKIHANA Masato·  
 (Yamagata University) MATSUSHIMA Yuta\*
- 2PW28 Synthesis and luminescence property of blue phosphor using P doped Ca<sub>2</sub>SiO<sub>4</sub> as a host material (Toyohashi University of Technology)  
 ○OKAMOTO Kazuho·KAMIMOTO Konatsu·NAKANO Hiromi\*
- 2PW29 Investigation of environment dependence of host crystal in f-f transition down-conversion phosphors (Tokai University) ○ARAI Satomi·  
 TOMITA Koji\*·(Okayama University of Science) SATO Yasushi·(Tohoku University) KOBAYASHI Makoto·KATO Hideki·  
 KAKIHANA Masato
- 2PW30 Development of new Eu<sup>2+</sup> red phosphor based on crystal site engineering ~ Alkaline earth zinc germanate ~ (Tokai University)  
 ○NAKAZATO Nobuhiro·TOMITA Koji\*·(Okayama University of Science) SATO Yasushi·(Tohoku University) KOBAYASHI Makoto·  
 KAKIHANA Masato
- 2PW31 Photocurrent properties of ceramic single crystals with light-storage ability (Hokkaido University) ○SUMINO Yuki·(Tokyo University of  
 Science) NAKANISHI Takayuki\*·(Hokkaido University) KITAGAWA Yuichi·FUSHIMI Koji·HASEGAWA Yasuchika
- 2PW32 Synthesis of MOF-derived Porous Y<sub>2</sub>O<sub>3</sub>:Eu<sup>3+</sup> Particles and Their Chemical Sensing Properties (Keio University) ○Sakamawari kosuke·  
 Hagiwara Manabu·Fujihara Shinobu\*
- 2PW33 Fabrication of light scattering layer using CeO<sub>2</sub> submicrometer particles and their application to dye-sensitized solar cell (Keio University)  
 ○SHOJI Takahito·HAGIWARA Manabu·FUJIHARA Shinobu\*
- 2PW34 Emission properties of quantum dot phosphors at high temperature (Tohoku University) ○INAYOSHI Haruko·TSUKUDA Satoshi·  
 OMATA Takahisa\*
- 2PW35 Rapid fabrication of colloidal crystal thin films on ITO-coated PET sheet by electrophoretic deposition (Shibaura Institute of Technology·  
 National Institute for Materials Science) ○KOIKE Masaki·(Shibaura Institute of Technology) KIYONO Hajime\*·(National Institute for  
 Materials Science·Hokkaido University) UCHIKOSHI Tetsuo\*·(National Institute for Materials Science) FUDOUZI Hiroshi·(National  
 Institute for Materials Science·Hokkaido University) Thi Hoai Giang TRAN
- 2PW36 Evaluation and Preparation of Red Inorganic Pigments based on Bismuth oxide (Kobe City College of Technology) ○URASHIMA  
 Naruyo·YASUDA Keisuke\*
- 2PW37 Synthesis of novel red phosphate pigments from manganese carbonate to imitate Natural Ore (Kyoto Prefectural University) ○ONODA  
 Hiroaki\*·FUJIKADO Syohei
- 2PW38 Synthesis of novel phosphate pigments in imitation of Turquoise (Kyoto Prefectural University) ○SASAKI Ryota·ONODA Hiroaki\*

## ■ ■ September 06 (Thu) (Room Q) ■ ■

### 18.Functional Materials Innovation through Energy Consumption Reduction Processing (Green Processing)

#### 磁性体

#### (9:00) (Chairman 坂元尚紀)

- 2Q01 The Wavelength region of the Enhancement Magneto-Optical Effect due to Metal Nano-particles in Bismuth Iron Garnet (Nagoya Institute of Technology) ○Ohashi Koya・Ota Toshitaka・Adachi Nobuyasu\*
- 2Q02 Synthesis and Magnetic Properties of Ferrite Hollow Particles (Nagoya Institute of Technology) ○Hayashi Yuji・Ota Toshitaka・Adachi Nobuyasu\*
- 2Q03 Ferrimagnetic properties of ZnFe<sub>2</sub>O<sub>4</sub> by Metal-Organic Decomposition method 2 (Nagoya Institute of Technology) ○NAKATA Yusuke・ADACHI Nobuyasu\*・OTA Toshitaka

#### (10:00) (Chairman 安達信泰)

- 2Q04 Tunable frequency response of tunneling-magneto-dielectric effect in Co-MgF<sub>2</sub>/MgF<sub>2</sub> granular films (FRIS, Tohoku Univ.) ○Cao Yang・Hanae Aoki・(DENJIKEN) Kobayashi Nobukiyo・(FRIS, Tohoku Univ.・DENJIKEN) Ohnuma Shigehiro・(FRIS, Tohoku Univ.) Masumoto Hiroshi\*
- 2Q05 Epitaxial growth of calcium cobaltate thin film using YSZ buffer layer (Shizuoka University) ○MURAKAMI Haruno・KAWAGUCHI Takahiko・(Tokyo University of Agriculture and Technology) KOSHIDA Nobuyoshi・(Tokyo Institute of Technology) SHINOZAKI Kazuo・(Shizuoka University) SAKAMOTO Naonori・SUZUKI Hisao・WAKIYA Naoki\*
- 2Q06 Low temperature synthesis of Ag, Mn-containing delafossite-type oxide (Akita University) ○KATO Sumio・TAKAGI Naoto・SAITO Kanji・OGASAWARA Masataka

#### (11:00) Break

### S5.Processing Innovation (II)

#### (11:20) (Chairman 坂元尚紀)

- 2Q08 ★ Construction of reaction systems for sunlight-driven water splitting based on particulate photocatalysts (Shinshu University) ○HISATOMI Takashi\*

#### (14:20) (Chairman 渡邊友亮)

- 2Q17 ★ Efficient nanoclusters grafted photocatalyst synthesized by mild wet chemical process. (Tokyo Institute of Technology) ○MIYAUCHI Masahiro\*・YIN Ge・SHOJI Shusaku・YAMAGUCHI Akira

#### (15:00) (Chairman 小林亮)

- 2Q19 ★ Growth of atomic layers and their application to liquid cells (Nagoya University) ○KITAURA Ryo

#### (15:40) (Chairman 林大和)

- 2Q21 ◆ Research on ceramic processing and education of human resources (Kyushu University) ○HOJO Junichi

## ■ ■ September 06 (Thu) (Room R) ■ ■

### 16.Material Design and Processing Design

- 2R01 ★ Development of LLZ solid electrolyte and solid state battery (NGK SPARK PLUG CO., LTD.) ○HIKOSAKA Hideaki・TAKEUCHI Yuki・SHISHIHARA Daisuke・MIZUTANI Hidetoshi

#### 新材料創製プロセスデザイン

#### (9:40) (Chairman 中村貴宏)

- 2R03 Development of L<sub>4</sub>Ti<sub>3</sub>O<sub>12</sub>/Carbon Nanocomposite by Microwave Solid Processing for High Chargable /Dischargable Battery Properties (Tohoku University) ○HAYASHI Yamato\*・SUZUKI Hiromi・TAKIZAWA Hirotsugu
- 2R04 Development of novel fabrication method for nonstoichiometric metal oxide by microwave reaction field and application for photocatalysis (Nagoya Institute of Technology) ○KATO Kunihiko・Xin Yunzi・Shirai Takashi\*

## ■■September 06 (Thu) (Room S) ■■

### 17. Ceramics Synthesis Achieved by Aqueous Solution Process - Discussion of Aqueous and Non-aqueous Solution Processes Aiming at Morphological Control and High functionalization of Materials -

#### 薄膜

(9:00) (Chairman 佐藤泰史)

- 2S01 Preparation of metal oxide thin films from organic-additive-free aqueous solutions by low-speed dip coating (Kansai University)  
○UTIYAMA Hiroaki
- 2S02 Synthesis of Zn-Al layered hydroxide sol with sugar and application for preparation of zinc oxide films with controlled crystallite orientation (Chiba University) ○UEKAWA Naofumi • MUTOH Takahiro • YAMAMOTO Mariko • KOJIMA Takashi
- 2S03 Biomimetic synthesis of nanostructured SnO films. (Kansai University) ○SUGIMOTO Saki • Uchiyama Hiroaki\*

#### 多孔体

(10:00) (Chairman 上川直文)

- 2S04 Synthesis of mesoporous silica having microchannels (Keio University) ○KITAMURA Riku\* • (Industrial Technology Research Institute) WATANABE Hiroto • (Keio University) OAKI Yuya • IMAI Hiroaki
- 2S05 Bioinspired synthesis of porous silica by using two functional peptides (Nagoya University) ○SHIMIZU Takahiro • ASANO Takuya • SUGAWARA-NARUTAKI Ayae\* • NAKAMURA Jin • OHTSUKI Chikara
- 2S06 Fabrication of boehmite-nanofiber-reinforced porous monoliths (Tohoku University) ○HAYASE Gen

## ■■September 06 (Thu) (Room T) ■■

### 20. Materials Innovation for Environmental Problems and Water Resources

#### 水質計測

(9:00) (Chairman 武井貴弘)

- 2T01 Fiber optic sensor for scale formation in geothermal water: Application of electrochemical methods (Meiji University • University of Toyama) ○OKAZAKI Takuya • (University of Toyama) TAGUCHI Akira • UEDA Akira • KURAMITZ Hideki
- 2T02 ★ Technology for Ultrapure Water Production (Nomura Micro Science Co.,Ltd.) ○NOMURA Arihiro • NOGUCHI Yukio

(10:00) Break

#### 濡れ性

(10:20) (Chairman 勝又健一)

- 2T05 Preparation of self-hydrophobic  $\text{La}_2\text{Mo}_2\text{O}_9$  ceramics with antibacterial and antiviral properties (Tokyo Institute of Technology)  
○MATSUMOTO Takumi • (Kanagawa Institute of Industrial Science and Technology) SUNADA Kayano • (Tokyo Institute of Technology) ISOBE Toshihiro\* • MATSUSHITA Sachiko • NAKAJIMA Akira\*
- 2T06 Controlling wettability of silica glass films prepared by a sputtering method (Nagoya Institute of Technology) ○MAEDA Hirota\* • CHINO Mitsuaki • KASUGA Toshihiro
- 2T07 Underwater oil wettability of rare earth oxides surface (Okayama university) ○KAMADA Ryoichi • NISHIMOTO Shunsuke • KAMESHIMA Yoshikazu\* • MIYAKE Michihiro
- 2T08 ★ Visualizing three-dimensional hydration structures at solid-liquid interfaces by atomic force microscopy (kanazawa University)  
○FUKUMA Takeshi

#### 水処理

(14:20) (Chairman 亀島欣一)

- 2T17 ★ Water treatment using layered double hydroxides: Their application as anionic adsorbents (National Institute of Advanced Industrial Science and Technology) ○HIBINO Toshiyuki
- 2T19 Hydrothermal synthesis of titanate nanotubes and heavy metal ion removal (Osaka Prefecture University) ○FUJIMOTO Akira • MURATA Hidenobu\* • NAKAHIRA Atushi\*

(15:20) (Chairman 中島章)

- 2T20 ★ Environmental Control and Life Support Technology Development for Future Space Exploration (Japan Aerospace Exploration Agency)  
○NAKANNOYA Sogo\*

## ■ ■ September 06 (Thu) (Room U) ■ ■

### 19. Exploration of Basic Sciences for Advanced Bio-related Materials Developments

#### (9:00) (Chairman 内野智裕)

- 2U01 Synthesis and Characterization of Cellulose Nanofiber-Calcium Phosphate Composite (National Institute of Advanced Industrial Science and Technology) Chubu University) ○SUZUKI Aoi (National Institute of Advanced Industrial Science and Technology) NAGATA Fukue\* MIYAJIMA Tatsuya (DKS) KITAMURA Takeo HASHIMOTO Masayuki (Chubu University) IMAEDA Kenichi (National Institute of Advanced Industrial Science and Technology) KATO Katsuya
- 2U02 Particle Size Control of Poly(lactic acid)/Hydroxyapatite Core-Shell Composite Particles by Including Hydrophobic Materials (National Institute of Advanced Industrial Science and Technology (AIST) Chubu University) ○HANASAKI Motoharu (National Institute of Advanced Industrial Science and Technology (AIST)) NAGATA Fukue\* MIYAJIMA Tatsuya (Nagoya University) NARUTAKI Ayae (Chubu University) IMAEDA Kenichi (National Institute of Advanced Industrial Science and Technology (AIST)) KATO Katsuya

#### (9:40) (Chairman 永田夫久江)

- 2U03 Temperature Dependence of Local Environments of Si in Hydroxyapatite (Osaka Prefecture University) ○MURATA Hidenobu NAKAHIRA Atsushi
- 2U04 Synthesis of Zn-doped Hydroxyapatite by Hydrolysis of Tricalcium Phosphate (Osaka Prefecture University) ○Hashii Rika Murata Hidenobu Nakahira Atsushi\*
- 2U05 Fabrication of textured apatite ceramics by reactive templated grain growth method and their evaluation (Meiji University) ○YOSHIDA Shuhei AIZAWA Mamoru\*

#### (10:40) (Chairman 野々山貴行)

- 2U06 Electrospun Fiber mats with Protein-loading Ability (Nagoya Institute of Technology) ○OZEKI Yuto IGUCHI Makito MIZUNO Toshihisa OBATA Akiko\* KASUGA Toshihiro
- 2U07 Enzyme reaction of glucose oxidase immobilized on poly-L-lysine-containing calcium phosphate particles (Aichi Institute of Technology National Institute of Advanced Industrial Science and Technology) ○KOJIMA Suzuka (National Institute of Advanced Industrial Science and Technology) NAGATA Fukue INAGAKI Masahiko (Aichi Institute of Technology) KUGIMIYA Shinichi (National Institute of Advanced Industrial Science and Technology) KATO Katsuya\*
- 2U08 Protein adsorption property by using iron oxide/apatite core-shell microparticles (Kyoto University) ○YABUTSUKA Takeshi YAMAMOTO Masaya TAKAI Shigeomi

#### (14:20) (Chairman 山口将吾)

- 2U17 ★ Outline of Biological Safety Evaluation of Medical Devices (Safety Research Institute for Chemical Compounds Co., Ltd.)  
○YAMAMOTO Tsubasa

#### (15:00) Break

#### (15:20) (Chairman 山田真也)

- 2U20 ★ For converting your study into the commercial reality (ORTHOREBIRTH Co., Ltd.) ○NISHIKAWA Yasutoshi

## ■ ■ September 06 (Thu) (Room V) ■ ■

### 01. Research Trend on Advanced Ceramic Technology for Energy Conversion Devices

#### 蓄電池・エネルギー貯蔵材料

#### (9:00) (Chairman 岩崎航太)

- 2V01 High pressure synthesis, crystal chemistry and ionic conductivity of a novel  $\text{Li}_3\text{BP}_2\text{O}_8$  (Department of Crystalline Materials Science, Graduate School of Engineering, Nagoya University) ○HIROSE Eiichi (National Institute of Advanced Industrial Science and Technology (AIST)) Kataoka Kunimitsu Nagata Yu Akimoto Junji (Department of Materials Physics, Graduate School of Engineering, Nagoya University) Sasaki Takuya Niwa Ken Hasegawa Masashi\*
- 2V02 Synthesis and Electrochemical Property of Li-Ge-O Solid Electrolyte for All Solid Li-ion Battery (National Institute of Advanced Industrial Science and Technology) ○HAMAO Naoki YAMAGUCHI Yuki HAMAMOTO Koichi FUJISHIRO Yoshinobu
- 2V03 ☆ Dimensional stable material of  $\text{LiCoMnO}_4$  and zero-strain material of  $\text{Li}_2\text{Co}_2\text{O}_4$  as positive electrodes for long-life lithium-ion batteries (Osaka City University) ○ARIYOSHI KINFO\*

#### (10:20) (Chairman 有吉欽吾)

- 2V05 Synthesis by Solid-Phase Method and Ionic Conductivity of  $\text{Li}_4\text{B}_4\text{M}_3\text{O}_{12}\text{Cl}$  ( $M = \text{Al, Ga}$ ) (The University of Tokai) ○AOKI Yuto OTUKA Kyosuke FUSHIMI Kazuna KATSUMATA Tetsuhiro\*
- 2V06 Development of all-solid-state secondary lithium battery using garnet-type solid electrolyte single crystal (Advanced Industrial Science and Technology) ○KATAOKA Kunimitsu\* AKAO Tadayoshi NAGATA Hiroshi NAGAI Hideaki AKIMOTO Junji AKEDO Jun
- 2V07 Synthesis of spinel-type oxide nanoplates and its application to magnesium rechargeable batteries (Keio University) ○DOI Shunsuke ISE Ryuta OAKI Yuya IMAI Hiroaki\*

#### 燃料電池・エネルギー変換材料

#### (11:20) (Chairman 藤代芳伸)

- 2V08 Oxygen ion conductivity, average and local structure analysis of  $\text{Na}_{0.55-x}\text{K}_x\text{Bi}_{0.45}\text{TiO}_{3-\delta}$  (Tokyo University of Science) ○Ishikawa Kazuya Kitamura Naoto\* Ishida Naoya Idemoto Yasushi
- 2V09 Effects of LSM and  $\text{CeO}_2$  compositions on LSM/ $\text{CeO}_2$  nano-composite cathode properties (Shizuoka University) ○SAKUMA haruka SUDA Seiichi (Nagaoka University of Technology) Juan Paulo Wiff (National Institute for Materials Science) HASE Masashi

#### (14:20) (Chairman 森昌史)

- 2V17 ★ Electrochemical Systems for Green Hydrogen Systems (Yokohama National University) ○OTA Kenichiro\*

#### (15:20) (Chairman 須田聖一)

- 2V20 Estimation of anisotropy in magnetic property of  $\text{Nd}_{2-x}\text{La}_x\text{NiO}_4$  for fabrication of oriented electrode in SOFC (Kumamoto University) ○TAJIMA Suguru (National Institute for Materials Science) SUZUKI Tohru NAKANE Takayuki NAKA Takashi UCHIKOSHI Tetsuo (Kumamoto University) MATSUDA Motohide\*
- 2V21 Electronic states and oxygen evolution catalysis for perovskite nickel oxides (Osaka Prefecture University) ○UCHIMURA Tasuku YAMADA Ikuya\* (The University of Tokyo) YAGI Syunsuke (Osaka Prefecture University) IKENO Hidekazu

## ■ ■ September 06 (Thu) (Room W) ■ ■

### 23. Photoceramics - Synthesis, Functions and Applications of Optical and Colorful Ceramics -

(9:00) (Chairman 黒木雄一郎)

2W01 Efficiency improvement of synchrotron X-ray diffraction and XAFS measurement (Tokyo University of Science) ○FUJIMOTO Kenjiro\*  
AIMI Akihisa (Tohoku University) MARUYAMA Shingo

2W02 Preparation of gold nanorods by using seedless process and characteristics of LSPR refractive index sensor (Kanto Gakuin University)  
○Kato Nanami\* · HAMAGAMI Jun-ichi

(9:40) (Chairman 濱上寿一)

2W03 ★ Semiconductor Microring Resonators and their Applications (Yokohama National University) ○ARAKAWA Taro\* (Chubu University)  
KOKUBUN Yasuo

(10:20) Break

(10:40) (Chairman 戸田健司)

2W06 Effect of strain on photoluminescence properties in  $(\text{Ca,Sr})\text{TiO}_3\text{:Pr}^{3+}$  thin films (The University of Tokyo) ○KATAYAMA Yumiko · Ueno Kazunori

2W07 Current and luminance relaxation phenomena in electroluminescence of Al-doped  $\text{Ca}_{0.6}\text{Sr}_{0.4}\text{TiO}_3\text{:Pr}$  thin films (Gunma University)  
○KYOMEN Toru · (National Institute of Advanced Industrial Science and Technology) TAKASHIMA Hiroshi

2W08 ★ Key issue of high efficiency for emissive devices -Materials and structure based on the excitation mechanism- (Meiji University)  
○MIURA Noboru

(14:40) (Chairman 斧田宏明)

2W18 Novel inorganic pigments based on  $\text{Ca}_{14}\text{Al}_{10}\text{Zn}_6\text{O}_{35}$  (Tottori University) ○OKA Ryohei · KOSAYA Takashi · MASUI Toshiyuki\*

2W19 Immobilization and structural color development of core-shell type ceria fine particles using aqueous acrylic resin (National Institute of Advanced Industrial Science and Technology (AIST)) ○IZU Noriya · UCHIDA Toshio · ITOH Toshio · SHIN Woosuck · (Hokko Chemical Industry Co., Ltd.) IJIMA Masakatsu · YOSHIDA Kunitoshi

(15:20) (Chairman 増井敏行)

2W20 ★ Precise synthesis of ligand-protected metal clusters and their physical properties (Tokyo Metropolitan University) ○YAMAZOE Seiji

## ■ ■ September 07 (Fri) (Room A) ■ ■

### 11. New Evolution of Dielectrics: Challenge the development of innovative solutions based on social demand

#### マルチフェロイック

(13:00) (Chairman 谷口博基)

3A13 Crystal structure and Physical Properties in Al substituted  $\epsilon\text{-Fe}_2\text{O}_3$  films (National Defense Academy · Tokyo Institute of Technology)  
○Hamasaki Yosuke · (Tokyo Institute of Technology) Shimizu Takao · Yasui Shintaro · (Tohoku University) Shiraiishi Takahisa · Akama Akihiro · Kiguchi Takenori · (Tokyo Institute of Technology) Taniyama Tomoyasu · Itoh Mitsuru

3A14 Ferroelectricity and Ferrimagnetism of  $k\text{-Al}_2\text{O}_3$ -type structured  $\text{GaFeO}_3$  thin films (Tokyo Institute of Technology) ○YASUI Shintaro · (University of Tokyo) Katayama Tsukasa · (Tokyo Institute of Technology) Osakabe Takuya · (National Defense Academy of Japan) Hamasaki Yosuke · (Japan Fine Ceramics Center) Taguchi Ayako · Moriwake Hiroki · (Tohoku University) Shiraiishi Takahisa · Akama Akihiro · Kiguchi Takenori · (Tokyo Institute of Technology) Itoh Mitsuru

3A15 Fabrication and physical properties of BNEuT thin films heteroepitaxially grown by high-temperature sputtering (University of Hyogo)  
○migita tsubasa · kobune masafumi\* · kikuchi takeyuki · ito ryoga · obayashi taiki · hujisawa hironori

#### プロセス・デバイス応用

(14:00) (Chairman 保科拓也)

3A16 Pyroelectric and Electrocaloric effects of PLZT ceramics (Shonan Institute of Technology) ○KINOSHITA yoshifumi · MAIWA Hiroshi\*

3A17 Stress Transfer Behavior between Polymer Matrix and Ceramic Fillers in Vibration Energy Harvester (Nagoya Institute of Technology)  
○HASEGAWA Ryohei · KAKIMOTO Ken-ichi\* · (University of Erlangen-Nuremberg) MEHNERT Markus · STEINMANN Paul

3A18 Improvement of electric characteristics by using fine additives in material process development of zinc oxide varistor (Panasonic Corp.)  
○YANAI KEN · IMANISHI YUUMA · MUTOU NAOKI · WATANABE MICHIIYA · MURAISHI TOMOMITSU · USUI RYOUSUKE

(15:00) Break

(15:20) (Chairman 寺西貴志)

3A20 ☆ Carbon nanotube integrated micro-capacitors (National Institute of Advanced Industrial Science and Technology) ○KOBASHI Kazufumi\* · (Wroclaw University of Technology) LASZCZYK Karolina · (National Institute of Advanced Industrial Science and Technology) SAKURAI Shunsuke · SEKIGUCHI Atsuko · FUTABA Don · YAMADA Takeo · HATA Kenji

3A21 ★ Thermal energy control using magnetic and spintronic materials (National Institute for Materials Science) ○UCHIDA Ken-ichi

(16:20) (Chairman 渡邊隆之)

3A23 ★ Development of  $(\text{K,Na})\text{NbO}_3$ -based Lead-Free Piezoelectric Ceramics (NGK Spark Plug Co., Ltd.) ○OKIMURA Yasuyuki · KIMURA Takeshi · MATSUOKA Takayuki · YAMADA Hideto · KITAMURA Kazuaki · YAMAZAKI Masato · OHBAYASHI Kazushige

## ■ ■ September 07 (Fri) (Room B) ■ ■

### S3.Creation of innovative component devices by advanced materials and processes - Realization of high performance long-term reliability

(9:00) (Chairman 中村吉伸)

3B01 ◆ Progress of Widegap Semiconductor Power Electronics and High Power Density Packaging Technology (National Institute of Advanced Industrial Science and Technology) ○OKUMURA Hajime·YAMAGUCHI Hiroshi

3B04 ★ Single-Crystalline Nanocubes for High Performance Devices / Shape- and Size-Induced New Values in Future (National Institute of Advanced Industrial Science and Technology) ○KATO Kazumi

(10:40) (Chairman 鈴木宗泰)

3B06 ★ Design of The Long Term Reliability for MLCC (Murata Manufacturing Co., Ltd.) ○IKEDA Jun·SHIOTA Akihiro·TANAKA Nobuhiko

3B08 ★ Current Status and Unsolved Issues on Light-Emitting Display Technologies (Commonwealth Scientific and Industrial Research Organization (CSIRO)·Yokohama City University) ○HIRAI Tadahiko

### 12.Global Innovation by Ceramic Coating

#### EBC・CMC コーティングの熱力学と物質移動(2)

(13:00) (Chairman 新井優太郎)

3B13 Software and Database Development of Computational Thermodynamics (National Institute of Advanced Industrial Science and Technology) ○SHOBU Kazuhisa\*·YAMADA Hiroshi·(Kyushu Institute of Technology) HASEBE Mitsuhiro

3B14 Full First-principles calculation for Oxygen vacancy diffusion in ZrO<sub>2</sub> (Graduate School of Engineering, Tohoku University) CHEN Ying·(Institute for Materials Research, Tohoku University) ○MOHRI Tetsuo\*

#### EBC の熱機械的性質の評価と解析(1)

(13:40) (Chairman 新井優太郎)

3B15 Impact of Homo-Phase Interfaces on Lattice Thermal Conduction in MgO (Osaka University) ○FUJII Susumu\*·(Osaka University·Nagoya University) YOKOI Tatsuya·(Osaka University·Japan Fine Ceramics Center) YOSHIYA Masato

(14:00) (Chairman 松原秀彰)

3B16 Strategy to Control Thermal Expansion of Stacked Silicate-based EBC materials (Osaka University·Japan Fine Ceramics Center) ○YOSHIYA Masato\*·(Osaka University) SUMI Yusuke·YAMAMOTO Shotaro·FUJII Susumu

3B17 Evaluation of Young's modulus of EBC materials by nanoindentation method at high temperature (Tokyo Institute of Technology) ○SATO Hiroki\*·(Saga University) AKATSU Takashi·(National Institute of Technology, Ube College) SHINODA Yutaka·(Tokyo Institute of Technology) WAKAI Fumihiko

(14:40) Break

3B19 Delamination behavior of multilayer environmental barrier coatings for SiC/SiC (National institute for materials science) ○KAKISAWA Hideki\*·Nishimura Toshiyuki

#### EBC の熱機械的性質の評価と解析(2)

(15:20) (Chairman 赤津隆)

3B20 Theory and numerical analysis of damage in environmental barrier coatings : Effect of columnar layer dimension (The University of Tokyo) ○KAWAI Emi·UMENO Yoshitaka

3B21 Computational analysis of delamination of ceramic coating considering microstructural change (Tohoku University) ○TERASAKA Sota·MATSUBARA Hideaki

3B22 Effect of non-uniform stress distribution on delamination toughness of environmental barrier coatings (Tokyo University of Technology) ○ARAI Yutaro·(The University of Tokyo (Currently Kobe Steel, Ltd.)) AOKI Yuto·(Tokyo University of Technology) KAGAWA Yutaka

## ■ September 07 (Fri) (Room C) ■

### EBC・CMC コーティング開発の新展開

#### (9:00) (Chairman 伊藤暁彦)

- 3C01 Microstructural change during heat treatment and subsequent heat exposure of mullite coating fabricated by aerosol deposition (Yokohama National University) ○SHIBUYA Toshiki・IUCHI Atsuhisa・SAGAWA Kenji・HASEGAWA Makoto\*
- 3C02 Microstructures and thermal cycling resistance performances of multi-layered environmental barrier coating prepared by double electron beam PVD (Japan Fine Ceramics Center) ○YOKOI Taishi\*・YAMAGUCHI Norio・YOKOE Daisaku・KITAOKA Satoshi・TAKATA Masasuke・(IHI Corporation) NAKAMURA Takeshi・KOTANI Masahiro

#### (9:40) (Chairman 金柄男)

- 3C03 Production of SiC/SiC minicomposites with ZrO<sub>2</sub> interface and evaluate of interfacial mechanical properties (Tokyo University of Science・institute of space and astronautical science) ○IKEDA Kenyu・MATHUMURA Yoshiko・(institute of space and astronautical science) GOTO Ken\*・(Tokyo University of Science) KOGO Yasuo・INOUE ryou・(Yokohama National University) ITO Akihiko・IKAI Masakazu
- 3C04 Preparation of Yb-silicate for fiber coating by chemical vapor deposition (YOKOHAMA National University) ○HARA Tomohiro・ITO Akihiko\*
- 3C05 Yb silicate fiber coating for SiC/SiC composites (Japan Aerospace Exploration Agency) ○GOTO Ken\*・(Yokohama National University) ITO OKIHIKO・(Japan Fine Ceramics Center) MATSUDA TETSUSHI・TAKAHASHI SEIJI・KITAOKA SATOSHI・(Tohoku University) GOTO TAKASHI

### EBC・CMC コーティングの熱力学と物質移動(1)

#### (10:40) (Chairman 吉矢真人)

- 3C06 Thermodynamic and kinetic considerations on decomposition reaction of Yb-silicate under a reductive atmosphere (Fine ceramics center) ○MATSUDA Tetsushi・NOMURA Hiroshi・KAWASHIMA Naoki・KITAOKA Satoshi・TAKATA Masasuke
- 3C07 Mass transfer mechanism in Yb silicate film under wet environment at high temperatures (Japan Fine Ceramics Center) ○WADA Masashi\*・MATSUDAIRA Tuneaki・KAWASHIMA Naoki・YOKOE Daisaku・OGAWA Takafumi・KATO Takeharu・KITAOKA Satoshi・TAKATA Masasuke・(The University of Tokyo) TAKEUCHI Miyuki
- 3C08 Relationship between sintering and powder process for YbSiO ceramics. (Tohoku University) ○Kamitani Takuto・Terasaka Sota・Kamitakahara Masanobu・Matsubara Hideaki\*・(Japan Fine Ceramics Center) Yokoi Taishi
- 3C09 Experimental and theoretical evaluation of microstructural change accompanying densification and grain growth (National Institute for Materials Science) ○KIM Byung-nam\*・SUZUKI Toru・MORITA Koji・YOSHIDA Hidehiro・LEE Jiguang・(Tohoku University) MATSUBARA Hideaki

### エアロゾルデポジション法

#### (13:00) (Chairman 青柳倫太郎)

- 3C13 ★ Piezoelectric properties of BaTiO<sub>3</sub> thick film formed by Aerosol Deposition and its application for Energy harvesting device (Research Institute for Electromagnetic Materials) ○KAWAKAMI Yoshihiro・WATANABE Masato・ARAI Ken-Ichi・(The University of Tohoku) SUGIMOTO Satoshi

#### (13:40) (Chairman 伊藤暁彦)

- 3C15 Effect of increase in film thickness and deposition temperature on texture of alumina film formed by aerosol deposition method (Yokohama National University) ○HASEGAWA MAKOTO・KOMURO Masahiro・KIMURA Kyonosuke・(Japan Fince Ceramic Center) TANAKA Makoto・KITAOKA SATOSHI・(Tokyo University of Technology) KAGAWA Yutaka
- 3C16 Formation of Titanium Nitride Coating Processed by Aerosol Deposition (Yokohama National University) ○AOKI Koichiro・KIMURA Kyonosuke・HASEGAWA Makoto\*・(Kanagawa Institute of Industrial Science and Technology) TAKAGI Shinichi
- 3C17 Evaluation of thermal conductivity of Al<sub>2</sub>O<sub>3</sub> film prepared by aerosol deposition method (NIPPON STEEL & SUMITOMO METAL CORPORATION) ○TOKUHASHI Keisuke・KIMURA Keiichi・KOBAYASHI Takayuki

#### (14:40) Break

#### (15:00) (Chairman 長谷川誠)

- 3C19 Zirconia film coated by Aerosol Deposition Method (TOTO LTD.) ○TAKIZAWA Ryoto・ASHIZAWA Hiroaki・KIYOHARA Masakatsu

### MOCVD 法

#### (15:20) (Chairman 長谷川誠)

- 3C20 Preparation of HfO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub> nanocomposite films by metal-organic chemical vapor deposition (Yokohama National University) ○MATSUMOTO SHOGEN・ITO AKIHIKO\*
- 3C21 Metal-organic chemical vapor deposition of self-oriented Y<sub>2</sub>O<sub>3</sub> films (Yokohama National University) ○OZAWA Yuya・ITO Akihiko\*

## ■ ■ September 07 (Fri) (Room E) ■ ■

### 21.Science and Technology for Densification - cutting edge of sintering theories and high functionality by process control -

(9:00) (Chairman 吉田英弘)

- 3E01 ★ Fabrication of Optical Ceramics with Ultra-High Density and their Performance (World-Lab. Co.) ○IKESUE Akio\*
- 3E03 Surface tension-pressure superposition principle for anisotropic shrinkage of an ellipsoidal pore in viscous sintering (Tokyo Institute of Technology) KANCHIKA Shun ○WAKAI Fumihiro\*
- 3E04 Comparison between sinter-forging and X-ray tomography methods for determining sintering stress and bulk viscosity (Tokyo Institute of Technology) ○OKUMA Gaku\* WAKAI Fumihiro (Forschungszentrum Jülich Institute of Energy and Climate Research) Jesus Gonzalez-Julian • Olivier Guillon
- 3E05 Sintering shrinkage behavior of YSZ green bodies prepared by various processes (Yokohama National University) ○KAJII Kenji (Yokohama National University • Kanagawa Institute of Industrial Science and Technology) TATAMI Junichi\* • IJIMA Motoyuki (Kanagawa Institute of Industrial Science and Technology) TAKAHASHI Takuma • YAHAGI Tsukaho

(10:40) Break

**SPS**

(11:00) (Chairman 且井宏和)

- 3E07 Densification of Cr<sub>2</sub>O<sub>3</sub> by Pulsed Electric Current Sintering (Nagaoka University of Technology) ○KOSUGI Takahiro\* • NANKO Makoto
- 3E08 Pulsed Electric Current Sintering of Ti<sub>2</sub>AlC with Different Starting Compositions (Nagaoka University of Technology) ○YAMAGUCHI Naoya • OKUMURA Shunsuke • IIHARA Kazuki • NANKO Makoto\*
- 3E09 Creation of oriented MXene using SPS oriented Ti<sub>3</sub>AlC<sub>2</sub> (Kyushu University) ○Tsuruno Nobuyoshi • Shima Kazunari • Hasegawa George • Akamatsu Hirofumi • Hayashi Katsuro\*

**フラッシュ焼結**

(13:00) (Chairman 若井史博)

- 3E13 Measurement and modelling of electrical resistivity during flash sintering of 3YSZ (Gifu University • University of Oxford) ○YOSHIDA Michiyuki (University of Oxford) FALCO Simone • TODD Richard I.
- 3E14 The secondary phase formed at grain boundaries in DC flashed BaTiO<sub>3</sub> (Nagoya University) ○HIEDA Kohei\* • TAKEUCHI Koji • TOKUNAGA Tomoharu • (National Institute for Materials Science) YOSHIDA Hidehiro • (Nagoya University) YAMAMOTO Takahisa
- 3E15 Effect of Applied Electric Fields Waveforms on Flash-sintering of BaTiO<sub>3</sub> Ceramics (Nagoya University) ○YOSHINO Takaaki\* • UMEMURA Ryosuke • TOKUNAGA Tomoharu • (National Institute for Materials Science) YOSHIDA Hidehiro • (Nagoya University) YAMAMOTO Takahisa
- 3E16 Full-densification of Y<sub>2</sub>O<sub>3</sub> by flash-sintering: doping effect (Tokyo University of Science) ○HAYASAKA Hitoshi • (National Institute for Materials Science) YOSHIDA Hidehiro\* • (Tokyo University of Science) SOGA Kohei • (Nagoya University) YAMAMOTO Takahisa

(14:20) Break

**プロセスと特性**

(14:40) (Chairman 西村聡之)

- 3E18 A new process of sintered SiC using solid-state sintering in the interstices (Sanyo-onoda City Univeristy) ○USUKAWA Ryutarō • ISHIKAWA Toshihiro\*
- 3E19 Synthesis and study on thermal expansion behavior of Zr<sub>2-x</sub>Ti<sub>x</sub>(WO<sub>4</sub>)(PO<sub>4</sub>)<sub>2</sub> sintered with MgO (Tokushima University) ○MURAI Kei-ichiro • Inoue Norimasa • Sawada Tomoki • Fujiwara Yasushi • Moriga Toshihiro
- 3E20 Influence of additives on properties of boron carbide-silicon carbide composite ceramics (MINO CERAMIC CO.,LTD.) ○OTA Hiroaki • SEKINE Kiyoto • OZEKI Fumihito • (The Univercity of Nagoya) KITA Hideki • (National Institute of Advanced Industrial Science and Technology) HYUGA Hideki
- 3E21 Densification and properties of stainless steel-aluminum nitride composites (Tokyo City University) ○KOBAYASHI Ryota • TAKASE Kazuya • Horibe Takeru • TEJIMA Akihito • OKAZAKI Hiroya • OKUBO Kazuya • MUNAKATA Fumio • (Tohoku University) HARATA Koichi • GOTO Takashi

## ■■September 07 (Fri) (Room F) ■■

### 22.Smart Sensor Materials - Sensors and Actuators

#### (9:00) (Chairman 齋藤紀子)

- 3F01 ☆ Materials Design of Gas Sensors for High Performance (Kyushu Univrsity) ○SHIMANOE Kengo•SUEMATSU Koichi•WATANABE Ken
- 3F03 Design of low-temperature operating oxygen cell based on c-axis oriented Lanthanum Silicate (kyushu University) ○WATANABE Ken\*•(MITSUI MINING & SMELTING CO., LTD) IDE Shingo•(kyushu University) KUMAGAI Takashi•SUEMATSU Koichi•SHIMANOE Kengo
- 3F04 Novel amperometric NO<sub>2</sub> sensor based on c-axis oriented Lanthanum Silicate (Kyushu university) ○Kanda Takahito•Suematsu Koichi•Watanabe Ken\*•(MITSUI MINING & SMELTING CO., LTD.) Ide Shingo•(DENSO CORPORATION) Kitagawa Kan•Suzuki Yosuke•(Kyushu university) Shimano Kengo
- 3F05 Highly sensitive toluene detection with pulse driven Pd-SnO<sub>2</sub> micro-gas sensor (Kyushu university) ○Harano Wataru•Suematsu Koichi•Watanabe Ken\*•Shimano Kengo\*

#### (10:40) Break

#### (11:00) (Chairman 渡邊賢)

- 3F07 Sensing evaluation of NO<sub>x</sub> sensor using LSM as a sensing electrode (JFCC) ○TAKAHASHI Seiji•SUEHIRO Satoshi•OKAWA Hajime
- 3F08 ☆ Ceramic gas sensor technology for health care and medical applications (AIST) ○SHIN WOOSUCK

#### (13:00) (Chairman 西堀麻衣子)

- 3F13 ★ Preparation of functional polymer brush to the particles on the basis of precise synthesis techniques (Osaka Institute of Technology)  
○HIRAI Tomoyasu\*

#### (13:40) (Chairman 伊藤敏雄)

- 3F15 Structural pattern formation of composite particles with CeO<sub>2</sub> and polymer brushes (Kyushu University) ○KANEKO Tomoya•NISHIBORI Maiko\*•KONISHI Yuko•HAMADA Ayumi•KAMITANI Kazutaka•HIRAI Tomoyasu•TAKAHARA Atsushi
- 3F16 Gas sensing properties of epitaxial ZnO films (National Institute for Materials Science) ○ADACHI Yutaka\*•SAITO Noriko•SAKAGUCHI Isao•SUZUKI TAKU
- 3F17 Oxygen adsorption on ZnO nanoparticles with different crystal plane for gas sensors (Kyushu University•National Institute for Material Science) ○Dusolle Brian\*•(Kyushu University) Suematsu Koichi•Watanabe Ken•(National Institute for Material Science) Saito Noriko•Sakaguchi Isao•(Kyushu University) Shimano Kengo
- 3F18 VOC Gas Sensing using Pyramid-Shaped ZnO Particles (National Institute for Materials Science) ○SAITO Noriko•HANEDA Hajime•ADACHI Yutaka•SAKAGUCHI Isao•(Kyushu University) WATANABE ken•SHIMANOE Kengo

## ■ ■ September 07 (Fri) (Room G) ■ ■

### 03.Synthesis and Functionalities of Mixed Ion Compounds

#### (9:00) (Chairman 岡研吾)

- 3G01 ★ Coordination chemistry and new physical properties of layered oxyhalide perovskites (National Institute for Materials Science)  
○TSUJIMOTO Yoshihiro
- 3G03 Crystal structures and magnetic properties of fersnoite-type compound  $\text{Ba}_2\text{MnSi}_2\text{O}_7\text{Cl}$  (Hokkaido University) ○Kureha Miki·Doi Yoshihiro\*·Endo Takashi·Wakeshima Makoto·Hinatsu Yukio
- 3G04 Synthesis and magnetic properties of new layered oxychalcogenide (Kyoto University) ○Matsumoto Yuki·Yamamoto Takafumi·Takatsu Hiroshi·(JAIST) Nakano Kosuke·Hongo Kenta·Maezono Ryo·(Kyoto University) Kageyama Hiroshi\*

#### (10:20) Break

#### (10:40) (Chairman 分島亮)

- 3G06 Structure and Superconductivity of  $(\text{Ce,Pr})\text{OBiS}_2$  (Hokkaido University) ○Miura Akira\*·(University of Yamanashi) Nagao Masanori·Watauchi Satoshi·Tanaka Isao·(Tokyo Metropolitan University) Goto Yosuke·Mizuguchi Yoshikazu·(Hiroshima University) Moriyoshi Chikako·Kuroiwa Yoshihiro·(Hokkaido University) Rosero-Navarro Nataly Carolina·Tadanaga Kiyoharu
- 3G07 Structure and properties of  $\text{LnOInS}_2$  ( $\text{Ln}=\text{La, Ce, Pr, Sm}$ ) (Hokkaido University) ○ITO Hiroaki·Miura Akira\*·(Tokyo Metropolitan University) Goto Yosuke·Mizuguchi Yoshikazu·(Hiroshima University) Moriyoshi Chikako·Kuroiwa Yoshihiro·(Hokkaido University) Rosero-Navarro Nataly Carolina·Tadanaga Kiyoharu
- 3G08 Research on Ce concentration dependence of superconductivity of  $\text{Ce}_x\text{Nd}_{2-x}\text{CuO}_{4-y}$  (Chuo University) ○OH-ISHI Katsuyoshi·KUSANO Hiroshi·OKA Kengo
- 3G09 R-site randomness effect on the electronic phase diagram for  $\text{RBaMn}_2\text{O}_6$  (Toho University) ○AKAHOSHI Daisuke·TANIKAWA Norihisa·Saito Toshiaki

#### (13:00) (Chairman 三浦章)

- 3G13 Synthesis of Perovskite Oxynitride  $\text{LaTaON}_2$  through Nitridation of Dion-Jacobson-type Layered Perovskite (Tohoku University)  
○ASAKURA Yusuke\*·(Gakushuin University) UEDA Koichiro·INAGUMA Yoshiyuki·(Tohoku University) YIN Shu
- 3G14 New Method for the Synthesis of  $\beta$ -TaON Oxynitride Using  $\text{C}_3\text{N}_4$  related materials (Gakushuin University) ○UEDA Koichiro·INAGUMA Yoshiyuki·(Tohoku University) ASAKURA Yusuke·YIN Shu
- 3G15 High-pressure Synthesis and Unusual Thermal Decomposition Behavior of  $\text{CuNbO}_3$  (Kyoto University) ○FUKUDA Masayuki·(Osaka Prefecture University) YAMADA Ikuya·(Kyushu University) HOJO Hajime·(Kyoto University) TANAKA Katsuhisa·FUJITA Koji\*
- 3G16 Synthesis and structure analysis of novel oxides scheelite-type structure  $\text{LnNb}_{1-x}\text{W}_x\text{O}_4$  ( $\text{Ln} = \text{rare-earth}$ ) (Utsunomiya University)  
○Akizawa Ryoji·Shan Yue Jin\*·Tezuka Keitaro

#### (14:20) Break

#### (14:40) (Chairman 植田紘一郎)

- 3G18 Hydride ion doping into  $\text{BaSnO}_3$  based perovskite oxides (Kyushu University) ○Watanabe Hiroshi·Hasegawa George·Akamatsu Hirofumi·Hayashi Katsuro\*
- 3G19 Sintering and dielectric properties of perovskite-type oxynitride solid solution  $\text{Sr}_{1-x}\text{La}_x\text{Ta}_{1-x}\text{Ti}_x\text{O}_2\text{N}$  (Hokkaido University) ○Otaki Sota·Masubuchi Yuji\*·Higuchi Mikio·Kikkawa Shinichi
- 3G20 Search for new layered perovskite oxynitride ferroelectric by first principle calculation (Kyushu university) ○Shirai Yuya·Akamatsu Hirofumi\*·Hasegawa Zyozi·Hayashi Katsuro\*
- 3G21 Influence of deposition oxygen pressure on crystal structure and dielectric property in radical nitridation of Sr-Ta-O thin film (TDK Corporation) ○YAMAZAKI Kumiko

## ■ ■ September 07 (Fri) (Room K) ■ ■

### 15.Strategy for preparation of element-block materials with high functionalities

#### 無機ナノ構造元素ブロック

#### (9:00) (Chairman 長田実)

- 3K01 Different Intercalation behavior between a kaolinite-phosphonium salt intercalation compound and a kaolinite-ammonium salt intercalation compound as intermediates (Waseda University) ○MACHIDA Shingo·GUEGAN Regis·(Waseda University·Kagami Memorial Institute for Materials Science and Technology) SUGAHARA Yoshiyuki\*
- 3K02 Preparation of water dispersible Janus nanosheets using layered hexaniobate (Waseda University) ○NAGAI Tomoki·Suzuki Ryoko·(International Science and Technology studies Center) Guegan Regis·(Japan Technological Research Association of Artificial Photosynthetic Chemical Process) Nishimi Taisei·(Waseda University·Kagami Memorial Research Institute for Material Science and Technology, Waseda University) Sugahara Yosiyuki\*

#### (9:40) (Chairman 片桐清文)

- 3K03 ★ Polymeric materials based on 2D nanosheets (iMaSS, Nagoya University·MANA, National Institute for Materials Science) ○OSADA Minoru
- 3K05 Biocompatible nanovehicles based on the association of lipids and layered materials (Department of applied chemistry, graduate school advanced science and engineering, Waseda University) ○TANAKA Tomonari·(Global center for science and engineering, Waseda University) Guegan Regis·(Department of applied chemistry, graduate school advanced science and engineering, Waseda University·Kagami Memorial Institute for Materials Science and Technology) SUGAHARA Yosiyuki\*

#### (10:40) (Chairman 菅原義之)

- 3K06 ★ Creation of Advanced Functional Materials Based on Inorganic Particles as Element-Blocks (Hiroshima University) ○KATAGIRI Kiyofumi
- 3K08 Environmentally friendly method to prepare graphene oxide/silica composites (Hiroshima University) ○IMAE Ichiro\*·Yukinaga Kohei·Sasaki Ayane
- 3K09 クリック反応を用いた  $\text{TiO}_2$ /酸化グラファイトナノシート交互積層体の創製 (shinshu unuversity) ○ishimoto keita·takimoto daisuke·(Tokyo Denki University) mochizuki dai·(shinshu unuversity) sugimoto wataru\*

## ■ ■ September 07 (Fri) (Room L) ■ ■

### 13. Chemical Design - Advanced materials based on chemical control of reactions and structures -

(9:00) (Chairman 是津信行)

- 3L01 Liquid phase synthesis and fine structure observation of BaTiO<sub>3</sub>-CoFe<sub>2</sub>O<sub>4</sub> multiferroic nanocomposites (Toyohashi University of Technology) ○OURA Kentaro·Wai Kian Tan·KAWAMURA Go·MUTO Hiroyuki·MATSUDA Atsunori\*
- 3L02 Direct Formation of Li<sub>3</sub>PS<sub>4</sub>- LiI Solid Electrolytes on the Cathode Active Material for Lithium Batteries using SEED Method (Toyohashi University of Technology) ○MATSUDA Reiko\*·HIRAHARA Eito·Nguyen Huu Huy Phuc·MUTO Hiroyuki·MATSUDA Atsunori\*
- 3L03 Preparation of Na<sub>3</sub>SbS<sub>4</sub>-Na<sub>4</sub>SnS<sub>4</sub> solid electrolytes from aqueous solution and their characterization (Tohohashi Unibersity of Technology) ○Gamo Hirotda·Phuc Nguyen Huu Huy·Matsuda Reiko·Muto Hiroyuki·Matsuda Atsunori\*
- 3L04 ☆ Design of Composite Electrode of All-Solid-State Lithium Secondary Batteries Using Sulfide Solid Electrolytes (Osaka Prefecture University) ○SAKUDA Atsushi·HAYASHI Akitoshi·TATSUMISAGO Masahiro

(10:20) Break

(10:40) (Chairman 松田厚範)

- 3L06 Liquid-phase synthesis and structure analysis of Li<sup>+</sup>-ion conducting Argyrodite-type sulfide-based electrolytes (Osaka Prefecture University) ○YUBUCHI So·SAKUDA Atsushi·HAYASHI Akitoshi·TATSUMISAGO Masahiro\*
- 3L07 Electrochromic properties of NiO-TiO<sub>2</sub> films prepared by sol-gel method (Kansai University) ○Kato Masanori·Uchiyama Hiroaki\*
- 3L08 Conditions for preparing dense YSZ thin films on plastic substrates by sol-gel transfer technique (Kansai University) ○YAMADA Takehito·KOZUKA Hiromitsu\*·(AGC) OKUDA Ryota·HIRAKOSO Hideyuki
- 3L09 Fabrication and functionalization of highly ordered MOF films from metal hydroxides (Osaka prefecture university) ○NAKANISHI Miharū·IKIGAKI KEN·OKADA KENJI·TOKUDOME YASUAKI·TAKAHASHI MASAHIDE\*

## ■ ■ September 07 (Fri) (Room M) ■ ■

### 14. Hybrid materials: Science and function enhanced by hybridization

**発光材料**

(9:20) (Chairman 瀬川浩代)

- 3M02 ☆ Photophysical properties of lanthanide coordination crystals (Tokyo university of science) ○NAKANISHI Takayuki
- 3M03 ncSiQD-based Light Emitting Diodes (National Institute for Materials Science·Chuo University) YAMADA HIROYUKI·(National Institute for Materials Science) GHOSH BATU·(National Institute for Materials Science·Chuo University·Hokkaido University) ○SHIRAHATA NAOTO
- 3M04 Fabrication of oriented multi-layered thin films of metal-organic frameworks (MOF-on-MOF) containing silver nanoparticles (Osaka Prefecture University) ○IKIGAKI Ken·OKADA Kenji·TOKUDONE Yasuaki·(Graz University of Technology) Falcaro Paolo·(The University of Adelaide) DOONAN Christian·(Osaka Prefecture University) TAKAHASHI Masahide\*

**電気特性の改善**

(10:20) (Chairman 金子芳郎)

- 3M05 ★ Copper fine particles for the fabrication of electronic circuits by low temperature rapid sintering (Hokkaido University) ○YONEZAWA Tetsu\*·TSUKAMOTO Hiroki
- 3M07 Dielectric properties of bismuth borate glass - barium titanate composites (National Institute for Materials Science) ○Li Tingting·SEGAWA Hiroyo·MATSUI Yoshio·(National Institute for Materials Science·Tokyo Insitute of Technology) OHASHI Naoki
- 3M08 Magnetic and electronic properties of the Li<sub>2</sub>S-FeS composite cathode (Kyoto University) ○Takami Tsuyoshi·(National Institute of Advanced Industrial Science and Technology) Takeuchi Tomonari·(Kyoto University) Fukunaga Toshiharu

## ■ ■ September 07 (Fri) (Room N) ■ ■

### 07. Inhomogeneous engineering for excellent property and reliability of ceramics

#### ガラス・光学材料

##### (9:00) (Chairman 橋本忍)

- 3N01 Thermal Degradation Prevention of Sr<sub>2</sub>Si<sub>5</sub>N<sub>8</sub>:Eu<sup>2+</sup> Phosphor via Thermal Treatment in Nitrogen-Hydrogen (National Institute for Materials Science) ○Zhang Chenning・Uchikoshi Tetsuo・(Xiamen University) Xie Rong-Jun・(National Institute for Materials Science) Liu Lihong・Cho Yujin・Sakka Yoshio・Hirosaki Naoto・Sekiguchi Takashi
- 3N02 Preparation of MgO-MgAl<sub>2</sub>O<sub>4</sub>-Al<sub>2</sub>O<sub>3</sub> nanocomposite films using metal-organic chemical vapor deposition (Yokohama National University) ○Ikai Masakazu・Ito Akihiko\*
- 3N03 ★ Toughening of CaO-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> glass by crystal precipitation (AGC Inc.) ○Maeda Kei・Akatsuka Kosho・(Tokyo University of Science) Yasumori Atsuo・Iwasaki Kenichiro

##### (10:20) Break

#### 耐火物

##### (10:40) (Chairman 伊藤暁彦)

- 3N06 High temperature shrinkage suppression of refractory ceramic fiber (RCF) board using a novel surface coating agent (Nagoya Institute of Technology・Aichi Center for Industry and Science Technology) ○Takahashi Naoya・(Nagoya Institute of Technology) Hashimoto Shinobu\*・Daiko Yusuke・Honda Sawao・Iwamoto Yuji
- 3N07 Improvement of heat resistance by treating AES fiber board with silica sol solution (Nagoya Institute of Technology) ○OZEKI Takahiro・HASHIMOTO Shinobu\*・HONDA Sawao・DAIKO Yusuke・IWAMOTO Yuzi・(ISOLITE INSULATING PRODUCTS CO.,LTD.) SHIRAISHI Yasuo
- 3N08 Combustion synthesis of Al<sub>4</sub>SiC<sub>4</sub> powders (Nagoya Institute of Technology) ○KAMIYA Ryosuke・HASHIMOTO Shinobu\*・(National Institute of Advanced Industrial Science and Technology) HYUGA Hideki・NAKASHIMA Yuki・(Nagoya Institute of Technology) HONDA Sawao・DAIKO Yusuke・IWAMOTO Yuji

#### 強誘電体

##### (13:00) (Chairman 藤本憲次郎)

- 3N13 ★ Inhomogeneous and Electrical Properties of Quenched Bismuth-based Perovskite Ferroelectrics (Tokyo University of Science) ○NAGATA Hajime・TAKENAKA Tadashi
- 3N15 Fabrication of (K,Ta)NbO<sub>3</sub> crystal-oriented polycrystalline Ceramics (Nagaoka University of Technology) ○ONO Yuuki・TANAKA Satoshi\*
- 3N16 Evolution of crystal-oriented microstructure of *c*-axis oriented (Sr,Ca)<sub>2</sub>NaNb<sub>5</sub>O<sub>15</sub> during sintering (Nagaoka University of Technology) ○BABA Shoko・TANAKA Satoshi\*・(University of Limoges) Maitre Alexandre・Pradeilles Nicolas・Autou Guy

#### セラミックスプロセス

##### (14:20) (Chairman 田中諭)

- 3N17 ★ Ceramic elaboration based on understanding and controlling structure of particle assembly (Yokohama National University・Kanagawa Institute of Industrial Science and Technology) ○TATAMI Junichi\*・IJJIMA Motoyuki・(Kanagawa Institute of Industrial Science and Technology) TAKAHASHI Takuma

##### (15:00) (Chairman 高橋拓実)

- 3N19 Coarse pore formation of ZrO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub> composite ceramics (Nagaoka University of Technology) ○YAMAGUCHI Shuntaro・TANAKA Satoshi\*
- 3N20 Multi-scale analysis of anisotropic sintering for *c*-axis-oriented alumina ceramics (Nagaoka University of Technology) ○TANAKA Satoshi\*・IGATA Testuo・(Tokyo Institute of Technology) WAKAI Fumihiro

## ■ ■ September 07 (Fri) (Room R) ■ ■

### 16. Material Design and Processing Design

#### 3D 造形デザイン

(9:00) (Chairman 中村貴宏)

- 3R01 ★ Processing Design for Controlling Microstructure in Electron-Beam Powder Bed Fusion (Osaka University・Tohoku University)  
○KOIZUMI Yuichiro・(Tohoku University) ZHAO Yufan・CHIBA Akihiko
- 3R03 Fabrication of three-dimensional Al<sub>2</sub>O<sub>3</sub>-ZrO<sub>2</sub>-TiO<sub>2</sub> ceramics by DLP vat photopolymerization (Kagawa Industrial Technology Center)  
○YOKOTA Kozo・Kataoka Yoshitaka
- 3R04 Submicrometer Spherical Particle Mass Production by Pulsed Laser Melting in Liquid Using A Slit Nozzle (National Institute of Advanced Industrial Science and Technology) ○ISHIKAWA Yoshie・(Hokkaido University) KOSHIZAKI Naoto

(10:20) Break

- 3R06 Laser Sintering of bulk alumina using Nd:YAG Laser (Japan Fine Ceramics Center) ○KIMURA Teiichi・SUEHIRO Satoshi
- 3R07 Synthesis of CrN Thin Films by MBE and Effect of Epitaxy on Antiferromagnetic Transition (Hiroshima University) ○IMADA Yuka・HINO Reiya・IKEDA Kei・IZUMI Satoshi・INUMARU Kei\*

#### 薄膜プロセスデザイン

(11:20) (Chairman 木村禎一)

- 3R08 Direct conductive area patterning of the solution-processed transparent ZnO film (Tokyo Institute of Technology) ○Lin Hwai En・Kubota Yuta・Kishi Tetsuo・Yano Tetsuji・Matsushita Nobuhiro
- 3R09 Influence of Source Vaporization on Preparation of ZnO Film by a nearby vaporizing chemical vapor deposition method (National Institute of Technology, Fukui College) ○NISHINO Junichi\*

#### 特殊反応場と新材料創製

(13:00) (Chairman 白井孝)

- 3R13 Microstructures and thermal properties of various composites including Ti-Al-C MAX phase materials prepared by hot shock compaction (Sojo University) ○TOMOSHIGE Ryuichi\*・(YAMAKIN Co., Ltd.) TANAKA Hidekazu
- 3R14 Fabrication of MAX phase powders by combustion synthesis method (Tokyo Institute of Technology) ○Gubarevich Anna\*・TAMURA Riki・YOSHIDA Katsumi
- 3R15 Investigations of Cation Disorder in MgAl<sub>2</sub>O<sub>4</sub> by Swift Heavy Ions (Kyushu University) ○YOSHIOKA Satoru・TSURUTA Konosuke・YAMAMOTO Tomokazu・YASUDA Kazuhiro・MATSUMURA Syo・(Japan Atomic Energy Agency) ISHIKAWA Norito・(Kyushu Synchrotron Light Research Center) KOBAYASHI Eiichi
- 3R16 Effect of metal ion adsorption on carbon support in the synthesis of PtCu/C nanoparticles by the electron beam reduction method (Osaka University) ○Tanabe Takahiro\*・Seino Satoshi\*・Nakagawa Takashi・Yamamoto Takao・(Kobe City College of Technology) Kugai Junichiro

(14:20) Break

#### ナノ材料創製プロセス

(14:40) (Chairman 岩崎将任)

- 3R18 Fabrication of silica nanoparticles array using anodic aluminum oxide substrate as template (Tokyo University of Science・Nissan Chemical Corporation) ○Sekiguchi Kazutoshi・(Tokyo University of Science) Yasumori Atsuo\*
- 3R19 Preparation and evaluation of reduced graphene oxide dispersed silica aerogel nanocomposites (Panasonic Co., Ltd.,) ○OIKAWA Kazuma\*・TOYOTA Kei・SAKATANI SHIGEAKI・(Tohoku University) HAYASHI YAMATO・TAKIZAWA Hirotsugu

## ■ ■ September 07 (Fri) (Room S) ■ ■

### 17. Ceramics Synthesis Achieved by Aqueous Solution Process - Discussion of Aqueous and Non-aqueous Solution Processes Aiming at Morphological Control and High functionalization of Materials -

#### プロセス制御

(9:00) (Chairman 朝倉裕介)

- 3S01 Effect of Si concentration on the photoluminescence properties of Eu<sup>2+</sup>-activated orthosilicate phosphors prepared by solution techniques using glycol-modified silane (Okayama University of Science) ○SATO Yasushi\*・YASUDA Riko・IKESHIMA Tomohide・(Tokai University) TOMITA Koji・(Tohoku University) KAKIHANA Masato
- 3S02 Synthesis of sinterable Y<sub>2</sub>O<sub>3</sub> powder via engineering of LRH (National Institute for Materials Science) ○LI Jiguang・(National Institute for Materials Science) Sakka Yoshio

#### その場観察

(9:40) (Chairman 小林亮)

- 3S03 ★ Nucleation processes of ceramics nanoparticles approached by in-situ observation (Hokkaido University) ○KIMURA Yuki

(10:20) Break

#### MOF

(10:40) (Chairman 内山弘章)

- 3S06 ★ Synthesis of morphology controlled ZIF-8 MOF (Kansai University) ○TANAKA Shunsuke
- 3S08 Development of titanium clusters by an aqueous solution approach and their absorption properties (Tohoku University) ○KOBAYASHI Makoto・SAKABE Hiroki・OKUHARA Tatsuya・KATO Hideki・(Tokyo University・JST ERATO) SATO Sota・(Tohoku University) KAKIHANA Masato

## ■■September 07 (Fri) (Room T) ■■

### 20.Materials Innovation for Environmental Problems and Water Resources

#### 資源回収

##### (9:00) (Chairman 殷シュウ)

- 3T01 Synthesis of mesoporous silica containing group 2 elements and their adsorption property of rare earth cation (University of Yamanashi)  
○TAKEI Takahiro・TAKEHARA Miku・YANAGIDA Sayaka・KUMADA Nobuhiro
- 3T02 R&D of Resorce Recovery Techniques of Meal Tellurium from Thermoelectric Conversion Material (Shimane University) ○SASAI Ryo\*・FUJIMURA Takuya・(ARBIZ Co.) SANO Takuya

#### 構造材料

##### (9:40) (Chairman 磯部敏宏)

- 3T03 ★ Geo-polymer research and technology as construction materials (Shimane University) ○ATARASHI Daiki
- 3T05 Preparation of zeolite film on aluminium substrate by dry gel conversion method (Okayama University) ○Kamemura Takaya・Kameshima Yoshikazu\*・Nishimoto Shunsuke・Miyake Michihiro
- 3T06 Synthesis and evaluation of metal ion doped ZIF-8 (Osaka Prefecture University) ○Ujike Tatsuya・Makiura Rie・Murata Hidenobu・Nakahira Atsushi\*

## ■■September 07 (Fri) (Room U) ■■

### 19.Exploration of Basic Sciences for Advanced Bio-related Materials Developments

##### (9:20) (Chairman 大矢根綾子)

- 3U02 Protein adsorption on surface potential-controlled Ti in serum-containing medium (Japan Fine Ceramics Center) ○HASHIMOTO Masami・OGAWA Takafumi・KITAOKA Satoshi・(Tohoku University) FURUYA Maiko・KANETAKA Hiroyasu・(Nagoya University) MUTO Shunsuke・(Osaka University) ABE Masayuki・YAMASHITA Hayato
- 3U03 Proteins adsorption behavior on lamellar structured MPS sinters Prepared by SPS (Osaka City University) ○YOKOGAWA Yoshiyuki\*・SASADA Keita・HIRABAYASHI Koji・(Osaka Research Institute of Science and Technology) INAMURA Suguru・SUYAMA TAKESHI

##### (10:00) (Chairman 小幡亜希子)

- 3U04 ☆ Development of highly ion-conductive crystal-oriented ceramics inspired by apatite research (Nagoya Institute of Technology) ○FUKUDA Koichiro

##### (10:40) Break

##### (11:00) (Chairman 藪塚武史)

- 3U07 Rapid calcium phosphate coating on dentin by laser irradiation in supersaturated solutions (National Institute of Advanced Industrial Science and Technology) ○OYANE Ayako\*・ARPUTHARAJ Joseph Nathanael・NAKAMURA Maki・(Hokkaido University) MAYUMI Kayoko・SHITOMI Kanako・MIYAJI Hirofumi
- 3U08 Preparation and evaluation of thin films using plate-shaped hydroxyapatite synthesized using dodecanedioic acid (Tokyo Medical and Dental University) ○HORIUCHI Naohiro\*・Wit Yee Wint・Yamashita Kimihiro・Nagai Akiko
- 3U09 Physicochemical property of mesoporous silica thin films with surface plasmon resonance method (Tokyo Institute of Technology) ○IKOMA Toshiyuki

## ■ ■ September 07 (Fri) (Room V) ■ ■

### 01. Research Trend on Advanced Ceramic Technology for Energy Conversion Devices

#### 燃料電池・エネルギー変換材料

##### (9:00) (Chairman 嶺重温)

- 3V01 Proton conducting SOFC supported by Ni/BCY cermet anode (Graduate School of Science and Engineering, Ehime University) ○TANI Yasumasa・ITAGAKI Yoshiteru\*・AONO Hiromichi・YAHIRO Hidenori
- 3V02 Oxygen evolution reaction catalysis of 3d transition metal oxides and oxygen polyhedral network structure (Osaka Prefecture University) ○OKAZAKI Yuichi・YAMADA Ikuya\*・(The University of Tokyo) YAGI Syunsuke
- 3V03 Fabrication of conductive  $\text{AlO}_x$  thin films by drop photochemical deposition (Nagoya Institute of Technology) ○UMEMURA Masanari\*・ICHIMURA Masaya

##### (10:00) (Chairman 山田幾也)

- 3V04 Average and local structural analysis of  $\text{La}_{0.33}(\text{Si},\text{M})\text{O}_{26}$ -based oxide ion conductor (Tokyo University of Science Graduate School of Science and Technology Department of Advanced Chemistry Idemoto, Kitamura Laboratory) Kitamura Naoto\*・Uehara Takuya・Ishida Naoya・Idemoto Yasushi
- 3V05 Origins of variation in electrical conducting properties for lanthanum silicate ceramics (Univ. Hyogo) ○MOMAI Mizuki・MINESHIGE Atsushi\*・HAYAKAWA Hikaru・YAZAWA Tetsuo・KAGOSHIMA Yasushi・TAKAYAMA Yuki・MATSUI Junji・(Hyogo Pref. Inst. Tech.) YOSHIOKA Hideki
- 3V06 Ion conducting properties for lanthanum silicate single crystal (Univ. Hyogo) ○MATSUMARU Ayako・MINESHIGE Atsushi\*・XIAO H.・YAZAWA Tetsuo・(AIST) BAGARINAO Katherine・YAMAJI Katsuhiko・HORITA Teruhisa・(Hyogo Pref. Inst. Tech.) YOSHIOKA Hideki

##### (11:00) (Chairman 藤代芳伸)

- 3V07 ★ Recent Progress of Solid Oxide Fuel Cells (Toho Gas Co., Ltd.) ○MIZUTANI Yasunobu

##### (13:00) (Chairman 桑原彰秀)

- 3V13 Direct ammonia-fueled SOFC with Ni-loaded SDC anode (Ehime University) ○CUI Jiang・ITAGAKI Yoshiteru\*・YAHIRO Hidenori
- 3V14 Fabrication of thin proton-conducting phosphate glass electrolyte by hot-pressing (Tohoku University) ○Tashiro Masataka・(The National Institute of Advanced Industrial Science and Technology) Yamaguchi Takuya・Ishiyama Tomohiro・(Tohoku University) Suzuki Issei・(Hokkaido University) Nishii Junji・(Kawazoe Frontier Technologies Corporation) Yamashita Toshiharu・Kawazoe Hiroshi・(Tohoku University) Omata Takahisa\*
- 3V15 Effect of electrode performance on open-circuit voltage in protonic ceramic fuel cells (National Institute of Advanced Industrial Science and Technology) ○SHIMADA Hiroyuki・YAMAGUCHI Toshiaki・YAMAGUCHI Yuki・FUJISHIRO Yoshinobu

##### (14:00) (Chairman 島田寛之)

- 3V16 First-principles calculations of point defects in proton conductor  $\text{LaScO}_3$  (JFCC・NIMS) ○TAGUCHI Ayako・(JFCC) Ogawa Takafumi・(JFCC・NIMS) Kuwabara Akihide・(JFCC) Fisher Craig A. J.
- 3V17 Dielectric and ionic conductivity properties of high density strontium hydroxyapatite (Tokyo Medical and Dental University) ○OTSUKA Keisuke・HORIUCHI Naohiro\*・YAMASHITA Kimihiro

##### (14:40) (Chairman 浜尾尚樹)

- 3V18 Effects of surface roughness on high temperature gas leakage for vermiculite/talc compression gas seal materials (Shizuoka University) ○XU Jie・SUDA Seiichi\*
- 3V19 Synthesis of titanium oxide-tungsten oxide composites in supermicroporous silicas and their photocatalytic activity (Keio University) ○ONO Yuto\*・(Industrial Technology Research Institute) SOMEKAWA Shoichi・WATANABE Hiroto・(Keio University) IMAI Hiroaki・OAKI Yuya

#### 光エネルギー変換材料

##### (15:20) (Chairman 内山弘章)

- 3V20 Porous- $\text{TiO}_2$  films deposited by a non-equilibrium 2-dimensional plasma and their application to dye-sensitized solar cells (Shizuoka University) MAYUMI Shinji・OKUMURA Ryosuke・SAGISAKA Junpei・OKUYA Masayuki
- 3V21 Dye-sensitized solar cell with a double-layered FTO (Shizuoka University) ○YAMASHITA Yumi\*・SATO Jun・UNEME Keishi・OKUYA Masayuki
- 3V22  $\text{TiO}_2$  films prepared by a microwave heating and their application to dye-sensitized solar cells (Shizuoka University) SUZUKI Kosuke・IKETANI Ayato・OKUYA Masayuki

## ■■September 07 (Fri) (Room W) ■■

### 23. Photoceramics - Synthesis, Functions and Applications of Optical and Colorful Ceramics -

#### (9:00) (Chairman 早川知克)

- 3W01 Liquid-phase synthesis of alumina and PS-alumina composite films with the transparency (Utsunomiya University) ○SASAKI Shunsuke・SUGIHARA Okihiro・MATSUMOTO Taki\*
- 3W02 Study on synthesis and photocatalytic properties of  $MgFe_{2-x}M_xO_4$  ( $M = Al, Ga$ ) (Utsunomiya University) ○ONO Ryota・TEZUKA Keitaro\*・SHAN Yue Jin
- 3W03 Photocatalytic activity of  $TiO_2$  supported on carbon fiber sheet made from silk (Nagaoka University of Technology) ○HASEGAWA Takuya・OKAMOTO Tomoichirou\*
- 3W04 Study on infrared emission mechanism of heat-treated titanium oxide (Salesian Polytechnic) ○SAWA Makito\*・KUROKI Youtiro

#### (10:20) Break

#### (11:00) (Chairman 井上幸司)

- 3W07 Gain mechanism of excitonic stimulated emission from ZnO thin films (Kobe University) ○MATSUZAKI Ryosuke・(National Institute for Materials Science) ADACHI Yutaka・(Kobe University) UCHINO takashi\*
- 3W08 Raman analysis of hexagonal platelet  $CuGaO_2$  and  $CuGaO_2/ZnO$  composite (Nagoya Institute of Technology) ○CHOI Minuk・HAYAKAWA Tomokatsu\*
- 3W09 Relationship of local structures, optical bandgap and nonlinear optical properties for  $Ag_2O-TeO_2$  glasses (Nagoya Institute of Technology) ○HAYAKAWA Tomokatsu\*・KATO Kenta・MURAMATSU Kousuke・YAMAMOTO Katsuhiko・HAYASHI Koichi・(Limoges University) DUECLERE Jean Rene・THOMAS Philippe