

# **Tentative Scientific Program of ICCCI2018**

**2018/4/10**

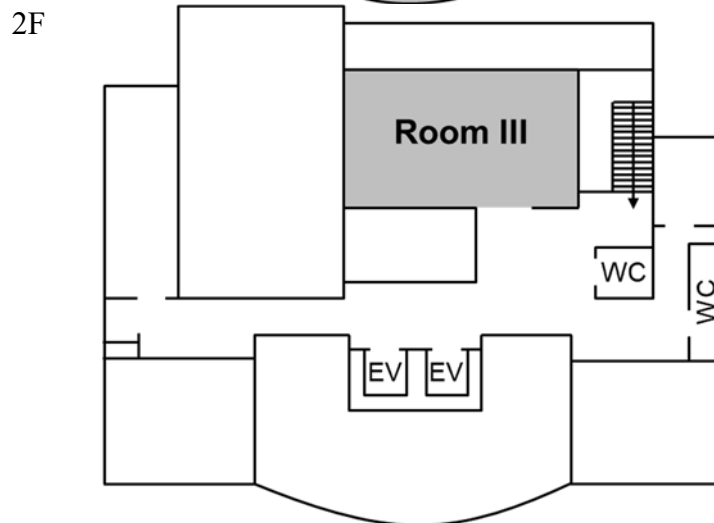
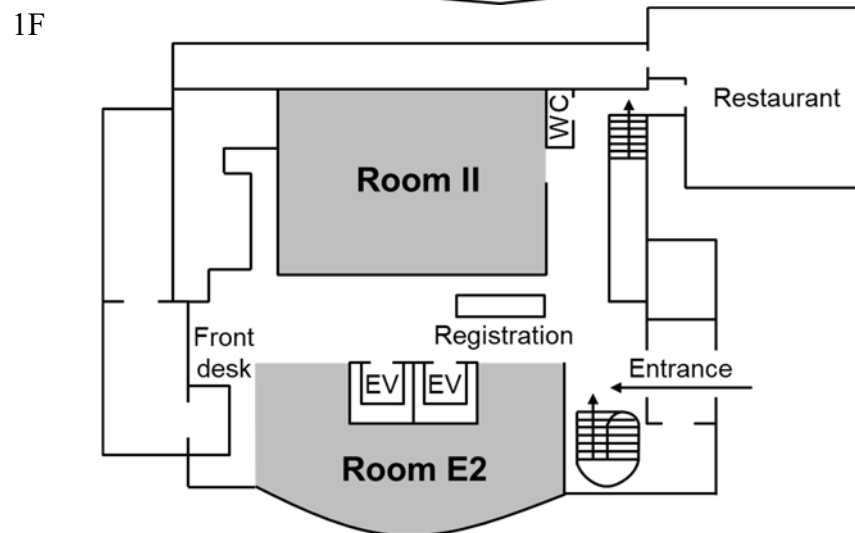
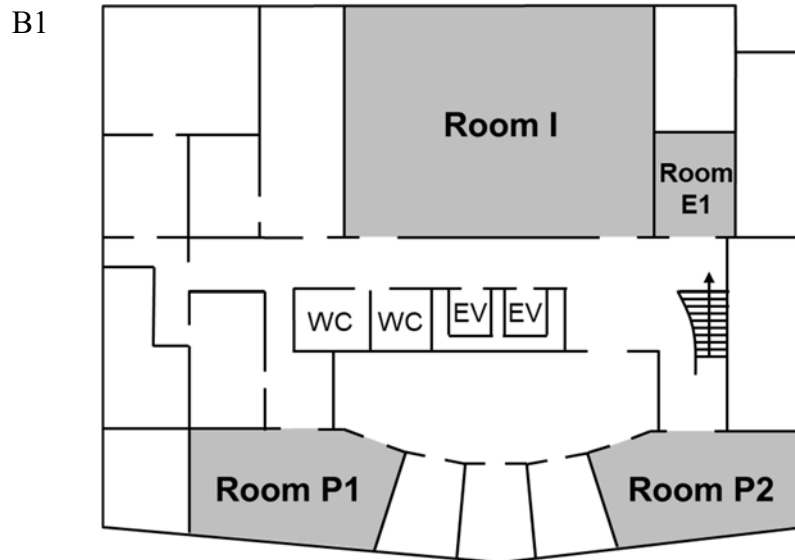
## PROGRAM OVERVIEW

<i>Date</i>	<i>Time</i>	<i>Program</i>		
July 9 (Mon)	14:00 – 18:00	Registration		
	18:30 –	Welcome reception		
	19:30 –	Dinner		
July 10 (Tue)	8:00 – 12:00	<b>Session A</b> < Room I >	<b>Session C</b> < Room II >	<b>Session E</b> < Room II >
	12:00 – 13:20	Photo and Lunch		
	13:20 – 17:00	<b>Session A</b> < Room I >	<b>Session B</b> < Room II >	<b>Session E</b> < Room II >
	17:15 – 19:00	<b>Poster session (Core time)</b> < Room P >		
	19:00 –	Dinner		
July 11 (Wed)	8:00 – 12:10	<b>Session A</b> < Room I >	<b>Session B</b> < Room III >	<b>Session D</b> < Room II >
	12:30 – 18:00	Excursion (including Lunch)		
	19:00 –	Banquet		
July 12 (Thu)	8:00 – 12:30	<b>Session A</b> < Room I >	<b>Session B</b> < Room III >	<b>Session E</b> < Room II >
	12:30 – 14:00	Lunch		

Ladies Program  
10:00 – 17:00

**Exhibition Session**  
< Room E1 >  
< Room E2 >

## CONFERENCE FLOOR PLANS



## **NOTE TO PRESENTERS**

### ***For Oral Presentation:***

The organizing committee will provide a laptop computer, LCD projector, screen, laser pointer and microphone in each technical session room. The operating system of the laptop computer is Windows 10, and Microsoft PowerPoint 2016 will be installed. Presentation times as shown in the session program for invited and contributed speakers are including discussion (contributed speakers: 15 min presentation and 5 min discussion, invited speakers: 25 min presentation and 5 min discussion). Please bring your presentation data on a USB memory or CD-ROM to be loaded to the laptop prior to the start of the session. Speakers can also use own computers to make presentations. Speakers are requested to check that their laptops work well with the projector before their presentations. No presentation may be loaded while the session is in progress, so please arrive early in your session room.

### ***For Poster Presentation:***

Poster session will be held from July 10, 2018, at 10:00 to July 11, 2018, at 18:00 in Room P1 and P2. Authors should plan on arriving in the morning of July 10, 2018 to set up. Core time of the poster session will run for 110 minutes from 17:10 to 19:00 on July 10, 2018. The poster number will help you in locating your space at the poster session. At a minimum, one author of a paper should be present to provide details and answer questions during the core time of the poster session. Authors are responsible for removing all materials after closing the poster session until 11:00 of July 12, 2018. The conference will provide a display board. Printed poster dimensions are regulated as 180 cm in tall and 90 cm in wide. Posters are attached to the display boards with thumbtacks, which will be provided. The boards are rented and may not be written on or defaced in any way. There are no provisions for making posters at the meeting or for receiving, storing, or returning posters to authors.

### ***Student Poster Awards***

The Student Poster Awards recognize student poster presentations characterized by excellence in research, clarity in presentation, and personal knowledge in a discussion. The Student Poster Award winners will receive a certificate of commendation and a supplementary prize. The award ceremony will be held at the banquet on July 11, 2018.

## **Oral Presentation**

**July 10, 2018~July 12, 2018**

**July 10, 2018**

Room I

Session A: Interface Characterization and Control for Nanoparticles and Powders  
(54th Summer Symposium on Powder Technology)

8:00~10:00 Chair : Yoshiyuki Shirakawa

8:00~8:30

1-I-A-01 INVITED

Thermal Properties of Polycrystalline Alumina and Mullite  
Yoshihiro Hirata (Kagoshima University, Japan)

8:30~9:00

1-I-A-02 INVITED

Ceramic with crack healing capability and its mechanism  
Wei-Hsing Tuan, Hao-Yu Chang, Ying-Cen Chen, Hsiu-Ching Hsu (National Taiwan University, Taiwan), Makio Naito (Osaka University), Po-Liang Lai (Chang Gung University, Taiwan)

9:00~9:30

1-I-A-03 INVITED

Dry deposition of carbon nanotube thin films for flexible electronics applications  
Esko I. Kauppinen (Aalto University School of Science, Finland)

9:30~10:00

1-I-A-04 INVITED

Interface modification for the adsorption of viruses on porous ceramics structures and nanofibers  
Thomas Graule, Mateusz Schabikowski, Benjamin Michen (Empa, Swiss Federal Laboratories for Materials Science and Technology, Switzerland), J.Traber, W.Pronk (Eawag, Switzerland), G.P.Szekeres, Z.Németh, K.Schrantz, K.Németh, K.Hernádi (University of Szeged, Hungary)

10:00~10:20

Coffee break

10:20~12:00 Chair : Yuji Hotta

10:20~10:50

1-I-A-05 INVITED

Particle surface characterization – a key to the design and processing of advanced materials  
Wolfgang Peukert (Friedrich-Alexander University Erlangen, Germany)

10:50~11:20

1-I-A-06 INVITED

Interfacial Design: Engineering Biomolecule-Materials Interactions  
Candan Tamerler (University of Kansas, U.S.A.)

11:20~11:40

1-I-A-07

Characterization of spherical SiO<sub>2</sub> porous particles treated by mechanical processing under high shear condition: in comparison with heating process  
Motoyuki Iijima, Masahiro Hayakawa, Junichi Tatami (Yokohama National University)

11:40~12:00

1-I-A-08

Analysis of gelation characteristics of concentrated suspension by capillary force  
Toru Ishigami, Kazuma Anzai, Chisato Tokishige, Tomonori Fukasawa, Kunihiro Fukui, Shin-ichi Kihara (Hiroshima University, Japan)

12:00~13:20

Photo and Lunch

13:20~15:00 Chair : Motoyuki Iijima

13:20~13:50

1-I-A-11 INVITED

Oxidation Behavior in Wet Oxygen Environment of SiC<sub>f</sub>/Si-B-C Composites Modified by Al<sub>2</sub>O<sub>3</sub>  
Dongliang Jiang, Qingliang Shan, Jianbao Hu, Jinshan Yang, Xiangyu Zhang, Shaoming Dong (Shanghai Institute of Ceramics, Chinese Academy of Sciences, China)

13:50~14:20

1-I-A-12 INVITED

Control Factors on Fine Structure and Surface Roughness  
Toshihiro Ishikawa, Ryutaro Usukawa (Tokyo University of Science, Yamaguchi, Japan)

14:20~14:40

1-I-A-13

Removal of zinc and cadmium from wastewater by leaf mold: mechanism investigation and surface complexation modeling  
Ryo Fukushima, Giuseppe Granata (Waseda University), Koichi Sato, Saburo Yamagata (MITSUBISHI MATERIALS CORPORATION), Chiharu Tokoro (Waseda University)

14:40~15:00

1-I-A-14

Mechanochemical production of rare earth ore hydroxide: quantitative evaluation by XAFS analysis

Tatsuya Kato, Giuseppe Granata, Chiharu Tokoro (Waseda University, Japan), Yuki Tsunazawa, Tetsuichi Takagi (National Institute of Advanced Industrial Science and Technology, Japan)

15:00~15:20

Coffee break

15:20~17:00 Chair : Chiharu Tokoro

15:20~15:50

1-I-A-15 INVITED

Hydrogen Economy and Systematic Material Design for Fuel Cells  
Takeo Yamaguchi (Tokyo Institute of Technology)

15:50~16:20

1-I-A-16 INVITED

Interface control synthesis and functionalization of nanostructured particle  
Takashi Ogi, Aditya Farhan Arif (Hiroshima University, Japan)

16:20~16:40

1-I-A-17

Fabrications of Si<sub>3</sub>N<sub>4</sub> whiskers and coatings on the surface of carbon fibers for the material recycling of carbon fibers

Yoshiki Sugimoto, Yuichi Tominaga, Yuji Hotta (National Institute of Advanced Industrial Science and Technology, Japan)

16:40~17:00

1-I-A-18

Highly electrically conductive SiC-BN composites  
Rohit Malik, Prof. Young-Wook kim (The University of Seoul)

17:10~19:00

Poster session (core time)



## Room II

Session C: International Symposium in Honor of Prof. Olivera Milosevic

8:00~10:00 Chair: Kevin G. Ewsuk

8:00~8:30

1-II-C-01 INVITED

Design and Processing of Photoresponsive Hierarchical Nanomaterials using Innovative Synthesis Routes

Olivera Milosevic (Institute of Technical Sciences of the Serbian Academy of Sciences and Arts, Serbia)

8:30~9:00

1-II-C-02 INVITED

Nanosize Particles and Functional Materials

Dragan Uskokovic (Institute of Technical Sciences of the SASA, Serbia)

9:00~9:30

1-II-C-03 INVITED

Interfaces in electronic packaging: metallurgical challenges in miniaturization

Figiri Hodaj (Grenoble Institute of Technology, France)

9:30~10:00

1-II-C-04 INVITED

Synthesis and Characterization of functional ceramic materials at the nano- and microscale with enhanced properties

G. Flores-Carrasco , A. Urbieta, P. Fernández, O. Milosevic, M.E. Rabanal (Carlos III University, Spain)

10:00~10:20

Coffee break

10:20~12:00 Chair: Olivera Milosevic

10:20~10:50

1-II-C-05 INVITED

Characterization of defects in ceramics

Keizo Uematsu (Uematsu Consulting for Ceramic Technology)

10:50~11:20

1-II-C-06 INVITED

Synthesis of Nanocarbons and Ilmenites Nanoparticles using Super-High-Energy Ball Milling

Satoshi Ohara (Osaka University, Japan)

11:20~11:40

1-II-C-07 INVITED

Photocatalytic efficiency of TiO<sub>2</sub>/Ag nanoparticles modified cotton fabric

Milica Milošević, Marija Radoičić, Zoran Šaponjić (Vinča Institute of Nuclear Sciences, University of Belgrade, Belgrade, Serbia)

11:40~12:00

1-II-C-08

Magnetically recoverable photocatalysts based on metal oxide nanostructures (Fe and Zn)

L. González, L. Muñoz-Fernandez, G. Flores-Carrasco, O. Milosevic, G. Salas, M.E. Rabanal (Carlos III University, Spain)

12:00~13:20

Photo and Lunch

Session B: Smart Processing Technology

13:20~15:00 Chair: Yoshio Sakka

13:20~13:50

1-II-B-11 INVITED

Synthesis of Super-hard Osmium Boride Based Ceramic Powders by Mechanochemical Method

Hua-Tay Lin, Ying Long, Canhui Zou, and Jinyang Zhang (Guangdong University of Technology, China)

13:50~14:20

1-II-B-12 INVITED

Application of High-Energy X-Rays in Material and Powder Optimizations

Dileep Singh (Argonne National Lab, U.S.A.)

14:20~14:40

1-II-B-13

Preparation of Aqueous Core PLGA Microcapsules for Biological Applications

Toshiyuki Nomura (Osaka Prefecture University, Japan), Alexander F. Routh (University of Cambridge, United Kingdom)

14:40~15:00

1-II-B-14

Reusable Ag/Fe<sub>3</sub>O<sub>4</sub>-TiO<sub>2</sub> NFs for Photocatalytic Reduction of Hexavalent Chromium

Yin-Hsuan Chang, Ming-Chung Wu (Chang Gung University, Taiwan)

15:00~15:20

Coffee break

15:20~17:00 Chair: Toshiyuki Nomura

15:20~15:40

1-II-B-15

Ozone assisted synthesis of magnetite nanoparticles

Kenji Iimura, Takeyuki Kikuchi, Hiroshi Satone(Univ. of Hyogo,Japan),

15:40~16:00

1-II-B-16

One-pot preparation of micron-sized monodisperse polymer particles with carboxyl groups on their surface

Noriko Yamauchi (Ibaraki University, Japan), Shunsuke Obinata (National Institute of Technology, Fukushima College, Japan), Haruna Iino, Yoshio Kobayashi (Ibaraki University, Japan), Kenichi Kurumada (National Institute of Technology, Fukushima College, Japan)

16:00~16:20

1-II-B-17

A detailed characterization of aluminum nitride powders made with dicyanamide and melamine as the nitrogen source

Yanling Cheng, Xiong Huang, Huatay Lin (Guangdong University of technology, China)

16:20~16:40

1-II-B-18

Fabrication of Silica/Platinum Core-Shell Particles by Electroless Metal Plating

Yuya Ishii, Yoshio Kobayashi (Ibaraki University, Japan), Ken-ichi Watanabe, Hidekazu Koda, Hiroshi Kunigami, Hideki Kunigami (K. K. Shinko Kagaku Kogyosho, Japan)

16:40~17:00

1-II-B-19

Preparation and Photocatalytic Performance of TiO<sub>2</sub>/Cellulose nanofibers Composite Film

Yu-Han Liao, Ting-Han Lin, Kou-Ping Chiang, Ming-Chung Wu (Chang Gung University, Taiwan)

17:10~19:00

Poster session (core time)

## Room III

### Session E: Material Design and Evaluation

8:00~10:00 Chair: Makio Naito

8:00~8:30

1-III-E-01 INVITED

Fourth Industrial Revolution and Its Impact on Sustainable Societal Development

Mrityunjay Singh (President, Global Alliance for Technology and Society, USA,  
President, The American Ceramic Society (2015-16), Governor, Acta Materialia, Inc.)

8:30~9:00

1-III-E-02 INVITED

Predictive Approach for Property Enhancement of Fine Cohesive Powder Blends through Particle Engineering

Rajesh Davé, Kuriakose Kunnath, Liang Chen, Kai Zheng (New Jersey Institute of Technology, USA)

9:00~9:30

1-III-E-03 INVITED

Niobium carbide, a new cermet material with excellent properties.

Rolf Wäsche, Mathias Woydt (BAM, Germany)

9:30~10:00

1-III-E-04 INVITED

In-situ Fabrication of Fine Ti-dispersed Alumina Composites and Their Mechanical and Electrical Multifunctionality

Shengfang Shi, Tomoyo Goto, Sung Hun Cho, and Tohru Sekino (Osaka University, Japan)

10:00~10:20

Coffee break

10:20~12:00 Chair: Wei-Hsing Tuan

10:20~10:40

1-III-E-05

Sequential observation of coarse pore evolution during sintering in alumina ceramics formed from spray-dried granules

Satoshi Tanaka, Tsuyoshi Hondo (Nagaoka University of Technology, Japan), Kouichi Yasuda, Fumihiko Wakai (Tokyo Institute of Technology, Japan)

10:40~11:00

1-III-E-06

Application of Weibull Statistics to Strength Data for Porous Fine Ceramics

Kouichi Yasuda(Tokyo Institute of Technology, Japan), Nagatoshi Okabe(Ehime University, Japan), Manabu Takahashi(Ehime University, Japan), Sawao Honda(Nagoya Institute of Technology, Japan), Hideki Kita(Nagoya University, Japan), Satoshi Tanaka(Nagaoka University of Technology, Japan), Takashi Akatsu(Saga University, Japan), Seiichi Taruta(Shinshu University, Japan), Hiroyuki Muto(Toyohashi University of Technology, Japan), Hiroyuki Miyazaki(The National Institute of Advanced Industrial Science and Technology, Nagoya, Japan), Nobuhiro Shinohara(AGC Asahi Glass, Japan), Shuichi Yamamoto(ASUZUC INC., Japan), Takashi Ono(Kyocera Corp., Japan), Hiroshi Ohnishi(NIKKATO Corporation, Japan), Yosuke Takahashi(Noritake Co., Limited, Japan), Takeshi Mitsuoka(NGK Spark Plug Co., Ltd, Japan), Masahiro Takanashi(IHI Corp., Japan), Iwao Kawashima(Kobe Steel, Ltd., Japan), Atsushi Sugai(KUBOTA Corporation, Japan), Masahiro Asayama(Toshiba Corp., Japan)

11:00~11:20

1-III-E-07 INVITED

The Design and Preparation of Injectable, Porous and Biodegradable Biocomposites Based On Calcium Sulfates

Pei-Yi Hsu, Wei-Hsing Tuan, Li-Kuan Chang (National Taiwan University, Taiwan), Po-Liang Lai (Chang Gung Memorial Hospital, Taiwan)

11:20~11:40

1-III-E-08

DEM simulation for the analysis of ball behavior in wet ball milling

Shingo Ishihara (Tohoku University, Japan), Akira Kondo (Osaka University, Japan), Kizuku Kushimoto, Takahiro Kozawa, Junya Kano, Makio Naito

11:40~12:00

1-III-E-09

Powder Identification—Total Characterization of Metal-oxide Powders by Energy-resolved Distribution of Electron Traps

Bunsho Ohtani, Akio Nitta(Hokkaido University, Japan), Mai Takase(Muroran Institute of Technology, Japan), Mai Takashima (Hokkaido University, Japan)

12:00~13:20

Photo and Lunch

13:20~15:00 Chair: Satoshi Tanaka

13:20~13:50

1-III-E-11 INVITED

Control of Interfaces and Characterization for Super-strong Ceramics at Temperatures Exceeding 1800°C

Guo-Jun Zhang (Donghua University, China), Ji Zou (University of Birmingham, United Kingdom), Hai-Bin Ma (Donghua University, China)

13:50~14:20

1-III-E-12 INVITED

Role of Grain Boundary Chemistry in Silicon Nitride Based Ceramics – Experimental and Theoretical Approach

Pavol Sajgalik, Zoltan Lences (Slovak Academy of Sciences, Slovakia)

14:20~14:40

1-III-E-13

Mechanical Properties of CNTs Reinforced Ceramic Composites

Byung-Koog Jang (Kyushu University, Japan), Young-Hwan Han (Wuhan University of Technology, China)

14:40~15:00

1-III-E-14

Mechanical properties of carbon nanotube / polymeric fiber prepared by using wet-jet milling  
Daisuke Shimamoto (National Institute of Advanced Industrial Science and Technology (AIST), Japan), Toshihira Irisawa (Graduate School of Engineering, Nagoya University, Japan), Yuji Hotta (National Institute of Advanced Industrial Science and Technology (AIST), Japan), Kazunari Takeshige, Genta Doi, Yasuhiro Tanabe (Nagoya University, Japan)

15:00~15:20

Coffee break

15:20~16:30 Chair : Mitsuaki Matsuoka

15:20~15:50

1-III-E-15 INVITED

Influence of BN nano tubes on the mechanical behavior of SiCf/SiC composites

Shaoming Dong, Guangxiang Zhu, Jianbao Hu (Shanghai Institute of Ceramics, Chinese Academy of Sciences, China)

15:50~16:10

1-III-E-16

Oxidation behavior of SiCf/SiC-Y<sub>2</sub>O<sub>3</sub> composites based on Chinese SiC fibers

Haijun Zhou, Shaoming Dong, Jianbao Hu, Jinshan Yang, Yusheng Ding, Xiangyu Zhang (Shanghai Institute of Ceramics, Chinese Academy of Sciences, China)

16:10~16:30

1-III-E-17

Influence of Surface Condition of Recycled Carbon Fiber and Curing State of Epoxy Resin on  
Interfacial Adhesion of CFRP by Microwave Irradiation

Yuichi Tominaga, Daisuke Shimamoto, Yuji Hotta (AIST, Japan)

17:10~19:00

Poster session (core time)

**July 11, 2018**

Room I

Session A: Interface Characterization and Control for Nanoparticles and Powders  
(54th Summer Symposium on Powder Technology)

8:00~9:40 Chair : Toru Ishigami

8:00~8:30

2-I-A-01 INVITED

Circadian additive and post-production modifications of proteins define enamel boundaries for improved biomechanical properties

Malcolm L. Snead (University of Southern California)

8:30~9:00

2-I-A-02 INVITED

Environmental Catalysts for Complete Oxidation of Volatile Organic Compounds and Toxic Carbon Monoxide

Nobuhito Imanaka(Osaka University, Japan)

9:00~9:20

2-I-A-03

Thermal Control Effects of Nano Clay Powder on Water and Energy Saving in Kingdom of Saudi Arabia

Refat El-Sheikhy, Mosleh Al-Shamrani, Abdulmohsen Al-Shaikh (King saud University, saudi Arabia)

9:20~9:40

2-I-A-04

Application of Extended Random Pore Model to the Char Gasification Reactivity Catalyzed by Inherent Mineral Matter in Coal

Atsushi Ikeda, Shiro Kajitani, Satoshi Umemoto, Kenji Tanno, Tohru Yamamoto, Hisao Makino (Central Research Institute of Electric Power Industry, Japan)

9:40~10:00

Coffee break

10:00~12:10 Chair : Hadi Razavi Khosroshahi

10:00~10:30

2-I-A-05 INVITED

Production of nanoparticles by nano-coating fragmentation

Fabrizio Quadrini, Denise Bellisario, Loredana Santo (University of Tor Vergata)



10:30~10:50

2-I-A-06

Synthesis of copper nanoparticles by D-glucose and PVP: optimization of operating conditions  
Giuseppe Granata, Aina Onoguchi, Chiharu Tokoro (Waseda University, Japan)

10:50~11:10

2-I-A-07

Pt/TiO<sub>x</sub> Nanoparticles and Their Enhanced Performance for Organic Dye Degradation  
Febrigia Ghana Rinaldi, Aditya Farhan Arif, Takashi Ogi (Hiroshima University, Japan)

11:10~11:30

2-I-A-08

Unprecedented rapid synthesis of REPO<sub>4</sub> monospheres (RE=La-Lu lanthanide and Y)  
Ji-Guang Li (National Institute for Materials Science, Japan), Zhihao Wang (Northeastern University, China)

11:30~11:50

2-I-A-09

Sonochemical Synthesis of Metal Nanoparticles onto LiFePO<sub>4</sub>/C for Lithium Ion Battery  
Hirokazu Okawa, Yuki Ono, Yasuyuki Tanaka, Takahiro Kato, Katsuyasu Sugawara (Akita University, Japan)

11:50~12:10

2-I-A-10

The Coffee drunk Powder creates the environmental sensing technology  
Masataka Kamitani(Makino corporation) and Atsushi Nakahira(Osaka prefectue University)

12:30~18:00

Excursion (including Lunch)

## Room II

### Session B: Smart Processing Technology

8:00~10:00 Chair: Rolf Waesche

8:00~8:30

#### 2-II-B-01 INVITED

ED-machinable Zirconia Toughened Alumina – Titanium Carbide Composite Ceramics – Materials and Process Development for Wear Resistant Precision Tools with High Geometrical Complexity

R. Gadow, F. Kern, R. Landfried and U. Schmitt-Radloff (University of Stuttgart, Germany)

8:30~9:00

#### 2-II-B-02 INVITED

Synthesis and Additive Manufacturing of KNN and related piezoelectric ceramic

Dariusz Kata, Paweł Rutkowski, Jan Huebner (AGH University of Science and Technology, Poland)

9:00~9:20

#### 2-II-B-03

Hydrothermal-galvanic couple synthesis of perovskite oxide films using conductive nitride seeding layers

Fu-Hsing Lu (National Chung Hsing University, Taiwan)

9:20~9:40

#### 2-II-B-04

Thermoelectric properties of Nd and Dy doped SrTiO<sub>3</sub> ceramics by solid state reaction

Jia-Hong Lin, Chii-Shyang Hwang (National Cheng Kung University, Taiwan)

9:40~10:00

Coffee break

10:00~12:10 Chair: Norifumi Isu

10:00~10:30

#### 2-II-B-05 INVITED

Bioinspired materials templates by nature species

Di Zhang, Jiajun Gu, Wang Zhang, Qinglei Liu, Shenming Zhu, and Huilan Su ()

10:30~10:50

#### 2-II-B-06

Investigation on Three-Dimensional Graphene Scaffolds Obtained by Additive Manufacturing

Jinshan Yang, Kai Huang, Shaoming Dong, Xiangyu Zhang, Yusheng Ding, Haijun Zhou, Jianbao Hu (Shanghai Institute of Ceramics, Chinese Academy of Sciences, China)

10:50~11:10

2-II-B-07

Bioinspired Design and Fabrication of Nano-Carbon Reinforced Bulk Aluminum Composites  
Zhiqiang Li, Zhanqiu Tan, Genlian Fan, Ding-Bang Xiong, Qiang Guo, Yishi Su, Di Zhang  
(State Key Laboratory of Metal Matrix Composites, Shanghai Jiao Tong University, China)

11:10~11:30

2-II-B-08 INVITED

Optical functional materials inspired from butterfly wing scales  
Wang Zhang, Jiajun Gu, Qinglei Liu and Di Zhang (Shanghai Jiao Tong University, China)

11:30~11:50

2-II-B-09

Microwave absorption performance of PDCs-SiCN(Fe) ceramics with negative imaginary permeability  
Feng Yurun(Shangdong University, China)

11:50~12:10

2-II-B-10

Preparation and Characterization of silica-cellulose ceramics using emulsion induced phase separation  
Walaiporn Suthabanditpong, Chika Takai, Hadi Razavi-Khosroshahi, Masayoshi Fuji (Nagoya Institute of Technology, Japan)

12:30~18:00

Excursion (including Lunch)

## Room III

### Session D: Energy and Environment

8:00~9:40 Chair: Hidehiro Kamiya

8:00~8:30

2-III-D-01 INVITED

Observation of the detailed Structure of a Turbulent Pulverized Coal Combustion Flame  
Fumiteru Akamatsu (Osaka University, Japan)

8:30~9:00

2-III-D-02 INVITED

Next generation separation technology in the field of resources recycling  
Shuji Owada (Waseda University)

9:00~9:20

2-III-D-03

Preparation of biocoke from agricultural wastes  
Jintawat Chaichanawong (Thai-Nichi Institute of Technology)

9:20~9:40

2-III-D-04

Gd<sub>0.1</sub>Ce<sub>0.9</sub>O<sub>2-δ</sub> (GDC) embedded Ba<sub>0.5</sub>Sr<sub>0.5</sub>Co<sub>0.8</sub>Fe<sub>0.2</sub>O<sub>3-δ</sub> (BSCF) nanofibers via electrospinning as a cathode for solid oxide fuel cells  
Chanho Kim, Inyoung Jang, Sungmin Kim, Heesung Yoon, Taeseup Song (Hanyang University, Korea)

9:40~10:00

Coffee break

10:00~11:50 Chair: Tetsuo Uchikoshi

10:00~10:30

2-III-D-05 INVITED

Innovative sorbent materials for the recovery of critical elements from process streams  
Steven Mullens, Kenny Wyns, Bart Michiels (Flemish Institute for Technological Research, Belgium), Joris Roosen, Koen Binnemans (KU Leuven, Belgium)

10:30~10:50

2-III-D-06

Tailor-made TiO<sub>2</sub> for Enhanced Photocatalytic Performance  
Zhenquan Tan, Xuezhi Song, Xiaolan Kang (Dalian University of Technology, China)

10:50~11:10

2-III-D-07

High Power Conversion Efficiency of Perovskite Solar Cells Using Mesoscopic Zn-doped TiO<sub>2</sub> as Electron Transport Layer

Shun-Hsiang Chan, Shih-Hsuan Chen, Kun-Mu Lee (Chang Gung University, Taiwan), Wei-Fang Su (National Taiwan University, Taiwan), Ming-Chung Wu (Chang Gung University, Taiwan)

11:10~11:30

2-III-D-08

Three-Dimensional Porous TiO<sub>2</sub>-Si Core-Shell Nano-Scaffolds as Anodes for High Volume Capacity Lithium Ion Microbatteries

Wen-Yin Ko, Kuan-Jiuh Lin(National Chung-Hsing University, Taiwan)

11:30~11:50

2-III-D-09

Manipulation of Solid-Solid Interfaces for Constructing High Performance Solid State Lithium Batteries

Xiangxin Guo (Qingdao University, China)

12:30~18:00

Excursion (including Lunch)

**July 12, 2018**

Room I

Session A: Interface Characterization and Control for Nanoparticles and Powders  
(54th Summer Symposium on Powder Technology)

8:00~10:10 Chair : Mikio Sakai

8:00~8:30

3-I-A-01 INVITED

Realization, Control and Utilization of Particle Segregation  
Hsiu-Po Kuo, An-Ni Huang (Chang Gung University, Taiwan)

8:30~9:00

3-I-A-02 INVITED

Re-partitioning of grain boundary segregation to initiate abnormal grain growth in ceramics  
Hui Gu (Shanghai University, China)

9:00~9:30

3-I-A-03 INVITED

The Evolution of the Application of the Master Sintering Curve  
Kevin G. Ewsuk (Retired - Sandia National Laboratories)

9:30~9:50

3-I-A-04

Considerations on the chemical composition of metallic parts protected locally with special paints against the effects of plasma nitriding  
Marius Bibu, Liliana Georgeta Popescu, Cristian Deac ( Lucian Blaga University of Sibiu)

9:50~10:10

3-I-A-05

Oxidation behavior of SiC/SiC composites with BN/SiC or (PyC/SiC)<sub>3</sub> interphase  
Haijun Zhou, Shaoming Dong , Jianbao Hu (Shanghai Institute of Ceramics, Chinese Academy of Sciences, China)

10:10~10:30

Coffee break

10:30~12:30 Chair : Hisao Makino

10:30~10:50

3-I-A-06

Effect of ultrasound agglomeration on size of scorodite particles

Yuya Kitamura, Hirokazu Okawa, Takahiro Kato, Katsuyasu Sugawara (Akita University, Japan)

10:50~11:10

3-I-A-07

Preparation of bioactive glass-containing Ti6Al4V pedicle screws using 3D printing

Shao-Ju Shih, Hsueh-Huan Shih (National Taiwan University of Science and Technology, Taiwan)

11:10~11:30

3-I-A-08

Preparation of BN interphase and its effect on the properties of SiC/SiC composites

Le Gao, Lianglai Ma, Jianbao Hu, Shaoming Dong (Shanghai Institute of Ceramics, Chinese Academy of Sciences, China)

11:10~11:50

3-I-A-09

Effect of Interphase On the Mechanical Properties of Aligned SiC Nanowires Reinforced SiC Nanocomposites

Quan Zhu, Jianbao Hu, Shaoming Dong(Shanghai Institute of Ceramics, China)

11:50~12:10

3-I-A-10

Plastic Mechanism of Ceramic Paste, and Extruded Ceramics prepared by its Mechanism

Yuji Hotta, Kimiyasu Sato (National Institute of Advanced Industrial Science and Technology, Japan)

12:10~12:30

3-I-A-11

Effect of fine particle addition on the media ball motion in wet ball milling apparatus

Akira Kondo(Osaka University, Japan), Shingo Ishihara, Kizuku Kushimoto(Tohoku University, Japan), Takahiro Kozawa(Osaka University, Japan), Junya Kano(Tohoku University, Japan), Makio Naito(Osaka University, Japan)

12:30~14:00

Lunch

## Room II

### Session B: Smart Processing Technology

8:00~10:10 Chair: Kouichi Yasuda

8:00~8:30

3-II-B-01 INVITED

Optimization of Processing Route for Transparent Ceramics  
Hai-Doo Kim (Korea Institute of Materials Science, Korea)

8:30~9:00

3-II-B-02 INVITED

Texture developing and some properties of feeble magnetic ceramics  
Yoshio Sakka(NIMS), Chunfeng Hu(Southwest Jiaotong University), Tohru S. Suzuki(NIMS),  
Guo-Jun Zhang(Donghua University)

9:00~9:30

3-II-B-03 INVITED

Understanding and Controlling Flash Sintering: From a Case Study of ZnO to Other Ceramic Materials  
Jian Luo (UCSD, USA)

9:30~9:50

3-II-B-04

The simulation of heterostructures behavior from ceramic materials at the impact with micro meteorites  
Tudor Chereches (SC UPS-PILOT ARM SRL, Romania), Paul Lixandru (SC UPS-PILOT ARM SRL, Romania), Dumitru Nedelcu (Gheorghe Asachi Technical University of Iasi, Romania), Daniel Dragnea (SC UPS-PILOT ARM SRL, Romania), Dragos Mihai Chereches (Politehnica University of Bucharest, Romania)

9:50~10:10

3-II-B-05

Experimental investigation on the development of Compression Glass-Metal Joint  
Rakesh Joshi, Rahul Chhibber (IIT Jodhpur, India)

10:10~10:30

Coffee break

10:30~12:30 Chair: Junya Kano



10:30~10:50

3-II-B-06

Design and preparation of porous SiC based ceramics with gradient structure

Hongxia Li, Gang Wan, Bo Yuang, Yongsheng Liu (Sinosteel Luoyang Institute of Refractories Research Co., Ltd., China), James Shen (Stockholm University, Sweden)

10:50~11:10

3-II-B-07

Enhancement of interfacial interaction and dispersibility in CNTs/silica composite by silane coupling agent

Bo Peng, Chika Takai, Hadi Razavi-Khosroshahi, Masayoshi Fuji (Nagoya Institute of Technology)

11:10~11:30

3-II-B-08

Tape casting and low temperature sintering of Si<sub>3</sub>N<sub>4</sub> ceramics

Jingxian Zhang (Shanghai Institute of Ceramics,China), Yusen Duan (Shanghai Institute of Ceramics,China), Dongliang Jiang (Shanghai Institute of Ceramics,China),

11:30~11:50

3-II-B-09

Densification Behavior and Properties of AlN Ceramics Containing Coarse AlN Particles

Ryota Kobayashi, Kairi Abe, Hiroya Okazaki (Tokyo City University, Japan), Koichi Harata, Takashi Goto (Tohoku University, Japan)

11:50~12:10

3-II-B-10

Internal structure observation in Al<sub>2</sub>O<sub>3</sub> ceramics using optical coherence tomography

Takuma Takahashi (Kanagawa Institute of Industrial Science and Technology, Japan), Junichi Tatami (Yokohama National University, Kanagawa Institute of Industrial Science and Technology, Japan), Hidetaka Ito, Yu Taguchi (Kanagawa Institute of Industrial Science and Technology, Japan)

12:10~14:00

Lunch

## Room III

### Session E: Material Design and Evaluation

8:00~10:10 Chair: Junichi Tatami

8:00~8:30

3-III-E-01 INVITED

MECHANICAL AND THERMAL BEHAVIOR OF LIQUID WOOD

Dumitru Nedelcu, Simona Mazurchevici (Gheorghe Asachi Technical University of Iasi, Romania)

8:30~9:00

3-III-E-02 INVITED

Lead-Free BaTiO<sub>3</sub>-Based Piezoelectric Ceramics Sintered Under Controlled Low Oxygen Partial Pressure and Their Properties

Wataru Sakamoto, Kouta Noritake (Nagoya University, Japan), Isamu Yuitoo, Teruaki Takeuchi (Waseda University, Japan), Koichiro Hayashi, Toshinobu Yogo (Nagoya University, Japan)

9:00~9:20

3-III-E-03

In-situ observation of slurry, green body and sintered body using OCT

Junichi Tatami (Yokohama National University, Japan), Takuma Takahashi (Kanagawa Institute of Industrial Science and Technology, Japan), Motoyuki Iijima (Yokohama National University, Japan)

9:20~9:40

3-III-E-04

A Highly Sensitive Nonenzymatic Sensor Based on Porous Nano-hexagons Co<sub>3</sub>O<sub>4</sub>/C for Electrochemical Detection of Nitrite

Weiwei Qiu (Shimane University, Japan, Minnan Normal University, China), Hidekazu Tanaka (Shimane University, Japan), Feng Gao, and Qingxiang Wang (Minnan Normal University, China)

9:40~10:10

3-III-E-05 INVITED

Microstructure-property correlations of radiation tolerant nanoporous and nanostructured materials

Rémi Dingreville, Khalid Hattar, Samuel Briggs, Kevin Ewsuk, James Stewart (Sandia National Laboratories, U.S.A.), John Balk, Nicolas Briot, Maria Kosmidou (University of Kentucky, U.S.A.)

10:10~10:30

Coffee break

10:30~12:30 Chair: Takahiro Kozawa

10:30~10:50

3-III-E-06

Low operating temperature with Bismuth-lead Positive electrode for Liquid Metal Battery  
Jiseok Kwon, Dongsoo Lee, Taeseup Song (Hanyang University, Korea)

10:50~11:10

3-III-E-07

Transparent Spinel Ceramics for White LED Applications  
Mohamed Radwan, Zoltán Lences, Jaroslav Sedlacek, Pavol Sajgalik (Institute of Inorganic Chemistry, Slovak Academy of Sciences, Slovakia)

11:10~11:30

3-III-E-08

Visible-Light-Active High-Pressure Rocksalt ZnO Photocatalyst  
Hadi Razavi-Khosroshahi (Nagoya Institute of Technology), Kaveh Edalati (Kyushu University), Zenji Horita (Kyushu University), Masayoshi Fuji (Nagoya Institute of Technology)

11:30~11:50

3-III-E-09

Controlled crystallization of layered hydroxyl sulfate for green synthesis of  $\text{Ln}_2\text{O}_2\text{SO}_4$  and  $\text{Ln}_2\text{O}_2\text{S}$   
Xuejiao Wang (Bohai University, China), Ji-guang Li (National Institute for Materials Science, Japan)

11:50~12:10

3-III-E-10

Synthesis and shell thickness control of  $\text{TiO}_2$  hollow particles with enhanced photocatalytic activity  
Wenhao Shao, Chika Takai, Hadi Razavi-Khosroshahi, Masayoshi Fuji (Nagoya Institute of Technology, Japan)

12:10~12:30

3-III-E-11

Defect in iron doped 3YSZ: through the impedance measurement  
Ching-Ti Kao, Wei-Hsing Tuan (National Taiwan University, Taiwan)

12:30~14:00

Lunch

## July 10~12 Exhibition Session

### Room E1 and E2

- F-1 TOKUJU CORPORATION
- F-2 OHKAWARA KAKOHKI CO., LTD.
- F-3 MAKINO CORPORATION
- F-4 HOSOKAWA MICRON CORPORATION
- F-5 KANEKA CORPORATION
- F-6 KURIMOTO, LTD.
- F-7 MicrotracBEL Corp.
- F-8 NIPPON COKE & ENGINEERING CO., LTD.
- F-9 KOZO KEIKAKU ENGINEERING Inc.
- F-10 Ashizawa Finetech Ltd.
- F-11 SANTEC CORPORATION
- F-12 Anton Paar Japan K.K.
- F-13 Spectris Co., Ltd.
- F-14 Prometech Software, Inc.
- F-15 LIXIL CORPORATION

**Poster session**

**July 10, 2018, at 10:00~July 11, 2018, at 18:00**

**Core time : July 10, 2018, 17:10~19:00**

Room P1 and P2

- P-A-01  
Synthesis and characterization of nano/microstructured polyaniline  
Cheng-Ho Chen, Jia-Xun Wang (Southern Taiwan University of Science and Technology)
- P-A-02  
Investigation of mixed micelle formation between transglycosylated stevia and cationic surfactants with different carbon chain length  
Miki Fujimori, Hiromasa Uchiyama, Kazunori Kadota, Yuichi Tozuka (Osaka University of Pharmaceutical Sciences, Japan)
- P-A-03  
Mechanism Investigation of Zinc Removal by Leaf Mold for Passive Treatment of AMD  
Ryo Fukushima, Giuseppe Granata (Waseda University, Japan), Koichi Sato (MITSUBISHI MATERIALS TECHNO CORPORATION, Japan), Saburo Yamagata (MITSUBISHI MATERIALS CORPORATION, Japan), Chiharu Tokoro (Waseda University, Japan)
- P-A-04  
Synthesis and Characterization of  $Ce_{1-x}Cr_xO_2$  Nanoparticles for Chemical Mechanical Planarization Application  
Kangchun Lee, Taeseup Song, Kijung Kim (Hanyang University, Korea)
- P-A-05  
Synthesis of Ce-doped yttrium aluminum garnet phosphor powders using spray drying  
Zhi-Meng Wang (National Taiwan University of Science and Technology, Taiwan), Dušan Galusek (Joint Glass Centre of the IIC SAS, TnU AD and FChFT STU, Slovakia), Wei-Hsing Tuan (National Taiwan University, Taiwan), Shao-Ju Shih (National Taiwan University of Science and Technology, Taiwan)
- P-A-06  
Consolidation behavior of spherical  $SiO_2$  fine particles adsorbed with polyethyleneimine complexed with different fatty acids  
Naoya Taki, Motoyuki Iijima, Junichi Tatami (Yokohama National University, Japan)
- P-A-07  
Bead milling process of  $SiO_2$  nanoparticles in non-aqueous solvent using various polyethyleneimine-oleic acid complex as dispersants  
Marina Saito, Motoyuki Iijima, Junichi Tatami (Yokohama National University, Japan)
- P-A-08  
Photocurable transparent dense slurry designed by refractive index tuning of mixed solvent  
Ryoya Arita, Motoyuki Iijima, Junichi Tatami (Yokohama National University, Japan)
- P-A-09  
Synthesis of Cu-Ce-Zr Oxide Catalyst Nanoparticle by Microwave Denitration Method  
Achmad Dwitama Karisma, Riku Nakamura, Tomonori Fukasawa, Toru Ishigami, Kunihiro Fukui (Hiroshima University, Japan)

P-A-10

The enhancement mechanism investigation of rare earth elements dissolution from weathered residual rare earth ores by planetary ball milling with addition of solid sodium hydroxide  
Tatsuya Kato, Giuseppe Granata, Chiharu Tokoro (Waseda University, Japan), Yuki Tsunazawa, Tetsuichi Takagi (National Institute of Advanced Industrial Science and Technology, Japan)

P-A-11

Mechanical properties of single crystal silicon measured by microcantilever method  
Hiroshi Yamaguchi, Junichi Tatami, Motoyuki Iijima (Yokohama National University, Japan), Tsukaho Yahagi, Takuma Takahashi (Kanagawa Institute of Industrial Science and Technology, Japan)

P-A-12

Influence of sintering aid on translucency of AlN ceramics  
Hayato Akimoto, Junichi Tatami, Motoyuki Iijima (Yokohama National University, Japan), Takuma Takahashi (Kanagawa Institute of Industrial Science and Technology, Japan)

P-A-13

Direct synthesis of Single-phase Hexagonal Tungsten Oxide Nanorods by Spray Pyrolysis Method  
Shuheii Nakakura, Febriglia Ghana Rinaldi, Tomoyuki Hirano, Ratna Balgis, and Takashi Ogi (Hiroshima University, Japan)

P-A-14

Effect of BaF<sub>2</sub>, YF<sub>3</sub> and Al(OH)<sub>3</sub> powders addition on the synthesis of YAG : Ce<sup>3+</sup> phosphor by mechanical method  
Kazuaki Kanai, Yoshifumi Fukui, Shinji Ozawa (Kaneka Corporation, Japan), Takahiro Kozawa, Akira Kondo, Makio Naito (Osaka University, Japan)

P-A-15

Synthesis of Cs<sub>0.32</sub>WO<sub>3</sub> Nanoparticles via Flame-Assisted Spray Pyrolysis  
Tomoyuki Hirano, Shuheii Nakakura, Febriglia Ghana Rinaldi, Takashi Ogi (Hiroshima University, Japan)

P-A-16

Influence of dissolved oxygen in AlN grains on corrosion of AlN ceramics by CF<sub>4</sub>/O<sub>2</sub> plasma  
Mayu Kato, Junichi Tatami, Motoyuki Iijima (Yokohama National University), Akira Mikumo, Ryohei Fujimi (Sumitomo Electric Industries, Ltd.)

P-A-17

Cocrystal Engineering for Dry Powder Inhalation using Spray Freeze Drying Technology  
Ryoma Tanaka, Yuki Saida, Yusuke Hattori, Kazuhide Ashizawa, Makoto Otsuka (Musashino University, Japan)

P-A-18

Preparation of Geopolymeric Materials from Coal Fly Ash and Elution Properties of Coal Fly Ash in Alkaline Solution  
Mitsuaki Matsuoka, Norihiro Murayama (Kansai University, Japan)

P-A-19

Tailoring Carbon Nanotube/Matrix Interface to Optimize Mechanical Properties of Multiscale Composites

Jianbao Hu, Xiangyu Zhang, Yusheng Ding, Shaoming Dong (Shanghai Institute of Ceramics, China)

P-A-20

Particle Interparticle Force Characterization by Monitoring the Fluidized Bed Pressure Drop

Wan-Yi Hsu, Hsiu-Po Kuo (Chang Gung University, Taiwan)

P-A-21

Evaluation of glycine crystal nucleation rate in multi-solute aqueous solutions by measurement of its induction time

Shoji Tatsukawa, Mikiyo Yoshida, Atsuko Shimosaka, Yoshiyuki Shirakawa (Doshisha university, Japan)

P-A-22

Dispersion and aggregation behavior of titanium carbide nanoparticles (TiC-NPs) in an organic solvent

Daisuke Itabashi (Nippon Steel & Sumitomo Metal Corporation, Tokyo University of Agriculture and Technology, Japan), Kazumi Mizukami (Nippon Steel & Sumitomo Metal Corporation, Japan), Hidehiro Kamiya (Tokyo University of Agriculture and Technology, Japan)

P-A-23

Ordering Molecular Bindings at the Surface Enabled by Phase Transfer of Nanoparticles via Ligand Exchange Processes

Hitomi Asama, Shohei Yamashita, Yohei Okada, Hidehiro Kamiya (Tokyo University of Agriculture and Technology, Japan)

P-A-24

Flow Microreactor Synthesis of Silica-Silver Core-Shell Particles

San San Maw, Satoshi Watanabe, Kazuhiro Mae, and Minoru T. Miyahara (Department of Chemical Engineering, Kyoto University)

P-A-25

On the Role of Nanofluid in Convective Self-assembly of Colloidal Particles

Nozomi Arai, Satoshi Watanabe, and Minoru Miyahara (Kyoto University, Japan)

P-A-26

Unique Adsorption Behavior Induced by Interfaces in Core-shell Soft MOF Particles

Atsushi Fujiwara, Satoshi Watanabe, Minoru Miyahara (Kyoto University, Japan)

P-A-27

Efficient Recovery Process of Precious Metals from E-waste

Kosuke Sakusabe, Takahiro Kato, Hirokazu Okawa, Katsuyasu Sugawara (Akita University, Japan)



P-A-28

Prediction of the BaTiO<sub>3</sub> Green Sheet Density by Using Hydrostatic Pressure Measurement  
Naoya Iwata, Mariko Morisono, Takamasa Mori (Hosei University, Japan)

P-B-01

The Synthesis of Super-Hydrophobic Coatings Based on Silica Nanoparticle by Micro-Atmospheric Pressure Plasma  
Chun Huang, Hsin-Hua Lin, Wei-Lun Li, Li-Ko Huang, Yi-An Chen (Yuan Ze University, Taiwan)

P-B-02

Formation of bi-continuous hydrophobic Nylon-12 membranes via cold solvent induced phase separation (CIPS) for membrane distillation applications  
Chih-Hao Tsai, Liao-Ping Cheng (Tamkang University, Taiwan)

P-B-03

Preparation of highly asymmetric and bicontinuous poly(ether sulfone) membranes for ultrafiltration applications  
Szu-Ting Yu, Liang-Kuei Chang, Liao-Ping Cheng (Tamkang University, Taiwan)

P-B-04

Effect of atmosphere on the brazing AlN to graphite  
Tsong-Te Chou, Wei-Hsing Tuan (National Taiwan University, Taiwan)

P-B-05

Synthesis and Mechanical Properties of Graphene/SiO<sub>2</sub> Layered Nanocomposites Prepared by Intercalation Method  
Yujia Huang (Tsinghua University, China; Tokyo Institute of Technology, Japan), Chunlei Wan (Tsinghua University, China), and Kouichi Yasuda (Tokyo Institute of Technology, Japan)

P-B-06

Effect of nitriding conditions on microstructures of hierarchical TiN porous body prepared from PMMA templates and TiO<sub>2</sub> colloids  
Atsushi Uga (Yokohama National University, Japan), Iijima Motoyuki (Yokohama National University, Japan), Tatami Junichi (Yokohama National University, Japan)

P-B-07

Processing Si<sub>3</sub>N<sub>4</sub> ceramics having complicated structure from multi-component non-aqueous dense slurry using novel in-situ solidification process  
Kenta Hasegawa, Motoyuki Iijima, Junichi Tatami (Yokohama National University)

P-B-08

Carbon fiber reinforced ultra high temperature ceramic based composites prepared by a novel RMI method  
Yanmei Kan, Xiaowu Chen, Dewei Ni, Shaoming Dong (Shanghai Institute of Ceramics, Chinese Academy of Sciences, China)

P-B-09

Synthesis of potassium-type zeolite by reverse-micelle microwave method

Tomonori Fukasawa, Akira Horigome, Achmad Dwitama Karisma, Toru Ishigami, Kunihiro Fukui (Hiroshima University, Japan)

P-B-10

Measurement of grain boundary strengths of porous SiC by microcantilever beam technique

Yumi Imoto (Yokohama National University, Japan), Junichi Tatami, Motoyuki Iijima (Yokohama National University and Kanagawa Institute of Industrial Science and Technology, Japan), Takuma Takahashi, Tsukaho Yahagi, Takahiro Horiuchi, Masahiro Yokouchi, Toshiyuki Kondo (Kanagawa Institute of Industrial Science and Technology, Japan)

P-B-11

Physical Modelling of the Coating Behavior in Dry Particulate Coating Using Mild Vibration Field with Beads Media

Toshiya Yasunaga (Kobe Gakuin University, Japan), Mikio Yoshida, Atsuko Shimosaka (Doshisha University, Japan), Yoshiyuki Shirakawa (Doshisha University, Japan), Hideki Ichikawa (Kobe Gakuin University, Japan)

P-B-12

Microstructure and Physical Properties of Barium Titanate Ceramic-Portland Cement-Polyvinylidene Fluoride Composites

Arnon Chaipanich, Thanyapon Wittinanon, Rattiyakorn Rianyo, Athipong Ngamjarrojana (Chiang Mai University, Thailand),

P-B-13

Effect of Drying Process for Preparation of Carbon Aerogel Microsphere using Supercritical Carbon Dioxide Drying

Surat Areerat, Sutudcha Ruenros (King Mongkut's Institute of Technology Ladkrabang, Thailand), Jintawat Chaichanawong (Thai-Nichi Institute of Technology, Thailand)

P-B-14

Enhanced Sunlight Photocatalytic Activity of Silver-Doped Titanium Dioxide Nanofiber

Kuo-Ping Chiang, Po-Yeh Wu, Yin-Hsuan Chang, Ting-Han Lin and Ming-Chung Wu (Chang Gung University, Taiwan)

P-B-15

Fabrication and characterization of octahedral molybdenum cluster films by electrophoretic deposition

Thi Kim Ngan Nguyen, Benjamin Dierre, Fabien Grasset (LINK Center (NIMS), Japan), Stephane Cordier (Univ. Rennes 1, France), Naoki Ohashi (RCFM (NIMS), Japan) and Tetsuo Uchikoshi (LINK Center and RCFM (NIMS), Japan)

P-B-16

Fabrication and Characterization of BSCF-based Mixed Ionic-Electronic Conducting (MIEC) Membrane by Electrophoretic Deposition (EPD)

Kento ISHII (Hokkaido University, Japan), Chika MATSUNAGA (National Institute for Materials Science, Japan), Adam J. Stevenson, Caroline Tardivat (Saint-Gobain SA, France), Tetsuo UCHIKOSHI (Hokkaido University, National Institute for Materials Science, Japan)

P-B-17

Hydrothermal Formation and Characteristics of Complex Oxide Co-Doped with  $\text{Er}^{3+}/\text{Yb}^{3+}$  in the  $\text{Gd}_2\text{O}_3\text{-TiO}_2\text{-Nb}_2\text{O}_5$  System

Masanori Hirano, Mitsuteru Hara (Aichi Institute of Technology, Japan)

P-B-18

DEM simulation analysis for effects of packing structures in a low density particle bed on cooperative falling disk behaviors

Daichi Kawabata, Atsuko Shimosaka, Mikio Yoshida, Yoshiyuki Shirakawa (Doshisha University, Japan)

P-B-19

Evaluation for Specific Heat Capacity of Thermal Insulation Material by Differential Scanning Calorimeter

Haruka Abe, Megumi Akoshima (AIST, Japan), Tseng-Wen Lian, Akira Kondo, Makio Naito (Osaka University, Japan)

P-B-20

Measurement of Specific Heat Capacity for Powder and Nanomaterials

Haruka Abe (AIST, Japan)

P-B-21

Tailored Microstructure with Aligned Pores in  $\text{B}_4\text{C}$  Prepared by slip casting in rotating magnetic field

Shota Azuma, Tetsuo Uchikoshi (National Institute for Materials Science, Japan), Katsumi Yoshida (Tokyo Institute of Technology, Japan), Tohru S. Suzuki (National Institute for Materials Science, Japan)

P-B-22

The effect of the particle accumulation structure on sintering shrinkage behavior of  $\text{NiO}/\text{GDC}$  porous ceramics

Kenji Kajii, Junichi Tatami, Motoyuki Iijima (Yokohama National University, Japan)

P-D-01

Study of influences of Gd Infiltration on  $\text{NiO-CeO}_2$  composite anode support substrate for Intermediate-temperature Solid Oxide Fuel Cells

Inyoung jang (Hanyang University, Japan)

P-D-02

Water Vapor-Assisted Solid-State Synthesis of  $\text{LiNi}_{0.5}\text{Mn}_{1.5}\text{O}_4$  High-Voltage Cathode for Li-Ion Batteries

Takahiro Kozawa, Daiki Hirobe, Kunika Uehara, Makio Naito (Osaka University, Japan)

P-D-03

Preparation of  $\text{LiMn}_2\text{O}_4@ \text{LiMnPO}_4$  core@shell cathodes with improved thermostability for Li-ion batteries

Toshiya Harata, Takahiro Kozawa, Makio Naito (Osaka University, Japan)

P-D-04

Different heat treatments effects on the microstructure and densification of  $\text{CuIn}_{0.7}\text{Ga}_{0.3}\text{Se}_2$  precursor films prepared by doctor blade technology  
Man-Ting Sun (National Cheng Kung University, Taiwan)

P-D-05

Metal Doping Effects on  $\text{TiO}_2$  Electron Transport Layer of Planar Perovskite-Structured Solar Cells  
Ying-Han Liao, Shun-Hsiang Chan, Ming-Chung Wu (Chang Gung University, Taiwan), Wei-Fang Su (National Taiwan University, Taiwan)

P-D-06

Simulation of Particles Tracks in a Cyclone  
Kuan-Tin Chen, Rome-Ming Wu (Tamkang Univ., Taiwan)

P-E-01

Application of the DEM-CFD method on die filling for fine particles  
Huaqin Yao, Mikio Sakai (The University of Tokyo, Japan)

P-E-02

Gelcasting of Porous Ceramics  
Hao-Yu Chang, Wei-Hsing Tuan (National Taiwan University, Taiwan)

P-E-03

Sintering behavior and dielectric properties of  $\text{SrTiO}_3$  with different Sr/Ti ratio  
Yi-Ting Su, Wei-Hsing Tuan (National Taiwan University, Taiwan)

P-E-04

Influence of inhalation patterns on behavior or deposition of inhaled particles in an actual respiratory system by numerical analysis  
Kazunori Kadota, Nana Inoue, Hiromasa Uchiyama, Yuichi Tozuka (Osaka University of Pharmaceutical Sciences, Japan)

P-E-05

Sintering behavior and microstructure of strontium doped calcium sulfate  
YING-CEN CHEN (National Taiwan University, Taiwan)

P-E-06

Preparation of Translucent Polycrystalline Alumina by Hot Isostatic Pressing  
Bo-Ting Lu, Wei-Hsing Tuan (National Taiwan University, Taiwan), Dusan Galusek (Joint Glass Centre of the IIC SAS, TnU AD, and FCHFPT STU, Slovakia), Makio Naito (Osaka University, Japan)

P-E-07

Preparation for  $\text{Eu}^{3+}$ -doped transparent YAG through solid-state reaction sintering process  
Ting-Yi Lin, Wei-Hsing Tuan (National Taiwan University), Dusan Galusek (Joint Glass Centre, Trenčianska Univerzita Alexandra Dubčeka v Trenčíne, Slovakia)

P-E-08

Focusing and defocusing dynamics of particles flowing in inertial microfluidic flows  
Hirotake Udono, Mikio Sakai (The University of Tokyo, Japan)

P-E-09

Fracture toughness measurement on anorthite ceramics by ball on three balls method  
Dyah Yunitasari, Kouichi Yasuda (Tokyo Institute of Technology, Japan)

P-E-10

Synthesis of core-shell structured Au@Bi<sub>2</sub>S<sub>3</sub> Nanorods and Its Application in Electrochemical Sensing Material for DNA Detection  
Feng Gao, Bin Zhang, Qingxiang Wang, Weiwei Qiu (Minnan Normal University, China), Hidekazu Tanaka (Shimane University, Japan)

P-E-11

MnO<sub>2</sub>-Doped (Ba,Ca)(Ti,Sn,Hf)O<sub>3</sub> Lead-Free Ceramics with High Temperature Stability and Their Applications on the Piezoelectric Ultrasonic Motors  
Cheng-Che Tsai, Jiann-Sheng Jiang (Digital Game and Animation Design), Sheng-Yuan Chu, Wei-Hsiang Chao (National Cheng Kung University)

P-E-12

Influence of Ionomer Adhesion Ratio of Catalyst Layer on Electrode Characteristics of Polymer Electrolyte Fuel Cell  
Michito Kishi, Takamasa Mori (Hosei University, Japan)

P-E-13

Synthesis and characterization of spray dried bioactive glass  
Ting-An Lin, Chih-Wei Hsiao and Shao-Ju Shih (National Taiwan University of Science and Technology, Taiwan)

P-E-14

Effective dielectric coefficient and conductivity induced by guiding center approximation  
Jiann-Sheng Jiang (Tung Fang Design University, Taiwan)

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High-Performance of Co/ZnCo Oxide Core-Shell Structure Pseudocapacitor Prepared by Two-Step Hydrothermal Process  
En-Syuan Lin, Chin-Yi Chen (Feng Chia University, Taiwan)

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Solid-State Synthesis of Cobalt Blue Core-Shell Pigment and Estimation of its Reaction Process  
Mika Yoneda (Osaka Prefecture University, Japan), Yuya Tatsumi, Koichi Nakaso, Kuniaki Gotoh, Makoto Nakanishi, Tatsuo Fujii (Okayama University, Japan), Toshiyuki Nomura (Osaka Prefecture University, Japan)

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Calcium Phosphate Precipitation on Cellulose Nanofiber Intending for Improvement in Thermal Stability

Aoi Suzuki (AIST, Japan), (Chubu Univ., Japan), Fukue Nagata (AIST, Japan), Takeo Kitamura, Masayuki Hashimoto (DKS Co. Ltd., Japan), Katsuya Kato (AIST, Japan)

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Fabrication of Uniform Hydroxyapatite Coating on Cellulose Fiber by One-pot Precipitation Method

Shota Watanabe(AIST, Japan, Chubu University, Japan), Fukue Nagata, Tatsuya Miyajima(AIST, Japan), Makoto Sakurai(Chubu University, Japan), Aio Suzuki(AIST, Japan), (Chubu University, Japan), Katsuya Kato(AIST, Japan)

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Effect of La(III) on the Formation of Artificial Steel Rust Particles from Aqueous FeCl<sub>2</sub> Solutions

Mayoka Yamane, Hidekazu Tanaka (Shimane University, Japan), Tatsuo Ishikawa (Osaka University of Education, Japan), Takenori Nakayama (Kobe Steel, Japan)

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Three-dimensional observation of internal structure for Al<sub>2</sub>O<sub>3</sub> ceramics by optical coherence tomography

Fumika Sakamoto(Yokohama National University, Japan), Takuma Takahashi(Kanagawa Institute of Industrial and Technology, Japan), Junichi Tatami, Motoyuki Iijima(Yokohama National University, Japan, Kanagawa Institute of Industrial and Technology, Japan)

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Effect of Polymer Concentration on Particle Size of the HAp/PLA Core-Shell Particles

Motoharu Hanasaki (AIST, Japan, Chubu University, Japan), Fukue Nagata, Tatsuya Miyajima (AIST, Japan), Kenchi Imaeda (Chubu University, Japan), Katsuya Kato (AIST, Japan)

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Operation Window Monitoring and Migration from Single to Binary Excipient in a High Shear Granulator

Chia-Yi Lin, Yu-Xuan Lee, An-Ni Huang (Chang Gung University, Taiwan)

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Sinter forging and X-ray microtomography methods for determining sintering stress and bulk viscosity

Gaku Okuma, Fumihiro Wakai (Tokyo Institute of Technology, Japan), Jesus Gonzalez-Julian, Olivier Guillon (Institute of Energy and Climate Research IEK-1, Germany)

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3D Microstructure Analysis of the Second Phase Formed in Rare Earth Oxide Doped  $\beta$ -Si<sub>3</sub>N<sub>4</sub> Ceramics by FIB/SEM Tomography

Tsukaho Yahagi (Kanagawa Institute of Industrial Science and Technology, Japan), Takuma Takahashi (Kanagawa Institute of Industrial Science and Technology, Japan), Junichi Tatami (Yokohama National University, Japan)

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Synthesis of Y-Ti-Zr-O complex system nanoparticles by an experimental method at room temperatures and its evaluation on the mechanical properties of ODS steels

A. Meza, E. Macía, A-García-Junceda, M.E. Rabanal, M. Campos (Carlos III University, Spain)

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Validity and Reliability of Thermal Diffusivity Measurement by the Flash Method for Thermal Insulation Materials

Megumi Akoshima, Haruka Abe (AIST-NMIJ, Japan), Tseng-Wen Lian, Akira Kondo, Makio Naito (Osaka University, Japan)