

2nd Pacific Rim Engineering Ceramics Summit Monday, January 27, 2014

Pacific Rim Ceramic Technologies: Trends and Directions I

1:30 PM-5:50 PM

Room: Coquina Salon C

Session Chair(s): Kouichi Yasuda, Hisayuki
Suematsu

1:30 PM

**(ICACC-PRECS-001-2014) Consolidation of cBN-
based composites by spark plasma sintering
(Invited Speaker)**

Takashi Goto*, Mettaya Kitiwan, Akihiko Ito,
Jianfeng Zhang, IMR Tohoku University, Japan

2:00 PM

**(ICACC-PRECS-002-2014) Control of Electrical
Resistivity in Liquid-Phase Sintered Silicon Carbide
Ceramics (Invited Speaker)**

Young-Wook Kim*, Kwang-Young Lim, The
UNiversity of Seoul, Republic of Korea; Kwang Joo
Kim, Konkuk University, Republic of Korea

2:20 PM

**(ICACC-PRECS-003-2014) Synthesis of Novel
Materials Utilizing Extreme Conditions Obtained
by Pulsed Power Technologies (Invited Speaker)**

Hisayuki Suematsu*, Nagaoka University of
Technology, Japan; Yoshinori Tokoi, Nagaoka
National College of Technology, Japan; Tsuneo
Suzuki, Tadachika Nakayama, Koichi Niihara,
Nagaoka University of Technology, Japan

2:40 PM

**(ICACC-PRECS-004-2014) Smart Powder Processing
to Produce Advanced Ceramics (Invited Speaker)**

Makio Naito*, Osaka University, Japan

3:00 PM

Break

3:20 PM

**(ICACC-PRECS-005-2014) Grain Boundary
Structures and Plasticity of Ceramics (Invited
Speaker)**

Yuichi Ikuhara*, Univ.Tokyo/JFCC//Tohoku Univ.,
Japan

3:50 PM

**(ICACC-PRECS-006-2014) Challenges in Model
Development for Estimating Internal Stress of
Ceramic Laminates during Sintering (Invited
Speaker)**

Kouichi Yasuda*, Tokyo Institute of Technology,
Japan

4:10 PM

**(ICACC-PRECS-007-2014) The Development of
Environmental Barrier Coatings for SiC/SiC
Ceramic Matrix Composites: Challenges and
Opportunities (Invited Speaker)**

Dongming Zhu*, NASA Glenn Research Center, USA

4:30 PM

**(ICACC-PRECS-008-2014) Control of Mass-transfer
through Grain Boundaries in Alumina Protective
Layer by Dopant Configurations in TBCs (Invited
Speaker)**

Satoshi Kitaoka*, Tsuneaki Matsudaira, Masashi
Wada, Makoto Tanaka, Takafumi Ogawa, Japan
Fine Ceramics Center, Japan; Yutaka Kagawa, The
University of Tokyo, Japan

4:50 PM

**(ICACC-PRECS-009-2014) Overview of Research on
C/SiC Ceramic Matrix Composites in Shanghai
Institute of Ceramics (Invited Speaker)**

Shaoming Dong*, Jianbao Hu, Yanmei Kan, Zhen
Wang, Xiangyu Zhang, Shanghai Institute of
Ceramics, Chinese Academy of Sciences, China

5:10 PM

**(ICACC-PRECS-010-2014) Research and Product
Development Activities at Du-Co Ceramics:**

Current Status and Future Challenges (Invited Speaker)

Lora Cooper Rothen*, Du-Co Ceramics Co., USA

5:30 PM

(ICACC-PRECS-011-2014) Pseudobrookite-type Porous Ceramics: Synthesis, Pore structure and Applications (Invited Speaker)

Yoshikazu Suzuki*, University of Tsukuba, Japan

Tuesday, January 28, 2014
Pacific Rim Ceramic Technologies: Trends and Directions II

8:10 AM-12:00 PM

Room: Coquina Salon C

Session Chair(s): Min Wang, Shoko Suyama

8:10 AM

(ICACC-PRECS-012-2014) Bioceramics and Nanocomposites for Human Hard Tissue Repair and Regeneration (Invited Speaker)

Min Wang*, The University of Hong Kong, Hong Kong

8:40 AM

(ICACC-PRECS-013-2014) Two photon polymerization of inorganic-organic hybrid materials (Invited Speaker)

Roger Narayan*, UNC/NCSU Joint Department of Biomedical Engineering, USA

9:00 AM

(ICACC-PRECS-014-2014) Nanoscale structure and modification of Biomaterials (Invited Speaker)

Federico Rosei*, INRS, Univ of Quebec, Canada

9:20 AM

(ICACC-PRECS-015-2014) Progress in Research and Development on MAX Phases and the Perspectives (Invited Speaker)

ZhengMing Sun*, AIST, Japan

9:40 AM

Break

10:00 AM

(ICACC-PRECS-016-2014) Development of Joining Process Technology of Silicon Carbide (Invited Speaker)

Shoko Suyama*, Toshiba Corporation, Japan

10:20 AM

(ICACC-PRECS-017-2014) Prospective and challenges of nanolaminated ternary carbides and nitrides (MAX phases) (Invited Speaker)

Yanchun Zhou*, Aerospace Research Institute of Material & Processing Technology, China

10:40 AM

(ICACC-PRECS-018-2014) Genome Approach for advanced ceramics (Invited Speaker)

Jingyang Wang*, Institute of Metal Research, China

11:00 AM

(ICACC-PRECS-019-2014) High-precision process technology for ceramic ferrules (Invited Speaker)

Soichi Masaki*, Seiji Nakano, Kazuaki Ikegai, Adamant Kogyo Co., Ltd., Japan

11:20 AM

(ICACC-PRECS-020-2014) Erosion Mechanism of Ceramics in the Fluorocarbon plasma and Development of a New Plasma Resistant Materials (Invited Speaker)

SungMin Lee*, Yoon-Suk Oh, Hyung-Tae Kim, Korea Institute of Ceramic Engineering & Technology (KICET), Republic of Korea

11:40 AM

(ICACC-PRECS-021-2014) New functional ceramics in Taiwan (Invited Speaker)

Jow-Lay Huang*, Ching-Huan Lee, National Cheng Kung University, Taiwan

Pacific Rim Ceramic Technologies: Trends and Directions III

1:30 PM-5:30 PM

Room: Coquina Salon C

Session Chair(s): M. Singh, Do Kyung Kim

1:30 PM

(ICACC-PRECS-022-2014) Material Challenges and Opportunities for Commercial Electric Aircraft (Invited Speaker)

Ajay K. Misra*, NASA-Glenn Research Center, USA

2:00 PM

(ICACC-PRECS-023-2014) Nanostructured Dielectrics for High Energy Density Capacitors (Invited Speaker)

Fatih Dogan*, Missouri University of Science and Technology, USA

2:30 PM

(ICACC-PRECS-024-2014) The Research Trend for the Next-Generation Rechargeable Batteries in Korea: A Perspective for Materials Design Approaches (Invited Speaker)

Do Kyung Kim*, KAIST, Republic of Korea

3:00 PM

Break

3:20 PM

(ICACC-PRECS-025-2014) Introduction of industrial root technology: A bridge between R&D philosophy and its practical embodiment (Invited Speaker)

Sangmok Lee*, Korea Institute of Industrial Technology, Republic of Korea

3:50 PM

(ICACC-PRECS-026-2014) The Role of Regional Institutes in Technology Development, Transfer and Education: The Ohio Aerospace Institute Model (Invited Speaker)

Michael Heil*, Ohio Aerospace Institute, USA

4:10 PM

(ICACC-PRECS-027-2014) UBE's Future Activity on Ceramics (Invited Speaker)

Toshihiro Ishikawa*, Ube Industries, Ltd., Japan

4:30 PM

(ICACC-PRECS-028-2014) Development of electro-optical single crystals for energy saving (Invited Speaker)

Kiyoshi Shimamura*, Encarnacion Garcia Villora, National Institute for Materials Science, Japan

4:50 PM

(ICACC-PRECS-029-2014) Three Dimensional Printing of Ceramics Dendrites to Modulate Energy and Material Flows (Invited Speaker)

Soshu Kirihara*, Osaka University, Japan

5:10 PM

(ICACC-PRECS-030-2014) Development of High-Thermal-Conductivity Silicon Nitride Ceramics for Power Module Applications (Invited Speaker)

You Zhou*, Hideki Hyuga, Yu-ichi Yoshizawa, Tatsuki Ohji, Norimitsu Murayama, Kiyoshi Hirao, National Institute of Advanced Industrial Science and Technology (AIST), Japan

Wednesday, January 29, 2014 Pacific Rim Ceramic Technologies: Trends and Directions IV

8:10 AM-12:10 PM

Room: Coquina Salon C

Session Chair(s): Tatsuki Ohji, Swapan Das

8:10 AM

(ICACC-PRECS-031-2014) Energy Efficiency Challenges Addressed Through the Use of Advanced Refractory Ceramic Materials (Invited Speaker)

James G Hemrick*, Oak Ridge National Laboratory, USA

8:40 AM

(ICACC-PRECS-032-2014) Research & Developmental activities in the field of Refractory Ceramics in India: An overview (Invited Speaker)

Swapan Kumar Das*, CSIR-Central Glass & Ceramic Research Institute, India

9:00 AM

(ICACC-PRECS-033-2014) R&Ds on Energy-Saving Manufacturing Process of Silicon Nitrides (Invited Speaker)

Tatsuki Ohji*, Hideki Hyuga, You Zhou, Naoki Kondo, Mikinori Hotta, Kiyoshi Hirao, National Institute of Advanced Industrial Science and Technology (AIST), Japan

9:20 AM

(ICACC-PRECS-034-2014) Convalescing Energy Efficiency of Firing Process in Whiteware Cluster in India (Invited Speaker)

Lalit Kumar Sharma*, Debiprasad Karmakar, Chandrashekhar Prasad, Central Glass & Ceramic Research Institute, India

9:40 AM

Break

10:00 AM

(ICACC-PRECS-035-2014) Hybrid-interface based Future Materials (Invited Speaker)

Kwang Ho Kim*, Pusan National University, Republic of Korea

10:30 AM

(ICACC-PRECS-036-2014) Polymer-Derived Ceramics: Fundamentals and Applications (Invited Speaker)

Linan An*, university of central florida, USA

10:50 AM

(ICACC-PRECS-037-2014) Ceramic fillers as the key for high performance polymers

Jens Eichler*, ESK - a 3M company, Germany

11:10 AM

(ICACC-PRECS-038-2014) High Performance SRBSN

(Sintered Reaction Bonded Silicon Nitride) (Invited Speaker)

Hai-Doo Kim*, KIMS, Republic of Korea

11:30 AM

(ICACC-PRECS-039-2014) Addressing Water Mark Problem in Porcelain Tile Industries in India (Invited Speaker)

Chandresh Agarwal*, Imerys ceramics India, India

11:50 AM

(ICACC-PRECS-040-2014) Microstructure Development and Properties of SnO₂-TiO₂ Binary Composites via Spinodal Phase Separation (Invited Speaker)

Tohru Sekino*, Tohoku University, Japan; Takafumi Kusunose, Kagawa University, Japan; Shun-Ichiro Tanaka, Tohoku University, Japan