Conference Program

www.ceramics.org/icacc2014

38TH INTERNATIONAL CONFERENCE AND EXPOSITION ON

ADVANCED CERAMICS AND COMPOSITES

January 26-31, 2014 | Hilton Daytona Beach Resort and Ocean Center | Daytona Beach Florida, USA

Scan for meeting up.

Organized by:

The American Ceramic Society
www.ceramics.org

Engineering Ceramics Division

Welcome

On behalf of the Engineering Ceramics Division (ECD) and The American Ceramic Society (ACerS), I warmly welcome you to the 38th International Conference & Exposition on Advanced Ceramics & Composites (ICACC). ICACC is the most prominent international conference in the area of advanced structural and functional ceramics, composites, and other emerging ceramic materials and technologies. This prestigious conference has been organized by the Engineering Ceramics Division and The American Ceramic Society since 1977.

Topical areas at this conference include advanced structural, functional and nanocrystalline ceramics, composites, and other emerging ceramic materials and integration technologies. The technical program of ICACC 2014 consists of thirteen Symposia and four Focused Sessions. The ICACC Exposition, held on Tuesday and Wednesday evenings, will provide a place for attendees to connect with business partners, develop prospects and explore new business opportunities — all in one place at one time. Poster sessions will again be held in conjunction with the Expo.

The well-established symposia at this conference include Mechanical Behavior and Performance of Ceramics and Composites, Advanced Ceramic Coatings, Solid Oxide Fuel Cells, Armor Ceramics, Bioceramics, Nanostructured Materials & Nano-composites, Advanced Processing & Manufacturing Technologies (APMT), and Porous Ceramics. Newer but key symposia include Advanced Materials and Technologies for Energy Generation, Conversion, and Rechargeable Energy Storage, Materials for Extreme Environments, Virtual Materials Design and Ceramic Genome, and Industrial Root Technology. The ACerS Nuclear & Environmental Technology Division will once again hold their Advanced Ceramics and Composites for Sustainable Nuclear and Fusion Energy symposium.

ICACC 2014 will include four Focused Sessions on emerging technologies: Geopolymers, Chemically Bonded Ceramics, Eco-friendly and Sustainable Materials and Advanced Ceramic Materials and Processing for Photonics and Energy will continue this year. In addition, two new focused sessions: Rare Earth Oxides for Energy, Optical and Biomedical Applications and Ion-Transport Membranes will round out the technical program.

We are extremely pleased that the 2nd Pacific Rim Engineering Ceramics Summit will be held at ICACC 2014 to bring together representatives from the Engineering Ceramics Division and experts from Pacific Rim countries to foster information exchange on current status and emerging trends in innovative and sustainable ceramic technologies. It deserves special mention that the 3rd Global Young Investigator Forum, which is a symposium by and for early career researchers, will again be a part of ICACC 2014.

Our special thanks go to our sponsors including American Elements, Corning, ARO, UBE Industries, Ltd., A-Tech-System, Plasma Electronic, CCTC, CSIR, KITECH, and Mecharonics whose generous support facilitates a more successful conference.

The ECD Executive Committee and volunteer organizers, together with The American Ceramic Society, thank you for joining us in Daytona Beach, Florida for what should be a stimulating and beneficial experience.

Sincerely,

Michael C. Halbig

2014 Program Chair

Michael C. Halbig
NASA Glenn Research Center

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Final Program

ACerS Engineering Ceramics Division Leadership

Chair: Sujanto Widjaja

Chair-Elect: Michael Halbig

Vice Chair/Treasurer: Soshu Kirihara

Secretary: Andrew Gyekenyesi

Trustee: Tatsuki Ohji

Schedule At A Glance

	Time	Room
Sunday, January 26, 2014		
Conference Registration	2 p.m. – 7 p.m.	Hilton – Coquina Foyer
Speaker Ready Room	2 p.m. – 7 p.m.	Hilton – Manatee
Welcome Reception	5 p.m. – 7 p.m.	Hilton – Coquina Foyer
Monday, January 27, 2014		
Conference Registration	7 a.m. – 6 p.m.	Hilton – Coquina Foyer
Member and Publication Center	7 a.m. – 6 p.m.	Hilton – Coquina Foyer
Speaker Ready Room	8 a.m. – 4 p.m.	Hilton – Manatee
Companion Coffee	8 a.m. – 10 a.m.	Hilton – Oceanview Room
Opening Awards Ceremony & Plenary Session	8:30 a.m. – 12 p.m.	Hilton – Coquina D and E
Coffee Break	10:20 a.m. – 10:40 a.m.	Hilton – Coquina Foyer
Lunch On Own	12 p.m. – 1:20 p.m.	
Concurrent Technical Sessions	1:30 p.m. – 5:30 p.m.	Hilton
Coffee Break	3 p.m. – 3:20 p.m.	Hilton – Coquina Foyer
Student & Young Professional Mixer	7 p.m. – 9 p.m.	Hilton – Oceanview
Tuesday, January 28, 2014		
Conference Registration	7 a.m. – 6 p.m.	Hilton – Coquina Foyer
Member and Publication Center	7 a.m. – 6 p.m.	Hilton – Coquina Foyer
Speaker Ready Room	8 a.m. – 4 p.m.	Hilton – Manatee
Concurrent Technical Sessions	8 a.m. – 12 p.m.	Hilton
Coffee Break	9:40 a.m. – 10 a.m.	Hilton – Coquina Foyer
Exhibitor Move-In	12 p.m. – 4 p.m.	Ocean Center
Lunch On Own	12 p.m. – 1:20 p.m.	
Concurrent Technical Sessions	1:30 p.m. – 6 p.m.	Hilton
Coffee Break	3 p.m. – 3:20 p.m.	Hilton – Coquina Foyer
Poster Session A Move-In	3 p.m. – 4:30 p.m.	Ocean Center
Exhibits & Poster Session A – Including Reception	5 p.m. – 8 p.m.	Ocean Center
SCHOTT Glass Competition	6:30 p.m. – 8 p.m.	Ocean Center
Wednesday, January 29, 2014		
Conference Registration	7:30 a.m. – 5:30 p.m.	Hilton – Coquina Foyer
Member and Publication Center	7:30 a.m. – 5:30 p.m.	Hilton – Coquina Foyer
Speaker Ready Room	8 a.m. – 4 p.m.	Hilton – Manatee
Concurrent Technical Sessions	8 a.m. – 12 p.m.	Hilton
Coffee Break	9:40 a.m. – 10 a.m.	Hilton – Coquina Foyer
Lunch On Own	12 p.m. – 1:20 p.m.	
Concurrent Technical Sessions	1:30 p.m. – 5:40 p.m.	Hilton
Coffee Break	3 p.m. – 3:20 p.m.	Hilton – Coquina Foyer
Poster Session B Move-In	3 p.m. – 4:30 p.m.	Ocean Center
Exhibits & Poster Session B – Including Reception	5 p.m. – 7:30 p.m.	Ocean Center

Schedule At A Glance

Thursday, January 30, 2014

Conference Registration	7:30 a.m. – 6 p.m.	Hilton – Coquina Foyer
Member and Publication Center	7:30 a.m. – 6 p.m.	Hilton – Coquina Foyer
Speaker Ready Room	8 a.m. – 4 p.m.	Hilton – Manatee
Concurrent Technical Sessions	8 a.m. – 12 p.m.	Hilton
Coffee Break	9:40 a.m. – 10 a.m.	Hilton – Coquina Foyer
Lunch On Own	12 p.m. – 1:20 p.m.	
Concurrent Technical Sessions	1:30 p.m. – 6:40 p.m.	Hilton
Coffee Break	3 p.m. – 3:20 p.m.	Hilton – Coquina Foyer

Friday, January 31, 2014

Conference Registration	7:30 a.m. – 12:30 p.m.	Hilton – Coquina Foyer
Concurrent Technical Sessions	8 a.m. – 12 p.m.	Hilton
Coffee Break	9:40 a.m. – 10 a.m.	Hilton – Coquina Foyer

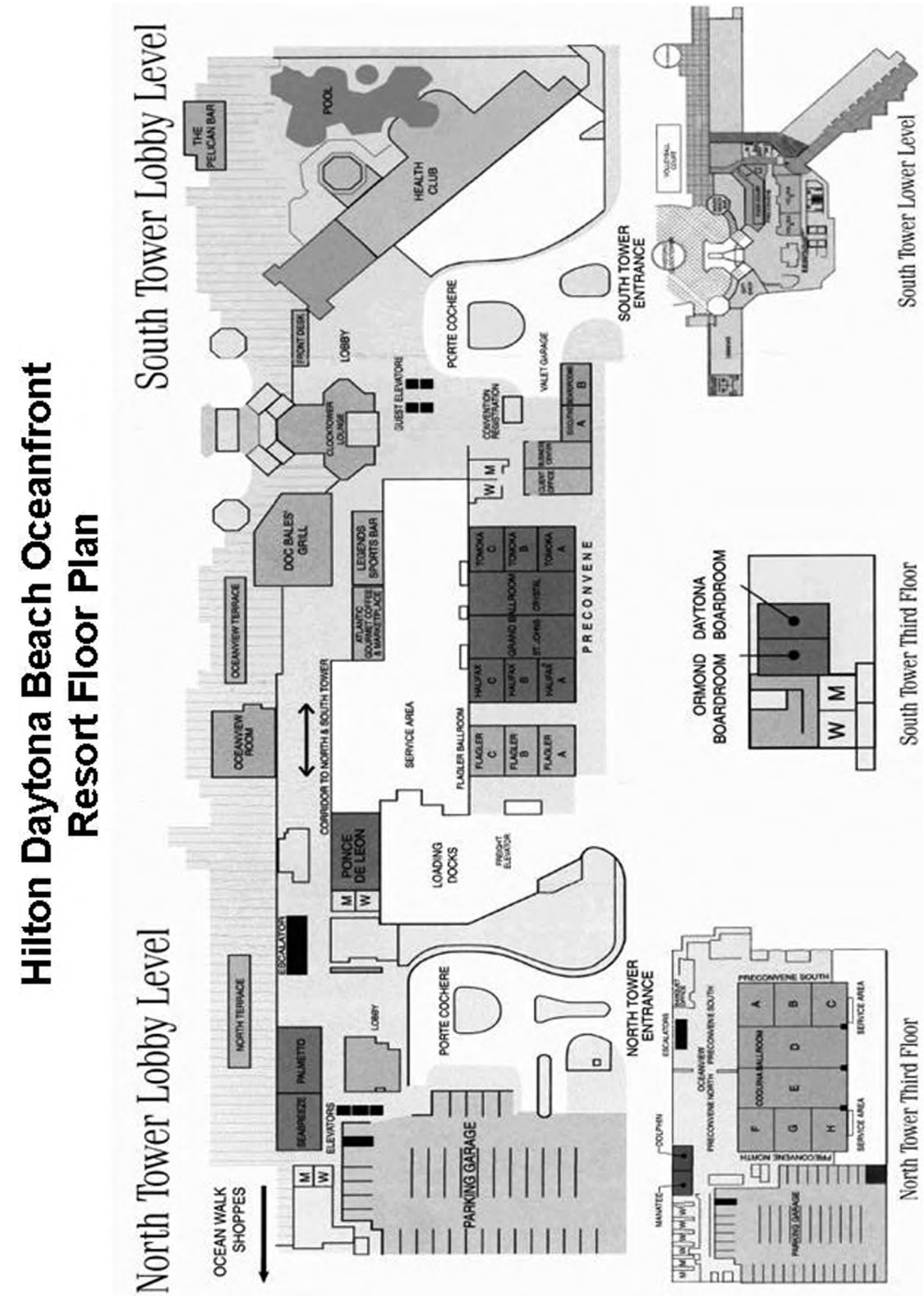
Directions from the Hilton to Ocean Center Arena

To reach the Ocean Center from the Hilton, exit the Hilton through the South Tower Lobby. Turn left on the sidewalk to the crosswalk. Proceed across the street to the Ocean Center entrance.

Hilton:
Welcome Reception
Registration
Technical Sessions
Member and Publications Center

Ocean Center:
Exhibit & Receptions
Poster Sessions

Hilton Meeting Room Floor Plan



Plenary Speakers

2014 James I. Mueller Award

Title: "From the Rattler Test to Modern Fracture Mechanics: A Perspective on Toughness"

9:00 AM

Sheldon Wiederhorn

Senior Fellow Emeritus, National Institute of Standards & Technology

Wiederhorn received his BS in Chemical Engineering from Columbia University and his MS and PhD from the University of Illinois, in Chemical Engineering. He is best known for the experiments that he developed to characterize subcritical crack growth in glasses. The results of these studies illustrate the complexity of subcritical crack growth. He has received many awards for his research and leadership at NIST. These include both a Silver and Gold Medal by the Department of Commerce, and the Samuel Wesley Stratton Award, by the National Bureau of Standards. He is also a Fellow and a Distinguished Life Member of ACerS and has received a number of important awards for his research.

Plenary Speaker

Title: "The Need and Potential of Porous Ceramic Materials"

10:40 AM

Willard Cutler

Technology Director, Environmental Technology, Corning Incorporated

Cutler joined Corning in 1989, spending eight years in Research before joining Product Development. In 2001 he was appointed manager, Diesel Product Development, leading the successful product development of several technologies including the DuraTrap® AT filter product and Asymmetric Cell Technology. Cutler transferred to Corning GmbH in 2003, spending nearly four years in Europe helping to establish and build the European light-duty diesel business as European New Products manager and then as Applied Technology director. In 2007, he was appointed business technology director, New Business Development with responsibilities for technology delivery for Corning's emerging businesses. In August 2009, after assisting with CET's consolidation and restructuring, he was appointed to his current role as technology director, Environmental Technologies with responsibilities for technology development and delivery in addition to commercial technology. He also serves on the board of Cormetech. Cutler holds a Ph.D. in Materials from the University of California, Santa Barbara and a bachelor's degree in Materials Science & Engineering from the University of Utah. He has been awarded 17 patents and has published a number of scientific papers.

2014 Bridge Building Award

Title: "Building Bridges in Materials Science and Technology: An Important Issue for Solving Basic Problems in Modern Society"

9:40 AM

José A. Varela

CEO, São Paulo State Research Funding Agency; Professor, University of São Paulo State, Brazil

Varela received his BS in Physics from the University of São Paulo in 1969 and MS in Physics at Technological Institute of Aeronautics in 1975, both in São Paulo State, Brazil. He received his PhD in Materials Science from the University of Washington, USA in 1981. He is a member of several scientific societies including ACerS (Fellow), MRS, Brazilian MRS (Past President) and Brazilian Physics Society. He is also a member of the International Academy of Ceramics (Advisory Board) as well as member of Brazilian Academy of Science and member of the Academy of Science of São Paulo State. He is currently serving as Principal Editor of the JMR and as an Associate Editor for JACerS. Professor Varela's main research interests are centered in synthesis and processing of nanostructured functional materials in bulk, thin and thick films for several applications including varistor, gas sensors, photoluminescence, ferroelectric and multiferroics. He has authored or co-authored more than 580 indexed papers (WOS) and his work has received more than 9,000 citations with H factor of 43, and he holds 11 BR patents. His research programs have received multiple awards, including São Paulo State Governor Award (1992), Epsilon de Ouro Prize given by Spanish Ceramic Society (2003), Scopus Prize given by Elsevier (2008), and Global Star Award given by the Engineering Ceramics Division of The American Ceramic Society (2013).

Plenary Speaker

Title: "Nanostructured Metal Oxides in Gas Sensing Applications: Challenges and Perspectives"

11:20 AM

Ulrich Simon

Professor, Chair of Inorganic Chemistry and Electrochemistry, RWTH Aachen University, Germany

Simon studied chemistry at the University of Essen and obtained his doctorate in 1992 and became an associate professor after having finished his habilitation in 1999 on charge transport properties of nanostructured solids. Since 2000 he has been the director at the Institute of Inorganic Chemistry at the RWTH Aachen University (Germany) and holds the Chair of Inorganic Chemistry and Electrochemistry. The main interest of his current research includes the synthesis, the assembly, and the electrical properties of metal and semiconducting nanoparticles and of nanoporous materials, as well as their application in gas sensing, nanoelectronics and biomedicine. He is author of more than 150 peer-reviewed publications and has filed 15 patents.

Special Events

Welcome Reception

Sunday, January 26

5 p.m. – 7 p.m.

Hilton – Coquina Foyer

Global Young Investigator Award

Monday, January 27, 1:30 PM, Coquina Salon H

Title: Ln^{3+}-Doped Gd_2O_3 Nanostructures for NIR-NIR Bioimaging

Eva Hemmer, post-doctoral researcher,
Institut National de la Recherche Scientifique (INRS – Centre EMT), Canada

Hemmer received her German-French double diploma in Materials Science from Saarland University, Germany and École Européenne d'Ingénieures en Génie des Matériaux, France in 2004. The focus of her work was the molecular design of nano-materials starting from suitable metal-organic precursors. By chemical vapor deposition process, sol-gel, and solvothermal synthesis these precursors are decomposed resulting in nanoscale oxide thin films or powders. From 2009 to 2012, Eva Hemmer worked as a post-doctoral fellow in the laboratory of Prof. Kohei Soga at Tokyo University of Science in Japan. In November 2012, she joined the groups of Prof. François Légaré and Prof. Fiorenzo Vetrone at Institut National de la Recherche Scientifique (INRS – Centre EMT) in Varennes, Canada as post-doctoral researcher. She has 13 publications in international peer-reviewed journals and has given more than 20 presentations at international conferences.

SCHOTT Shot Glass Contest

Tuesday, January 28

6:30 p.m. – 8 p.m.

The Ocean Center, Exhibit Show Floor

Organized by ACerS President's Council of Student Advisors (PCSA)

Don't miss this design contest! Competitors are given one shot glass, donated by SCHOTT, and 15 drinking straws used to build a protective device for their glass. Then, the glasses are dropped from varying levels until the breaking threshold is reached. The glass with the highest successful drop distance wins!

Mechanical Properties of Ceramics and Glass Short Course*

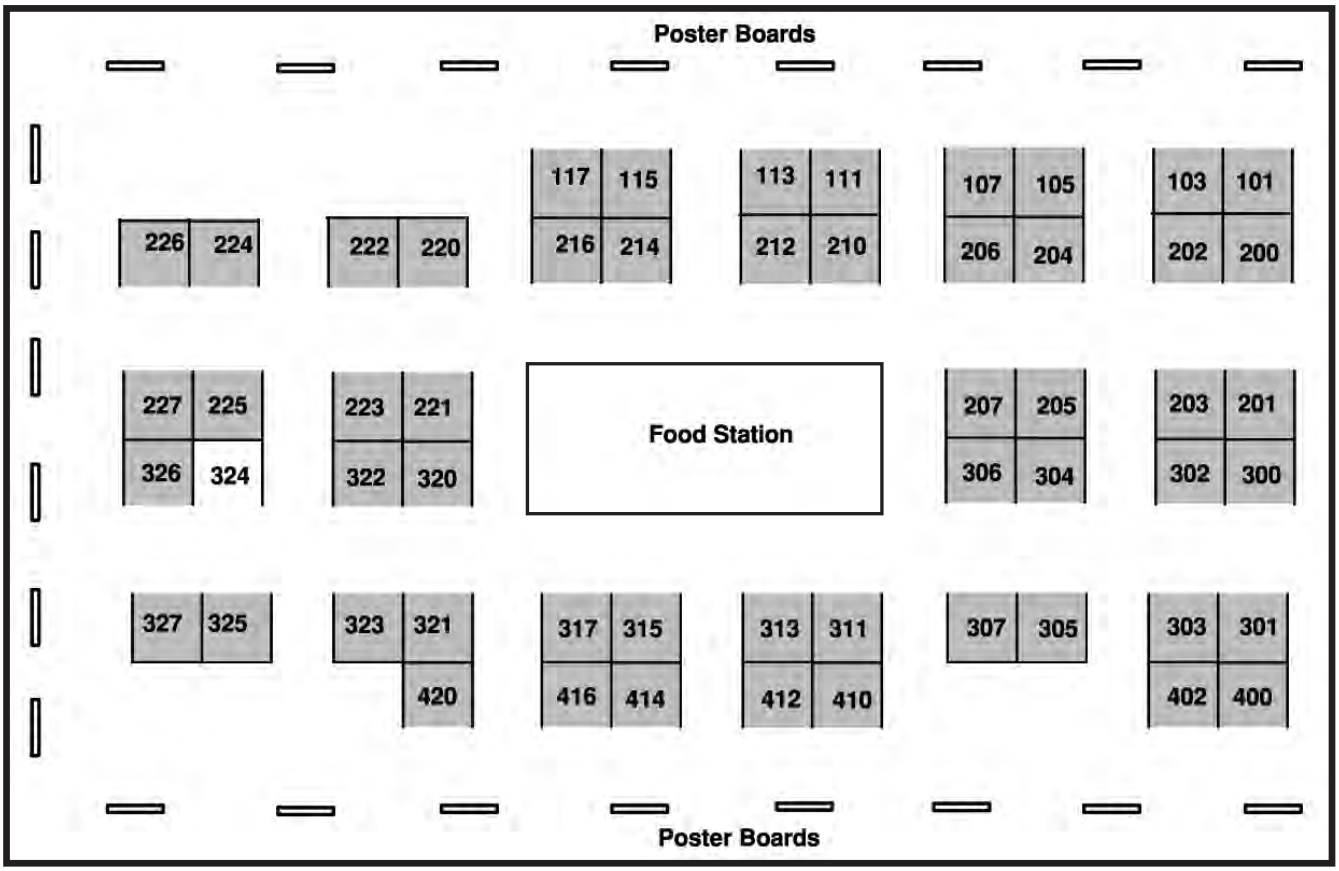
Thursday, January 30 and Friday, January 31

8:00 AM – 5:00 PM

Hilton – Tomoka A (South Tower)

*Separate registration fee

Exhibit Floor Plan & Booth Information



Exhibitor	Booth #
Alfred University	315
American Ceramic Society (The)	101
AVS Inc.	107
BTU International	115
Carbolite Inc.	206
Centorr Vacuum Industries Inc.	416
Ceramics Expo	227
CM Furnaces Inc.	311
Deltech Inc.	326
Dorst America	303
Eirich Machines Inc.	203
ESL ElectroScience	202
Evans Analytical Group	412
Florida Institute of Technology	327
FuelCell Materials.com	105
Furuya Metal Co. Ltd.	223
GE Aviation	410
GT Advanced Technologies, formerly Thermal Technologies	226
H.C. Starck North American Trading LLC	305
Haiku Tech Inc.	313
Harper International	317
Harrop Industries Inc.	201
HED International Inc.	400
Heraeus Thick Film Division	212
Hockmeyer Equipment Corp.	205
Imerys Fused Minerals	225
Innovnano Advanced Materials S.A.	204

Exhibitor	Booth #
J&L Tech Co. Ltd.	414
Keith Co.	220
Laeis GmbH	321
Linseis GmbH	304
MEL Chemicals	322
MTI Corp.	222
Nabertherm	307
Netzsch Instruments North America LLC	300
New Lenox Machine Co. Inc.	306
NIST	111
Oxy-Gon Industries Inc.	320
Powder Processing & Technology	402
PremaTech Advanced Ceramics	210
Process Design & Innovation	302
PTX-Pentronix—Gasbarre Presses	207
R.D. Webb Co.	216
Robocasting Enterprises	200
Sonoscan Inc.	221
Swindell Dressler International	301
TA Instruments	325
TAV SpA	420
TEAM by Sacmi	321
TevTech	214
Thermaltek Inc.	103
Thermal Wave Imaging	323
Washington Mills	117
Zircar Ceramics Inc.	224

Technical Sessions By Symposium

Session Title	Date	Time	Location
2nd Pacific Rim Engineering Ceramics Summit			
Pacific Rim Ceramic Technologies: Trends and Directions I	27-Jan-14	1:30 - 5:50 PM	Coquina Salon C
Pacific Rim Ceramic Technologies: Trends and Directions II	28-Jan-14	8:10 AM - Noon	Coquina Salon C
Pacific Rim Ceramic Technologies: Trends and Directions III	28-Jan-14	1:30 - 5:30 PM	Coquina Salon C
Pacific Rim Ceramic Technologies: Trends and Directions IV	29-Jan-14	8:10 AM - 12:10 PM	Coquina Salon C
3rd Global Young Investigator Forum			
GYIF I	27-Jan-14	1:30 - 3:20 PM	Coquina Salon H
GYIF II	27-Jan-14	3:20 - 6:00 PM	Coquina Salon H
GYIF III	28-Jan-14	9:00 - 10:00 AM	Coquina Salon H
GYIF IV	28-Jan-14	10:00 AM - Noon	Coquina Salon H
FS1: Geopolymers, Chemically Bonded Ceramics, Eco-friendly and Sustainable Materials			
Synthesis, Processing and Microstructure	30-Jan-14	1:30 - 3:20 PM	Coquina Salon F
Composites	30-Jan-14	3:20 - 6:40 PM	Coquina Salon F
Novel Applications	31-Jan-14	8:00 - 10:00 AM	Coquina Salon F
Alternative Chemistries and Construction Materials	31-Jan-14	10:00 AM - Noon	Coquina Salon F
FS2: Advanced Ceramic Materials and Processing for Photonics and Energy			
Growth	27-Jan-14	1:30 - 4:00 PM	Oceanview
Multiferroics	27-Jan-14	4:00 - 5:40 PM	Oceanview
Energy	28-Jan-14	8:00 - 11:00 AM	Oceanview
Optics I	28-Jan-14	11:00 - Noon	Oceanview
Optics II	28-Jan-14	1:30 - 3:40 PM	Oceanview
Advanced Applications	28-Jan-14	3:40 - 5:20 PM	Oceanview
FS3: Rare Earth Oxides for Energy, Optics and Biomedical Applications			
Rare Earth Oxides for Energy, Optics and Biomedical Applications	27-Jan-14	1:30 - 5:10 PM	Coquina Salon D
FS4: Ion-Transport Membranes			
Ion-Transport Membranes	31-Jan-14	8:00AM - 12:20 PM	Coquina Salon B
S1: Mechanical Behavior and Performance of Ceramics & Composites			
Mechanics & Characterizations I	28-Jan-14	8:00 AM - Noon	Coquina Salon D
Mechanics & Characterizations II	28-Jan-14	1:30 - 4:50 PM	Coquina Salon D
Mechanical Behavior	29-Jan-14	8:00 - 11:50 AM	Coquina Salon D
Fibers, Matrices, Coatings and Interfaces	29-Jan-14	1:30 - 5:50 PM	Coquina Salon D
Processing I	30-Jan-14	8:00 - 11:40 AM	Coquina Salon D
Processing II	30-Jan-14	1:30 - 5:30 PM	Coquina Salon D
Tribology and Materials	31-Jan-14	8:00 - 11:20 AM	Coquina Salon D
S2: Advanced Ceramic Coatings for Structural, Environmental, and Functional Applications			
Advanced Thermal Barrier Coatings: Failure Mechanisms and Process Modeling	29-Jan-14	8:00 AM - Noon	Coquina Salon G
Advanced Thermal Barrier Coatings: New Compositions, Processing, Testing Development - I	29-Jan-14	1:30 - 5:50 PM	Coquina Salon G
Advanced Thermal and Environmental Barrier Coatings	30-Jan-14	8:00 AM - 12:20 PM	Coquina Salon G
Advanced Multifunctional Coatings: Processing and Characterization - I	30-Jan-14	1:30 - 3:30 PM	Coquina Salon G
Advanced Thermal Barrier Coatings: New Compositions, Processing, Testing Development - II	30-Jan-14	3:30 - 5:50 PM	Coquina Salon G

Technical Sessions By Symposium

Session Title	Date	Time	Location
Advanced Multifunctional Coatings: Processing and Characterization - II	31-Jan-14	8:00 - 10:00 AM	Coquina Salon G
S3: 11th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology			
Status and Prospectives of SOFC and SOEC	28-Jan-14	1:30 - 4:50 PM	Coquina Salon H
Cell Manufacturing	29-Jan-14	8:00 - 10:00 AM	Coquina Salon H
Joining Technology	29-Jan-14	10:00 AM - Noon	Coquina Salon H
Micro-SOFCs	29-Jan-14	1:30 - 5:50 PM	Coquina Salon H
Air Electrode	30-Jan-14	8:00 - 10:00 AM	Coquina Salon H
Air Electrode / Interfacial Reactions	30-Jan-14	10:00 AM - Noon	Coquina Salon H
Interfacial Reactions / Fuel Electrode	30-Jan-14	1:30 - 5:00 PM	Coquina Salon H
Interconnects / Coatings	31-Jan-14	8:00 - 10:10 AM	Coquina Salon H
Electrolytes and Membranes	31-Jan-14	10:10 AM - 12:10 PM	Coquina Salon H
S4: Armor Ceramics			
Special Topic Focus: Adhesive Bonding	27-Jan-14	1:30 - 2:40 PM	Coquina Salon E
Glass and Transparent Ceramics	27-Jan-14	2:40 - 5:40 PM	Coquina Salon E
Special Topic Focus: Boron Carbide I	28-Jan-14	8:30 AM - Noon	Coquina Salon E
"Special Topic Focus: Boron Carbide II"	28-Jan-14	1:20 - 5:10 PM	Coquina Salon E
Modeling	29-Jan-14	8:00 - 9:00 AM	Coquina Salon E
Testing and Evaluation / Materials Characterization / Quasi-Static and Dynamic Behavior I	29-Jan-14	9:00 AM - Noon	Coquina Salon E
Testing and Evaluation / Materials Characterization / Quasi-Static and Dynamic Behavior II	29-Jan-14	1:20 - 5:20 PM	Coquina Salon E
S5: Next Generation Bioceramics and Biocomposites			
Bioceramics I	30-Jan-14	8:00 AM - Noon	Coquina Salon E
Bioceramics II	30-Jan-14	1:30 - 6:00 PM	Coquina Salon E
Bioceramics III	31-Jan-14	8:00 - 11:40 AM	Coquina Salon E
S6: Advanced Materials and Technologies for Energy Generation and Rechargeable Energy Storage			
Li-ion Battery Technology - Advanced Electrodes I	27-Jan-14	1:30 - 3:20 PM	Ponce De Leon
Li-ion Battery Technology - Advanced Electrodes II	27-Jan-14	3:20 - 5:20 PM	Ponce De Leon
Li-ion Battery Technology - Diagnostics and Characterization	28-Jan-14	8:00 - 10:00 AM	Ponce De Leon
Li-ion Battery Technology - Characterization and Design	28-Jan-14	10:00 AM - Noon	Ponce De Leon
Li-ion Battery Technology - Applications	28-Jan-14	1:30 - 3:30 PM	Ponce De Leon
Li-ion Battery Technology - Design and Solar Application	28-Jan-14	3:30 - 6:00 PM	Ponce De Leon
Energy Storage Technology (Sodium Battery and Beyond)	29-Jan-14	8:00 - 10:10 AM	Ponce De Leon
Advanced Materials for Energy Harvesting and Storage	29-Jan-14	10:10 AM - 12:10 PM	Ponce De Leon
S7: 8th International Symposium on Nanostructured Materials and Nanocomposites			
Nanomaterials for Energy I: Photovoltaics	27-Jan-14	1:30 - 3:20 PM	Coquina Salon B
Nanomaterials for Energy II: Photoelectochemical and Photocatalytic Systems	27-Jan-14	3:20 - 6:10 PM	Coquina Salon B
Nano-Bio Interactions	28-Jan-14	8:00 - 10:00 AM	Coquina Salon B
Nanoscopic Films and Composites I	28-Jan-14	10:00 AM - 12:10 PM	Coquina Salon B
Nanosciopioc films and Composites II	28-Jan-14	1:30 - 3:20 PM	Coquina Salon B
Materials Integration and Gas Sensors	28-Jan-14	3:20 - 5:50 PM	Coquina Salon B
Nanomaterials for Energy III: Batteries I	29-Jan-14	8:00 - 10:00 AM	Coquina Salon B
Nanomaterials for Energy IV: Batteries II	29-Jan-14	10:00 AM - Noon	Coquina Salon B
Nanodevices and Application of Nanomaterials	29-Jan-14	1:30 - 3:20 PM	Coquina Salon B

Technical Sessions By Symposium

Session Title	Date	Time	Location
Synthesis and Application of Nanomaterials	29-Jan-14	3:20 - 5:20 PM	Coquina Salon B
Nanocomposites	30-Jan-14	8:00 - 10:00 AM	Coquina Salon B
Thin Film Technology	30-Jan-14	10:00 AM - Noon	Coquina Salon B
Synthesis, functionalization and assembly of metal oxide nano materials	30-Jan-14	1:30 - 3:20 PM	Coquina Salon B
Nanostructured Carbon, CNT and Graphene Composites: Synthesis, Characterization and Application	30-Jan-14	3:20 - 6:20 PM	Coquina Salon B
S8: 8th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT8) In Honor of Prof. Stuart Hampshire			
In Honor of Professor Stuart Hampshire I; Oxynitride & Related Materials	27-Jan-14	1:30 - 5:40 PM	Coquina Salon A
In Honor of Professor Stuart Hampshire II; Novel Processing	28-Jan-14	8:00 AM - 12:10 PM	Coquina Salon A
In Honor of Professor Stuart Hampshire III; Silicon Nitride	28-Jan-14	1:30 - 5:20 PM	Coquina Salon A
Novel Sintering & Forming I; Flash Sintering, etc.	29-Jan-14	8:10 AM - Noon	Coquina Salon A
Novel Sintering & Forming II; Additive Manufacturing, etc.	29-Jan-14	1:30 - 4:50 PM	Coquina Salon A
Novel Sintering & Forming III	30-Jan-14	8:20 - 10:00 AM	Coquina Salon A
Advanced Integration & Joining	30-Jan-14	10:00 AM - Noon	Coquina Salon A
Advanced Micro & Composite Processing I	30-Jan-14	1:30 - 4:50 PM	Coquina Salon A
Advanced Micro & Composite Processing II	31-Jan-14	8:30 AM - Noon	Coquina Salon A
S9: Porous Ceramics: Novel Developments and Applications			
Processing Methods for Porous Ceramics I	29-Jan-14	1:30 - 3:20 PM	Coquina Salon C
Membranes and High SSA Ceramics	29-Jan-14	3:20 - 5:10 PM	Coquina Salon C
Processing Methods for Porous Ceramics II	30-Jan-14	8:00 - 10:10 AM	Coquina Salon C
Processing Methods for Porous Ceramics III	30-Jan-14	10:10 AM - Noon	Coquina Salon C
Processing Methods for Porous Ceramics IV	30-Jan-14	1:30 - 3:30 PM	Coquina Salon C
Modeling and Properties of Porous Ceramics	30-Jan-14	3:30 - 5:40 PM	Coquina Salon C
Processing Methods for Porous Ceramics V	31-Jan-14	8:00 - 10:00 AM	Coquina Salon C
Mechanical Properties of Porous Ceramics	31-Jan-14	10:00 - 11:40 AM	Coquina Salon C
S10: Virtual Materials (Computational) Design and Ceramic Genome			
Ceramic Genome and Modeling of Structure and Property I	27-Jan-14	1:30 - 3:20 PM	Coquina Salon G
Ceramic Genome and Modeling of Structure and Property II	27-Jan-14	3:20 - 5:50 PM	Coquina Salon G
Ceramic Genome and Modeling of Structure and Property III	28-Jan-14	8:00 - 10:00 AM	Coquina Salon G
Virtual Materials Design and Modeling I	28-Jan-14	10:00 AM - Noon	Coquina Salon G
Virtual Materials Design and Modeling II	28-Jan-14	1:30 - 3:20 PM	Coquina Salon G
Virtual Materials Design and Modeling III	28-Jan-14	3:20 - 5:20 PM	Coquina Salon G
S11: Advanced Materials and Innovative Processing Ideas for the Industrial Root Technology			
Low Friction Coating I	29-Jan-14	1:30 - 3:20 PM	Ponce De Leon
Low Friction Coating II	29-Jan-14	3:20 - 4:20 PM	Ponce De Leon
Energy Solution	29-Jan-14	4:20 - 5:40 PM	Ponce De Leon
Next Generation I	30-Jan-14	8:20 - 10:00 AM	Ponce De Leon
Next Generation II	30-Jan-14	10:00 AM - Noon	Ponce De Leon
Beyond Critical Technology I	30-Jan-14	1:30 - 3:20 PM	Ponce De Leon
Beyond Critical Technology II	30-Jan-14	3:20 - 6:10 PM	Ponce De Leon
New Concept & Emerging Technology I	31-Jan-14	8:20 - 10:00 AM	Ponce De Leon
New Concept & Emerging Technology II	31-Jan-14	10:00 AM - 12:20 PM	Ponce De Leon

Technical Sessions By Symposium

Session Title	Date	Time	Location
S12: Materials for Extreme Environments: Ultrahigh Temperature Ceramics (UHTCs) and Nanolaminated Ternary Carbides and Nitrides (MAX Phases)			
Material Design	27-Jan-14	1:30 - 3:20 PM	Coquina Salon F
Methods for Improving Damage Tolerance, Oxidation and Thermal Shock Resistance I	27-Jan-14	3:20 - 6:00 PM	Coquina Salon F
Methods for Improving Damage Tolerance, Oxidation and Thermal Shock Resistance II	28-Jan-14	8:00 - 10:00 AM	Coquina Salon F
Structure-Property Relationships I	28-Jan-14	10:00 AM - Noon	Coquina Salon F
Novel Processing I	28-Jan-14	1:30 - 3:20 PM	Coquina Salon F
Novel Processing II	28-Jan-14	3:20 - 5:20 PM	Coquina Salon F
Structure-Property Relationships II	29-Jan-14	8:00 - 10:00 AM	Coquina Salon E
Enviromental Stability	29-Jan-14	10:00 AM - 12:10 PM	Coquina Salon F
Novel Joining & Processing	29-Jan-14	1:30 - 3:20 PM	Coquina Salon F
New Composition\Composites	29-Jan-14	3:20 - 5:00 PM	Coquina Salon F
Novel Processing III	30-Jan-14	8:00 - 10:00 AM	Coquina Salon F
Structure-Property Relationships III	30-Jan-14	10:00 - 11:40 AM	Coquina Salon F
S13: Advanced Ceramics and Composites for Sustainable Nuclear Energy and Fusion Energy			
Materials Science in Nuclear Waste Management	29-Jan-14	8:00 - 10:00 AM	Oceanview
Materials Science and Technologies for Advanced Reactors I	29-Jan-14	10:00 AM - Noon	Oceanview
Materials Science and Technologies for Advanced Reactors II	29-Jan-14	1:30 - 5:00 PM	Oceanview
Materials Science and Technologies for Advanced Reactors III	30-Jan-14	8:00 - 11:50 AM	Oceanview
Codes, Standards and Design Methodology	30-Jan-14	1:30 - 3:10 PM	Oceanview
Fuel and Cladding Evolution and Performance Modeling	30-Jan-14	3:10 - 5:00 PM	Oceanview
Joining and Coating for Reactor Components	31-Jan-14	8:00 - 10:00 AM	Oceanview
Fundamental Science of Microstructural Evolution Under Irradiation	31-Jan-14	10:00 - 10:40 AM	Oceanview

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Symposia

2014 Program Chair: Michael C. Halbig, NASA Glenn Research Center

Symposium 1: Mechanical Behavior and Performance of Ceramics & Composites
Organizers: Dileep Singh, Argonne National Laboratory, USA; Jonathan A. Salem, NASA Glenn Research Center, USA; Dietmar Koch, German Aerospace Center, Germany; Laifei Cheng, Northwestern Polytechnical University, China; Shaoming Dong, Shanghai Institute of Ceramics, China; Monica Ferraris, Politecnico di Torino, Italy; Michael Halbig, NASA Glenn Research Center, USA; Juergen Heinrich, Clausthal University of Technology, Germany; Yutaka Kagawa, University of Tokyo, Japan; Walter Krenkel, University of Bayreuth, Germany; J. G. Sun, Argonne National Laboratory, USA; Andrew Wereszczak, Oak Ridge National Laboratory, USA; Y. Zhou, Harbin Institute of Technology, China

Symposium 2: Advanced Ceramic Coatings for Structural, Environmental, and Functional Applications
Organizers: Dongming Zhu, NASA Glenn Research Center, USA; Robert Vaßen, Forschungszentrum Jülich GmbH, Germany; H.T. Lin, Oak Ridge National Laboratory, USA; Yutaka Kagawa, University of Tokyo, Japan; Hideki Kakisawa, University of Tokyo, Japan; Uwe Schulz, German Aerospace Center, Germany; Rodney W. Trice, Purdue University, USA; Peter Mechnich, German Aerospace Center, Germany; Bryan Harder, NASA Glenn Research Center, USA; Marie-Helene Vidal-Setif, ONERA, France; Kang N. Lee, Rolls-Royce Corporation, USA; Ping Xiao, University of Manchester, UK; Federico Cernuschi, Ricera sul Sistema Energetico, Italy; Yiguang Wang, Northwestern Polytechnical University, China; Doug Wolfe, Pennsylvania State University, USA

Symposium 3: 11th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science, and Technology
Organizers: Mihails Kusnezoff, Fraunhofer IKTS, Germany; Narottam P. Bansal, NASA Glenn Research Center, USA; Prabhakar Singh, University of Connecticut, USA; J. S. Chung, POSTECH, Korea; Tatsumi Ishihara, Kyushu University, Japan; Nguyen Q. Minh, Consultant, USA; Mogens Mogensen, Risoe National Laboratory, Denmark; J. Obrien, INL, USA; Federico Smeacetto, Politecnico di Tornio, Italy; Jeffry W. Stevenson, Pacific Northwest National Laboratory, USA; Toshio Suzuki, AIST, Japan; Eric D. Wachsman, University of Maryland, USA

Symposium 4: Armor Ceramics
Organizers: James Campbell, US Army Research Laboratory, USA; Lisa Prokurat Franks, US Army TARDEC, USA; Jerry LaSalvia, US Army Research Laboratory, USA; Brian Leavy, US Army Research Laboratory, USA; James McCauley, US Army Research Laboratory, USA; David Stepp, US Army Research Office, USA; Jeffrey J. Swab, US Army Research Laboratory, USA; Andrew Wereszczak, Oak Ridge National Laboratory, USA

Symposium 5: Next Generation Bioceramics and Biocomposites
Organizers: Roger Narayan, University of North Carolina, USA; Markus Reiterer, Medtronic, Inc., USA; Marta Cerruti, McGill University, Canada; Chikara Ohtsuki, Nagoya University, Japan; Bikramjit Basu, Indian Institute of Science, India; Akiyoshi Osaka, Okayama University, Japan; Enrica Verne, Politecnico di Torino, Italy

Symposium 6: Advanced Materials and Technologies for Energy Generation, Conversion, and Rechargeable Energy Storage
Organizers: Ilias Belharouak, Argonne National Laboratory, USA; H. T. Lin, Oak Ridge National Laboratory, USA; Sean Li, University of New South Wales, Australia; Sujanto Widjaja, Corning Incorporated, USA; Shirley Meng, UC San Diego, USA; Palani Balaya, National University of Singapore, Singapore; Michael E. Badding, Corning Incorporated, USA; Terry Tritt, Clemson University, USA; Kuan-Zong Fung, National Cheng Kung University, Taiwan

Symposium 7: 8th International Symposium on Nanostructured Materials and Nanocomposites
Organizers: Sanjay Mathur, University of Cologne, Germany; Suprakas Sinha Ray, DST/CSIR- National Centre for Nanomaterials, South Africa; Marlies van Bael, Hasselt University, Belgium; Bala Vaidhyanathan, Loughborough University, UK; Guido Faglia, University of Brescia, Italy; Hidehiro Kamiya, University of Tokyo, Japan; Yoon-Bong Hahn, Chonbuk National University, Korea; Mauro Epifani, CNR-IMM, Italy

Symposium 8: 8th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT8) In Honor of Professor Stuart Hampshire
Organizers: Tatsuki Ohji, National Institute of Advanced Industrial Science and Technology (AIST), Japan; Mrityunjay Singh, Ohio Aerospace Institute, NASA Glenn Research Center, USA; Csaba Balazi, Hungarian Academy of Sciences, Hungary; Alida Bellosi, ISTEC-CNR, Italy; Francis Cambier, Belgian Ceramics Research Center, Belgium; Soshu Kirihara, Osaka University, Japan; Anne Leriche, Universite de Valenciennes et du Hainaut-Cambresis (UVHC), France; Jerzy Lis, AGH University of Science and Technology, Poland; Eugene Medvedovski, Umicore Indium Products, USA; Aleksander Pyzik, Dow Chemical Company, USA; Pavol Sajgalik, Institute of Inorganic Chemistry, Slovak Academy of Sciences, Slovakia; A.S.K. Sinha, Indian Institute of Technology, India; Richard D. Sisson, Jr., Worcester Polytechnic Institute, USA; Junichi Tatami, Yokohama National University, Japan

Symposium 9: Porous Ceramics: Novel Developments and Applications
Organizers: Paolo Colombo, University of Padova, Italy; James Zimmerman, Corning Incorporated, USA; Lennart Bergstrom, University of Stockholm, Sweden; Manabu Fukushima, National Institute of Advanced Industrial Science and Technology (AIST), Japan; Yuji Iwamoto, Nagoya Institute of Technology, Japan; Aleksander Pyzik, The Dow Chemical Company; Thomas R. Watkins, Oak Ridge National Laboratory, USA; Yuping Zhen, Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

Symposium 10: Virtual Materials (Computational) Design and Ceramic Genome
Organizers: Jingyang Wang, Institute of Metal Research, Chinese Academy of Sciences, China; Brian Good, NASA Glenn Research Center, USA; Jian Luo, Clemson University, USA; Katsuyuki Matsunaga, Nagoya University, Japan; Paul Rulis, University of Missouri-Kansas City, USA; Hans J. Seifert, University of Karlsruhe, Germany; Isao Tanaka, Kyoto University, Japan; Gerard L. Vignoles, University of Bordeaux, France; William J. Weber, Oak Ridge National Laboratory, USA

Symposium 11: Advanced Materials and Innovative Processing Ideas for the Industrial Root Technology
Organizers: Sangmok Lee, Korea Institute of Industrial Technology, Korea; Taejin Hwang, Korea Institute of Industrial Technology, Korea; Kyoung Il Moon, Korea Institute of Industrial Technology, Korea; Sanjay Mathur, University of Cologne, Germany; Ali Erdemir, Argonne National Laboratory, USA; Tim Hosenfeldt, Schaeffler Group, Germany; Sang Sub Kim, Inha University, Korea; Se Hoon Kwon, Pusan National University, Korea; Tadachika Nakayama, Nagaoka University of Technology, Japan; Jun Akedo, The National Institute of Advanced Industrial Science and Technology (AIST), Japan

Symposium 12: Materials for Extreme Environments: Ultrahigh Temperature Ceramics (UHTCs) and Nano-laminated Ternary Carbides and Nitrides (MAX Phases)
Organizers: Yanchun Zhou, Aerospace Research Institute of Material & Processing Technology, China; Jon Binner, Loughborough University, UK; Erica L. Corral, University of Arizona, USA; Per Eklund, Linköping University, Sweden; William G. Fahrenholtz, Missouri University of Science and Technology, USA; Frederic Monteverde, Institute of Science and Technology of Ceramics-CNR, Italy; Miladin Radovic, Texas A&M University, USA; Jochen Schneider, Materials Chemistry, RWTH Aachen, Germany; Luc J Vandeperre, Imperial College London, UK; Guo-Jun Zhang, Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

Symposium 13: Advanced Ceramics and Composites for Sustainable Nuclear Energy and Fusion Energy
Organizers: Josef Matyas, Pacific Northwest National Laboratory, USA; Yutai Katoh, Oak Ridge National Laboratory, USA; Tatsuya Hinoki, Kyoto University, Japan; Weon-Ju Kim, Korea Atomic Energy Research Institute, Korea; Monica Ferraris, Politecnico di Torino, Italy; Steve Gonczy, Gateway Materials Technology, USA; Lance Snead, Oak Ridge National Laboratory, USA; Veena Tikare, Sandia National Laboratory, USA
William Weber, University of Tennessee, USA; Ted Besmann, Oak Ridge National Laboratory, USA; Izabela Szlufarska, University of Wisconsin, USA; Kevin Fox, Savannah River National Laboratory, USA

Focused Session 1: Geopolymers, Chemically Bonded Ceramics, Eco-friendly and Sustainable Materials
Organizers: Waltraud M. Kriven: University of Illinois at Urbana-Champaign, USA; Kenneth MacKenzie, Victoria University of Wellington, New Zealand; John L. Provis, The University of Sheffield, UK; Claus H. Ruscher, Leibniz University of Hannover, Germany; Sylvia Rossignol, GEMH-ENSCI, France; Kwesi Sagoe-Crentsil, CSIRO Melbourne, Austraila; Hubert Rahier, Vrije Universiteit, Belgium, Christina Leonelli, University of Modena, Italy

Focused Session 2: Advanced Ceramic Materials and Processing for Photonics and Energy
Organizers: Alberto Vomiero, CNR – University of Brescia, Italy; Federico Rosei, University du Quebec, Canada; Yasuhiro Tachibana, RMIT University, Australia; Daniel Milanese, Politecnico di Torino, Italy

Focused Session 3: Rare Earth Oxides for Energy, Optica and Biomedical Applications
Organizers: Sudipta Seal, University of Central Florida, USA; Kelly Nash, University of Texas as San Antonio, USA; Enrico Traversa, Jiaotong University, China and University of Rome Tor Vergata, Italy

Focused Session 4: Ion-Transport Membranes
Organizers: Charles Lewinsohn, Ceramatec, USA

3rd Global Young Investigator Forum
Organizers: Thomas Fischer, University of Cologne, Germany; Seyedeh Mahboobeh Hosseini, University of California at Davis, USA; Craig Smith, NASA Glenn Research Center/University of Akron, USA; Sakoto Tasaki, National Institute of AIST, Japan; Bonex Wakufwa Mwakikunga, CSIR – National Center for Nano-Structured Materials, South Africa; Alex Chinghuan Lee, National University of Kaohsiung, Taiwan; Fernando Torres Andon, Karolinska Institute, Sweden

2nd Pacific Rim Engineering Ceramics Summit
Organizers: Mrityunjay Singh, Ohio Aerospace Institute, NASA Glenn Research Center, USA; Hai-Doo Kim, Korean Ceramic Society, Korea; Jow-Lay Huang, National University of Kaohsiung, Taiwan; H.T. Lin, Oak Ridge National Laboratory, USA; Arvind Saxena, DMRSDE, India

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Ellis, A.	30-Jan	8:40AM	Coquina Salon D	53
Els, A.	29-Jan	4:30PM	Coquina Salon A	48
Epifani, M.	28-Jan	3:40PM	Oceanview	33
Epifani, M.	28-Jan	5:30PM	Coquina Salon B	36
Eraslan, S.	29-Jan	4:00PM	Ponce De Leon	49
Erdemir, A.	29-Jan	1:30PM	Ponce De Leon	49
Erlichman, J.	27-Jan	2:40PM	Coquina Salon D	23
Esposito, V.	31-Jan	11:30AM	Coquina Salon H	66
F				
Fahlman, B.D.	27-Jan	3:20PM	Ponce De Leon	25
Fahrenholtz, W.G.	28-Jan	8:40AM	Coquina Salon F	32
Fanchini, G.	28-Jan	8:40AM	Oceanview	28
Faupel, F.	30-Jan	8:30AM	Coquina Salon B	55
Feng, L.	31-Jan	8:50AM	Coquina Salon G	65
Ferber, M.K.	31-Jan	11:00AM	Coquina Salon B	64
Ferraris, M.	29-Jan	10:30AM	Coquina Salon D	41
Ferraris, M.	31-Jan	8:20AM	Oceanview	68
Ferreira, J.M.	30-Jan	2:00PM	Coquina Salon A	62
Fertig, R.S.	31-Jan	10:50AM	Coquina Salon C	67
Fidler, B.	28-Jan	10:50AM	Ponce De Leon	30
Finnerty, C.	29-Jan	2:00PM	Coquina Salon H	46
Fischer, T.	27-Jan	2:40PM	Coquina Salon H	22
Fischer, T.	30-Jan	11:00AM	Coquina Salon B	55
Fiz, R.	29-Jan	9:00AM	Coquina Salon B	43
Fountzoulas, C.G.	29-Jan	8:20AM	Coquina Salon E	42
Francis, J.	30-Jan	1:30PM	Ponce De Leon	63
Fukushima, M.	29-Jan	2:20PM	Coquina Salon C	48
Fukushima, T.	30-Jan	3:50PM	Ponce De Leon	63
Fung, K.	27-Jan	2:40PM	Ponce De Leon	24
Fung, K.	31-Jan	10:10AM	Coquina Salon H	66
G				
Gadow, R.	30-Jan	2:00PM	Coquina Salon G	59
Galstyan, V.	28-Jan	3:50PM	Coquina Salon B	35
Gao, H.	29-Jan	2:20PM	Coquina Salon F	49
Gao, H.	30-Jan	10:00AM	Coquina Salon F	57
Gao, T.	29-Jan	4:50PM	Coquina Salon C	48
Gaume, R.	27-Jan	4:00PM	Coquina Salon D	24
Gaume, R.	28-Jan	3:20PM	Oceanview	33
Gaur, A.	29-Jan	10:40AM	Coquina Salon A	44
Geelhood, K.J.	30-Jan	3:10PM	Oceanview	63
Gelebart, L.	30-Jan	8:00AM	Oceanview	58
Gell, M.	29-Jan	1:30PM	Coquina Salon G	45
Geng, X.	30-Jan	8:50AM	Oceanview	58
Gergel, C.	27-Jan	4:00PM	Coquina Salon H	23
Gianella, S.	30-Jan	11:40AM	Coquina Salon C	57
Goddard, W.A.	28-Jan	3:50PM	Coquina Salon E	34
Gonczy, S.T.	30-Jan	1:30PM	Oceanview	63
Gonczy, S.T.	31-Jan	9:20AM	Oceanview	68
Gondolini, A.	29-Jan	9:20AM	Coquina Salon H	41
Gönüllü, Y.	27-Jan	2:20PM	Coquina Salon H	22
Gönüllü, Y.	28-Jan	4:50PM	Coquina Salon B	36
Goto, T.	27-Jan	1:30PM	Coquina Salon C	22
Gouma, P.	30-Jan	11:20AM	Coquina Salon E	55
Gower, L.	30-Jan	11:00AM	Coquina Salon E	55
Grader, G.S.	28-Jan	2:00PM	Coquina Salon B	35
Graeve, O.A.	28-Jan	4:20PM	Oceanview	33
Graf, C.	28-Jan	9:00AM	Coquina Salon B	30
Gremillard, L.	30-Jan	4:00PM	Coquina Salon E	61
Grohsmeyer, R.J.	28-Jan	11:00AM	Coquina Salon F	32
Guan, B.	30-Jan	10:20AM	Coquina Salon H	54
Gupta, S.	28-Jan	10:20AM	Coquina Salon H	28
Gupta, S.	31-Jan	11:00AM	Coquina Salon A	67
Guzi de Moraes, E.	31-Jan	8:00AM	Coquina Salon C	67
Gyekenyesi, A.	29-Jan	8:00AM	Coquina Salon D	40
H				
Habibi, H.	30-Jan	5:30PM	Coquina Salon G	60
Hackemann, S.	29-Jan	4:10PM	Coquina Salon D	45
Halbig, M.	30-Jan	10:40AM	Coquina Salon A	56
Halim, J.	30-Jan	10:20AM	Coquina Salon F	57
Hammann, T.	30-Jan	9:00AM	Coquina Salon F	57
Hampshire, S.	27-Jan	1:30PM	Coquina Salon A	25
Han, L.	28-Jan	9:00AM	Oceanview	28
Han, L.	30-Jan	5:10PM	Coquina Salon D	59
Han, S.	31-Jan	8:30AM	Coquina Salon H	65
Hara, T.	30-Jan	2:30PM	Coquina Salon D	59
Harder, B.	30-Jan	11:00AM	Coquina Salon G	54
Hardy, A.	29-Jan	3:50PM	Coquina Salon B	47
Hardy, J.S.	30-Jan	11:20AM	Coquina Salon H	54
Harmata, A.	31-Jan	9:20AM	Coquina Salon E	66
Harrington, G.J.	28-Jan	10:20AM	Coquina Salon F	32
Harris, A.	27-Jan	1:30PM	Coquina Salon E	24
Harris, A.	29-Jan	5:10PM	Coquina Salon G	46
Haugen, H.J.	30-Jan	9:20AM	Coquina Salon E	55
Hay, R.	29-Jan	2:10PM	Coquina Salon D	45
Hayase, S.	28-Jan	8:20AM	Oceanview	28
Heil, M.	28-Jan	3:50PM	Coquina Salon C	32
Hellmann, J.R.	30-Jan	3:30PM	Coquina Salon D	59
Hemmer, E.	27-Jan	1:30PM	Coquina Salon H	22
Hemmer, E.	28-Jan	9:30AM	Coquina Salon B	30
Hemrick, J.G.	29-Jan	8:10AM	Coquina Salon C	40
Henderson, J.B.	29-Jan	9:20AM	Oceanview	45
Hendouai, A.	27-Jan	5:00PM	Oceanview	23
Hendriksen, P.V.	28-Jan	3:10PM	Coquina Salon H	34
Hendriksen, P.V.	29-Jan	11:10AM	Coquina Salon D	41
Heo, M.	31-Jan	8:40AM	Ponce De Leon	67
Hermansson, L.	30-Jan	4:20PM	Coquina Salon E	61
Hernandez, E.	28-Jan	9:20AM	Coquina Salon G	31
Hilmas, G.	29-Jan	10:00AM	Coquina Salon F	44
Hinoki, T.	30-Jan	9:50AM	Oceanview	58
Hjelm, J.	30-Jan	1:50PM	Coquina Salon H	60
Hmood, F.	30-Jan	4:30PM	Coquina Salon A	62
Hoffmann-Eifert, S.	28-Jan	10:30AM	Coquina Salon B	30
Hollerweger, R.	28-Jan	9:20AM	Coquina Salon F	32
Homa, J.	29-Jan	3:30PM	Coquina Salon A	48
Homer, E.R.	30-Jan	4:10PM	Oceanview	63
Honda, S.	30-Jan	5:00PM	Coquina Salon C	62
Honma, T.	29-Jan	9:30AM	Ponce De Leon	42
Hordagoda, M.	27-Jan	4:50PM	Coquina Salon D	24
Hosenfeldt, T.	29-Jan	2:00PM	Ponce De Leon	49
Hu, J.	30-Jan	9:20AM	Coquina Salon F	57
Hu, L.	29-Jan	3:40PM	Coquina Salon F	49
Hu, L.	30-Jan	11:00AM	Coquina Salon F	58
Hu, L.	30-Jan	8:40AM	Coquina Salon F	57
Huang, J.	28-Jan	11:40AM	Coquina Salon C	27
Huang, L.	28-Jan	8:50AM	Coquina Salon G	31
Huang, L.	29-Jan	11:30AM	Ponce De Leon	43
Huassain, A.	27-Jan	3:50PM	Coquina Salon G	26
Hug, G.A.	27-Jan	2:20PM	Coquina Salon F	27
Hupa, L.	31-Jan	10:00AM	Coquina Salon E	66
Hurwitz, F.	29-Jan	4:20PM	Coquina Salon B	47
Huynh, M.T.	30-Jan	4:10PM	Ponce De Leon	63
I				
Ikuhara, Y.	27-Jan	3:20PM	Coquina Salon C	22
Inoue, R.	28-Jan	10:20AM	Coquina Salon D	29
Ionescu, E.	30-Jan	10:10AM	Oceanview	58
Ionescu, E.	31-Jan	9:00AM	Coquina Salon A	66
Ishikawa, R.	27-Jan	3:40PM	Coquina Salon H	23
Ishikawa, T.	28-Jan	4:10PM	Coquina Salon C	32

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J				
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Jannotti, P.	29-Jan	9:20AM	Coquina Salon E	42
Jenkins, M.G.	30-Jan	2:00PM	Oceanview	63
Jenkins, M.G.	30-Jan	2:30PM	Oceanview	63
Jha, S.K.	30-Jan	2:40PM	Ponce De Leon	63
Johnson, R.	29-Jan	4:00PM	Coquina Salon F	49
Jung, Y.	31-Jan	8:00AM	Oceanview	68
Jurewicz, A.	31-Jan	10:40AM	Coquina Salon E	66
K				
Kabir, R.	29-Jan	10:30AM	Ponce De Leon	43
Kale, G.M.	29-Jan	2:00PM	Coquina Salon A	48
Kaletsch, A.	30-Jan	11:20AM	Coquina Salon A	56
Kamiya, H.	29-Jan	9:20AM	Coquina Salon B	43
Kara, F.	27-Jan	5:00PM	Coquina Salon A	26
Karakuscu, A.	28-Jan	5:10PM	Coquina Salon B	36
Karakuscu, A.	29-Jan	4:10PM	Coquina Salon C	48
Karandikar, P.	29-Jan	1:40PM	Coquina Salon E	47
Kata, D.	30-Jan	4:10PM	Coquina Salon D	59
Katoh, Y.	29-Jan	1:50PM	Oceanview	50
Katsui, H.	27-Jan	5:00PM	Ponce De Leon	25
Kerme, E.D.	28-Jan	5:40PM	Ponce De Leon	35
Khanna, R.	31-Jan	11:00AM	Coquina Salon E	66
Kim, B.	29-Jan	4:20PM	Ponce De Leon	49
Kim, C.	29-Jan	11:20AM	Coquina Salon H	42
Kim, D.	28-Jan	2:30PM	Coquina Salon C	32
Kim, D.	29-Jan	8:00AM	Ponce De Leon	42
Kim, G.	31-Jan	10:50AM	Ponce De Leon	67
Kim, H.	28-Jan	2:30PM	Coquina Salon A	36
Kim, H.	29-Jan	11:10AM	Coquina Salon C	40
Kim, H.	29-Jan	5:20PM	Ponce De Leon	49
Kim, K.	29-Jan	10:00AM	Coquina Salon C	40
Kim, S.	30-Jan	3:30PM	Coquina Salon G	60
Kim, T.	30-Jan	1:30PM	Coquina Salon D	59
Kim, W.	29-Jan	11:20AM	Oceanview	45
Kim, Y.	27-Jan	2:00PM	Coquina Salon C	22
King, D.	31-Jan	10:00AM	Ponce De Leon	67
Kirihara, S.	28-Jan	4:50PM	Coquina Salon C	33
Kirihara, S.	29-Jan	2:30PM	Coquina Salon A	48
Kirihara, S.	31-Jan	8:00AM	Coquina Salon G	65
Kita, K.	31-Jan	11:20AM	Coquina Salon A	67
Kitaoka, S.	27-Jan	4:30PM	Coquina Salon C	22
Klemm, D.	28-Jan	3:40PM	Coquina Salon H	34
Klemm, H.	30-Jan	8:00AM	Coquina Salon G	53
Knipe, K.	28-Jan	3:30PM	Coquina Salon D	33
Knorr, J.	29-Jan	8:30AM	Oceanview	45
Knorr, J.	30-Jan	8:30AM	Oceanview	58
Ko, C.	30-Jan	5:00PM	Coquina Salon E	61
Kob, W.	28-Jan	10:50AM	Coquina Salon G	31
Kodepelly, S.	30-Jan	5:20PM	Coquina Salon B	61
Kondo, S.	29-Jan	2:30PM	Oceanview	50
Kons, C.	30-Jan	2:50PM	Coquina Salon B	61
Koyanagi, T.	31-Jan	8:40AM	Oceanview	68
Kozawa, T.	29-Jan	10:50AM	Coquina Salon B	43
Kozuka, H.	29-Jan	1:30PM	Coquina Salon B	47
Krell, A.	29-Jan	4:00PM	Coquina Salon E	47
Kriven, W.	30-Jan	3:40PM	Coquina Salon F	58
Krnel, K.	30-Jan	3:50PM	Coquina Salon A	62
Kroll, S.	29-Jan	3:50PM	Coquina Salon C	48
Kuehn, S.	29-Jan	1:30PM	Coquina Salon H	46
Kuhn, A.	29-Jan	9:00AM	Ponce De Leon	42
Kumar, R.S.	29-Jan	2:30PM	Coquina Salon D	45
Kupp, E.R.	30-Jan	9:20AM	Coquina Salon A	56
Kusnezoff, M.	28-Jan	2:50PM	Coquina Salon H	34
Kusnezoff, M.	30-Jan	2:30PM	Coquina Salon H	60
Kutyla, G.P.	30-Jan	5:00PM	Coquina Salon F	59
Kuwelkar, K.A.	28-Jan	11:20AM	Coquina Salon E	30
L				
Lamberson, L.E.	29-Jan	10:20AM	Coquina Salon E	42
Lamon, J.	29-Jan	1:30PM	Coquina Salon D	45
Lamon, J.	29-Jan	1:50PM	Coquina Salon D	45
Lancien, J.E.	30-Jan	2:10PM	Coquina Salon C	62
LaSalvia, J.	28-Jan	10:00AM	Coquina Salon E	29
Lebrun, J.	29-Jan	8:40AM	Coquina Salon A	43
Lee, C.	31-Jan	8:20AM	Ponce De Leon	67
Lee, C.A.	28-Jan	10:00AM	Coquina Salon H	28
Lee, M.	30-Jan	10:50AM	Oceanview	58
Lee, M.	30-Jan	2:20PM	Ponce De Leon	63
Lee, S.	28-Jan	11:20AM	Coquina Salon C	27
Lee, S.	28-Jan	2:20PM	Coquina Salon F	37
Lee, S.	28-Jan	3:20PM	Coquina Salon C	32
Lee, S.	28-Jan	3:20PM	Coquina Salon F	37
Leifert, A.	28-Jan	10:40AM	Coquina Salon H	28
Lences, Z.	27-Jan	4:20PM	Coquina Salon A	26
Leonard, R.L.	30-Jan	4:40PM	Coquina Salon E	61
Lepple, M.	28-Jan	8:30AM	Coquina Salon G	31
Leriche, A.L.	28-Jan	8:30AM	Coquina Salon A	31
Lewinsohn, C.	29-Jan	11:00AM	Oceanview	45
Li, S.	29-Jan	10:10AM	Ponce De Leon	43
Li, W.	30-Jan	5:00PM	Coquina Salon H	60
Li, X.	31-Jan	10:00AM	Coquina Salon A	67
Li, Y.	27-Jan	1:50PM	Coquina Salon D	23
Li, Y.	27-Jan	4:40PM	Ponce De Leon	25
Lian, J.	31-Jan	10:20AM	Oceanview	68
Lichtner, A.	29-Jan	2:40PM	Coquina Salon C	48
Ligda, J.	28-Jan	10:40AM	Coquina Salon E	29
Lin, T.	30-Jan	8:00AM	Coquina Salon H	54
Linseis, C.	28-Jan	4:30PM	Coquina Salon D	34
Liu, B.	28-Jan	8:00AM	Coquina Salon G	31
Liu, C.	29-Jan	11:40AM	Coquina Salon H	42
Liu, Y.	28-Jan	5:20PM	Ponce De Leon	35
Liu, Y.	29-Jan	4:10PM	Coquina Salon A	48
Lodhe, M.	30-Jan	4:30PM	Coquina Salon F	59
Lonergan, J.	29-Jan	8:20AM	Coquina Salon F	44
Long, C.	31-Jan	9:00AM	Coquina Salon D	65
Lu, K.	30-Jan	8:00AM	Coquina Salon B	55
Luchao, S.	28-Jan	10:30AM	Coquina Salon G	31
Luitel, H.N.	28-Jan	2:30PM	Oceanview	33
Luo, J.	27-Jan	5:40PM	Coquina Salon G	26
Luscombe, C.	27-Jan	2:10PM	Oceanview	23
Ly, A.	27-Jan	4:30PM	Coquina Salon D	24
M				
Macauley, C.	29-Jan	2:20PM	Coquina Salon G	46
Maeta, S.	30-Jan	10:30AM	Oceanview	58
Mahmoodian, R.	31-Jan	10:40AM	Coquina Salon D	65
Maillé, L.	30-Jan	9:00AM	Coquina Salon D	53
Maillet, E.	28-Jan	2:10PM	Coquina Salon D	33
Malakhov, A.	31-Jan	9:10AM	Coquina Salon H	65
Malavasi, G.	31-Jan	8:00AM	Coquina Salon E	66
Mandal, H.M.	28-Jan	3:20PM	Coquina Salon A	36
Manero, A.	28-Jan	3:50PM	Coquina Salon D	34
Manghnani, M.H.	28-Jan	9:00AM	Coquina Salon E	29
Maram, P.	28-Jan	9:00AM	Ponce De Leon	30
Margot, J.	28-Jan	11:20AM	Oceanview	28
Margueron, S.	29-Jan	4:50PM	Coquina Salon G	46
Masaki, S.	28-Jan	11:00AM	Coquina Salon C	27
Mathur, S.	28-Jan	8:00AM	Oceanview	28
Mathur, S.	29-Jan	11:40AM	Coquina Salon B	43
Matthews, S.O.	28-Jan	9:20AM	Coquina Salon A	31
Matthews, S.O.	30-Jan	1:30PM	Coquina Salon C	62
Matyas, J.	29-Jan	9:00AM	Oceanview	45
McCauley, J.W.	29-Jan	4:20PM	Coquina Salon E	47
McClane, D.	29-Jan	2:00PM	Coquina Salon F	49
McDonagh, P.R.	27-Jan	3:30PM	Coquina Salon D	24
McFarland, B.	29-Jan	2:50PM	Coquina Salon D	45
McManus, S.D.	31-Jan	9:20AM	Coquina Salon A	66
Mechnich, P.	30-Jan	10:20AM	Coquina Salon G	54
Medpelli, D.	30-Jan	5:20PM	Coquina Salon F	59
Medri, V.	30-Jan	8:50AM	Coquina Salon C	56
Medvedovski, E.	30-Jan	10:00AM	Coquina Salon A	56
Medvedovski, E.	30-Jan	2:30PM	Coquina Salon G	59

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Messing, G.L.	30-Jan	8:00AM	Coquina Salon D	53
Mettenbörger, A.	30-Jan	11:20AM	Coquina Salon B	55
Michielsen, B.	30-Jan	11:20AM	Coquina Salon C	57
Miller-Oana, M.	28-Jan	9:00AM	Coquina Salon F	32
Miller-Oana, M.	29-Jan	11:50AM	Coquina Salon F	44
Miller, D.J.	28-Jan	8:00AM	Ponce De Leon	30
Miller, J.A.	29-Jan	9:30AM	Coquina Salon D	40
Mills, K.C.	28-Jan	11:00AM	Coquina Salon E	29
Milsom, B.	30-Jan	11:40AM	Ponce De Leon	57
Min, I.	31-Jan	11:10AM	Ponce De Leon	68
Minhas, N.	30-Jan	11:20AM	Coquina Salon F	58
Misra, A.K.	28-Jan	1:30PM	Coquina Salon C	32
Mitic, V.	30-Jan	3:10PM	Coquina Salon A	62
Miyahara, M.	27-Jan	4:40PM	Coquina Salon B	25
Molla, T.T.	28-Jan	2:20PM	Coquina Salon G	36
Monteverde, F.	27-Jan	4:50PM	Coquina Salon F	27
Monteverde, F.	28-Jan	11:20AM	Coquina Salon F	32
Moon, K.	30-Jan	10:30AM	Coquina Salon B	55
Morandotti, R.	28-Jan	11:00AM	Oceanview	28
Morrissey, A.	29-Jan	2:50PM	Coquina Salon B	47
Mosbæk, R.R.	30-Jan	2:10PM	Coquina Salon H	60
Moscatelli, A.	31-Jan	9:10AM	Coquina Salon G	65
Motoyama, Y.	30-Jan	9:00AM	Coquina Salon G	53
Mougin, J.	28-Jan	4:10PM	Coquina Salon H	34
Moutanabbir, O.	27-Jan	1:30PM	Oceanview	23
Muccillo, R.	31-Jan	11:10AM	Coquina Salon H	66
Muehler, T.	29-Jan	3:10PM	Coquina Salon A	48
Mueller, R.	29-Jan	10:30AM	Coquina Salon B	43
Mukherjee, D.	27-Jan	4:20PM	Oceanview	23
Mumm, D.R.	29-Jan	10:30AM	Coquina Salon G	41
Mumm, D.R.	30-Jan	1:30PM	Coquina Salon H	60
Munakata, H.	27-Jan	4:20PM	Ponce De Leon	25
Murayama, H.	31-Jan	11:30AM	Ponce De Leon	68
Murtagh, M.J.	28-Jan	11:00AM	Coquina Salon A	31
Musil, J.	30-Jan	8:20AM	Ponce De Leon	57
Musil, S.	30-Jan	4:00PM	Coquina Salon F	58
Muto, H.	30-Jan	1:30PM	Coquina Salon B	61
Myers, K.	31-Jan	10:00AM	Coquina Salon D	65
N				
Naik Parrikar, P.	30-Jan	10:40AM	Coquina Salon F	57
Nait-Ali, B.	30-Jan	4:40PM	Coquina Salon C	62
Naito, M.	27-Jan	2:40PM	Coquina Salon C	22
Naito, M.	29-Jan	8:30AM	Coquina Salon B	43
Nakao, W.	30-Jan	10:40AM	Coquina Salon D	53
Narayan, R.	28-Jan	8:40AM	Coquina Salon C	27
Nath, S.K.	30-Jan	3:20PM	Coquina Salon F	58
Naviroj, M.	29-Jan	2:00PM	Coquina Salon C	48
Nechache, R.	27-Jan	4:00PM	Oceanview	23
Nettleship, I.	30-Jan	10:40AM	Coquina Salon E	55
Neumeier, S.	29-Jan	8:00AM	Oceanview	44
Neves, N.	31-Jan	10:20AM	Coquina Salon D	65
Neves, N.	31-Jan	8:40AM	Coquina Salon E	66
Nguyen, B.	30-Jan	11:30AM	Oceanview	58
Ni, N.	30-Jan	8:30AM	Coquina Salon C	56
Nickerson, S.	30-Jan	3:30PM	Coquina Salon C	62
Niehoff, P.	31-Jan	11:20AM	Coquina Salon B	64
Nikbin, K.	29-Jan	8:40AM	Coquina Salon F	44
Niu, H.	27-Jan	4:10PM	Coquina Salon G	26
Nordhorn, C.	29-Jan	11:20AM	Coquina Salon G	41
O				
Obradors, X.	29-Jan	8:00AM	Coquina Salon B	43
Ogawa, T.	27-Jan	5:00PM	Coquina Salon G	26
Oh, Y.	30-Jan	4:10PM	Coquina Salon G	60
Ohji, T.	29-Jan	9:00AM	Coquina Salon C	40
Okubo, Y.	30-Jan	2:10PM	Coquina Salon D	59
Olupot, P.W.	31-Jan	11:20AM	Coquina Salon D	65
Öner, M.	29-Jan	5:00PM	Coquina Salon B	48
Orera, V.M.	29-Jan	8:30AM	Coquina Salon H	41
Ortona, A.	30-Jan	4:00PM	Coquina Salon C	62
Osaka, A.	30-Jan	10:00AM	Coquina Salon E	55
Ouisse, T.	30-Jan	8:00AM	Coquina Salon F	57
P				
Paciejewska, K.M.	29-Jan	5:10PM	Coquina Salon H	46
Padture, N.P.	29-Jan	8:00AM	Coquina Salon G	41
Pan, M.	30-Jan	8:40AM	Coquina Salon A	56
Papa, E.	30-Jan	6:00PM	Coquina Salon F	59
Paris, J.M.	31-Jan	11:00AM	Coquina Salon F	64
Parsard, G.	28-Jan	9:20AM	Coquina Salon E	29
Pascucci, M.R.	27-Jan	4:40PM	Coquina Salon E	24
Patel, P.K.	27-Jan	3:40PM	Oceanview	23
Pavlacka, R.	28-Jan	2:20PM	Coquina Salon E	34
Peelamedu, R.	29-Jan	11:40AM	Coquina Salon A	44
Pereira-Ramos, J.	27-Jan	2:00PM	Ponce De Leon	24
Perry, N.H.	30-Jan	10:00AM	Coquina Salon H	54
Pettina', M.	29-Jan	10:30AM	Coquina Salon F	44
Peyratout, C.S.	28-Jan	2:20PM	Coquina Salon B	35
Peyratout, C.S.	30-Jan	4:20PM	Coquina Salon C	62
Pfeiffer, W.	30-Jan	3:20PM	Ponce De Leon	63
Pham, D.	28-Jan	4:20PM	Coquina Salon F	37
Piat, R.	28-Jan	2:00PM	Coquina Salon G	36
Piat, R.	28-Jan	3:50PM	Coquina Salon G	37
Pienti, L.	27-Jan	3:50PM	Coquina Salon F	27
Pinc, W.	29-Jan	1:30PM	Coquina Salon F	49
Pinc, W.	29-Jan	11:00AM	Coquina Salon A	44
Pittari, J.J.	29-Jan	11:00AM	Coquina Salon E	42
Poenicke, A.	29-Jan	3:50PM	Coquina Salon H	46
Poerschke, D.L.	29-Jan	9:20AM	Coquina Salon G	41
Pomeroy, M.J.	27-Jan	3:50PM	Coquina Salon A	26
Pompe, R.	28-Jan	4:20PM	Coquina Salon A	36
Post, E.	29-Jan	11:10AM	Ponce De Leon	43
Poulesquen, A.	30-Jan	1:30PM	Coquina Salon F	58
Pralong, V.	27-Jan	1:30PM	Ponce De Leon	24
Prud'homme, E.	31-Jan	11:30AM	Coquina Salon F	64
Pyeon, M.	30-Jan	9:20AM	Ponce De Leon	57
Q				
Qi, S.	28-Jan	11:30AM	Coquina Salon B	31
Quinn, G.D.	29-Jan	10:50AM	Coquina Salon D	41
Quinn, G.D.	30-Jan	2:00PM	Coquina Salon E	60
R				
Raccis, R.	27-Jan	4:40PM	Coquina Salon H	23
Racle, E.	28-Jan	2:30PM	Coquina Salon D	33
Rahaman, M.N.	30-Jan	9:00AM	Coquina Salon E	55
Rahier, H.	31-Jan	8:00AM	Coquina Salon F	64
Raj, R.	29-Jan	8:10AM	Coquina Salon A	43
Rajan, V.P.	28-Jan	8:40AM	Coquina Salon D	29
Ramanujam, P.	30-Jan	2:30PM	Coquina Salon B	61
Rampelberg, G.	30-Jan	10:00AM	Coquina Salon B	55
Rao, P.M.	28-Jan	8:20AM	Coquina Salon D	29
Razzari, L.	28-Jan	11:40AM	Oceanview	29
Ren, Y.	28-Jan	10:00AM	Ponce De Leon	30
Rhee, H.	31-Jan	10:30AM	Ponce De Leon	67
Richards, B.T.	30-Jan	10:40AM	Coquina Salon G	54
Richards, G.	30-Jan	11:20AM	Coquina Salon D	53
Richardson, K.	28-Jan	2:10PM	Oceanview	33
Richter, H.	28-Jan	11:00AM	Coquina Salon D	29
Richter, H.	29-Jan	11:30AM	Coquina Salon D	41
Richtsmeier, J.H.	28-Jan	1:30PM	Coquina Salon D	33
Riskin, A.	30-Jan	3:50PM	Coquina Salon B	61
Riyad, M.F.	30-Jan	2:30PM	Coquina Salon C	62
Rocha-Jimenez, J.J.	28-Jan	11:30AM	Coquina Salon A	31
Rodgers, T.M.	30-Jan	4:30PM	Coquina Salon G	60
Roger, J.	31-Jan	10:20AM	Coquina Salon A	67
Rohde, M.	28-Jan	3:20PM	Coquina Salon G	37
Rosei, F.	28-Jan	9:00AM	Coquina Salon C	27
Rosen, J.	27-Jan	1:30PM	Coquina Salon F	26
Rossol, M.N.	29-Jan	3:30PM	Coquina Salon D	45
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S				
Sajgalik, P.	28-Jan	1:30PM	Coquina Salon A	36
Salem, J.	29-Jan	8:30AM	Coquina Salon D	40
Salinas, C.L.	31-Jan	9:00AM	Coquina Salon E	66
Salvini, V.R.	30-Jan	3:30PM	Coquina Salon A	62
Samson, A.	30-Jan	9:20AM	Coquina Salon H	54
Sankar, K.	30-Jan	5:40PM	Coquina Salon F	59
Sarma, H.	30-Jan	1:50PM	Coquina Salon C	62
Saruhan-Brings, B.	28-Jan	10:30AM	Coquina Salon A	31
Saruhan-Brings, B.	29-Jan	11:10AM	Coquina Salon B	43
Sasidharan Pillai, R.	31-Jan	10:20AM	Coquina Salon E	66
Satapathy, S.	29-Jan	10:00AM	Coquina Salon E	42
Satapathy, S.	29-Jan	3:20PM	Coquina Salon E	47
Satardekar, P.	29-Jan	9:00AM	Coquina Salon H	41
Schefold, J.	28-Jan	4:30PM	Coquina Salon H	34
Schneider, J.	30-Jan	10:00AM	Ponce De Leon	57
Schnittker, K.	30-Jan	5:40PM	Coquina Salon B	61
Schoenung, J.M.	29-Jan	10:00AM	Coquina Salon A	44
Schulzgen, A.	28-Jan	1:50PM	Oceanview	33
Sekine, K.	30-Jan	8:00AM	Coquina Salon C	56
Sekino, T.	29-Jan	11:50AM	Coquina Salon C	40
Sekino, T.	30-Jan	2:00PM	Coquina Salon B	61
Sengottaian, K.	28-Jan	11:40AM	Coquina Salon F	32
Sengottaian, K.	28-Jan	3:40PM	Coquina Salon F	37
Seo, D.	31-Jan	9:00AM	Coquina Salon F	64
Serizawa, H.	28-Jan	10:40AM	Coquina Salon D	29
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Shahbazmohamadi, S.	29-Jan	11:40AM	Coquina Salon G	41
Shahbzian-Yassar, R.	28-Jan	8:30AM	Ponce De Leon	30
Sharma, L.K.	29-Jan	9:20AM	Coquina Salon C	40
Shaw, J.H.	28-Jan	9:00AM	Coquina Salon D	29
Shen, S.	27-Jan	3:20PM	Coquina Salon B	25
Shian, S.	29-Jan	2:40PM	Coquina Salon G	46
Shih, C.	31-Jan	9:00AM	Oceanview	68
Shimamura, A.	28-Jan	5:00PM	Coquina Salon A	36
Shimamura, K.	28-Jan	4:30PM	Coquina Salon C	32
Shin, H.	27-Jan	3:20PM	Oceanview	23
Shin, S.	29-Jan	3:20PM	Ponce De Leon	49
Shirooyeh, M.	28-Jan	9:00AM	Coquina Salon H	28
Shirooyeh, M.	30-Jan	3:50PM	Coquina Salon D	59
Shockey, D.	27-Jan	4:00PM	Coquina Salon E	24
Shoji, M.	28-Jan	4:30PM	Ponce De Leon	35
Shyam, A.	31-Jan	10:30AM	Coquina Salon C	67
Simon, U.	27-Jan	11:20AM	Coquina Salon D	22
Singh, G.	29-Jan	10:00AM	Coquina Salon B	43
Singh, M.	29-Jan	1:30PM	Coquina Salon A	48
Singh, T.	27-Jan	3:20PM	Coquina Salon H	23
Singh, T.	27-Jan	5:10PM	Coquina Salon B	25
Singh, T.	30-Jan	8:50AM	Ponce De Leon	57
Sisson, R.D.	28-Jan	10:00AM	Coquina Salon A	31
Sivakov, V.	28-Jan	8:30AM	Coquina Salon B	30
Skiera, E.	29-Jan	10:30AM	Coquina Salon H	42
Smeacetto, F.	29-Jan	10:00AM	Coquina Salon H	41
Smedskjaer, M.M.	27-Jan	2:40PM	Coquina Salon E	24
Smith, C.	28-Jan	11:00AM	Coquina Salon H	28
Snead, L.L.	29-Jan	2:10PM	Oceanview	50
Snead, L.L.	30-Jan	9:10AM	Oceanview	58
Soares, S.	30-Jan	2:40PM	Coquina Salon E	61
Soga, K.	28-Jan	8:00AM	Coquina Salon B	30
Søgaard, M.	31-Jan	8:30AM	Coquina Salon B	64
Son, J.	29-Jan	3:20PM	Coquina Salon H	46
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Soraru, G.D.	28-Jan	4:10PM	Coquina Salon B	35
Sorrell, C.	28-Jan	2:00PM	Ponce De Leon	35
Stafford, R.	31-Jan	10:00AM	Coquina Salon C	67
Steinborn, C.	29-Jan	4:30PM	Coquina Salon D	45
Steins, P.	30-Jan	2:00PM	Coquina Salon F	58
Stiglich, J.	29-Jan	2:00PM	Coquina Salon E	47
Stiglich, J.J.	29-Jan	11:10AM	Coquina Salon F	44
Stiglich, J.J.	30-Jan	3:20PM	Coquina Salon E	61
Stiglich, J.J.	30-Jan	9:10AM	Coquina Salon C	56
Stolzenburg, F.	30-Jan	12:00PM	Coquina Salon G	54
Stournari, V.K.	31-Jan	9:20AM	Coquina Salon B	64
Strassburger, E.	29-Jan	2:40PM	Coquina Salon E	47
Su, J.	29-Jan	4:50PM	Coquina Salon D	45
Subhash, G.	29-Jan	11:20AM	Coquina Salon E	42
Subhash, G.	29-Jan	4:20PM	Oceanview	50
Suematsu, H.	27-Jan	2:20PM	Coquina Salon C	22
Sullivan, N.P.	31-Jan	9:00AM	Coquina Salon B	64
Sun, J.	30-Jan	11:00AM	Ponce De Leon	57
Sun, L.	27-Jan	4:20PM	Coquina Salon H	23
Sun, S.	28-Jan	10:00AM	Oceanview	28
Sun, Z.	28-Jan	9:20AM	Coquina Salon C	27
Suyama, S.	28-Jan	10:00AM	Coquina Salon C	27
Suzuki, H.	29-Jan	2:00PM	Coquina Salon B	47
Suzuki, M.	30-Jan	11:20AM	Ponce De Leon	57
Suzuki, T.	29-Jan	4:50PM	Coquina Salon H	46
Suzuki, T.S.	30-Jan	11:10AM	Oceanview	58
Suzuki, Y.	27-Jan	5:30PM	Coquina Salon C	22
Swab, J.	29-Jan	3:40PM	Coquina Salon E	47
T				
Tachibana, Y.	28-Jan	10:40AM	Oceanview	28
Takahashi, T.	28-Jan	4:40PM	Coquina Salon A	36
Tallman, D.	29-Jan	2:50PM	Oceanview	50
Tallman, D.J.	28-Jan	8:20AM	Coquina Salon F	32
Tallman, D.J.	29-Jan	10:50AM	Coquina Salon F	44
Tallman, D.J.	29-Jan	11:40AM	Oceanview	45
Tampieri, A.	30-Jan	9:40AM	Coquina Salon E	55
Tanaka, M.	30-Jan	10:00AM	Coquina Salon G	53
Tandon, R.	31-Jan	8:00AM	Coquina Salon D	65
Tarancón, A.	29-Jan	2:30PM	Coquina Salon H	46
Tarancón, A.	29-Jan	4:30PM	Coquina Salon H	46
Tarancón, A.	30-Jan	4:00PM	Coquina Salon H	60
Tas, A.	30-Jan	3:40PM	Coquina Salon E	61
Tasaki, S.	27-Jan	2:00PM	Coquina Salon H	22
Tasaki, S.	27-Jan	4:20PM	Coquina Salon B	25
Tatami, J.	28-Jan	2:00PM	Coquina Salon A	36
Tatami, J.	30-Jan	9:00AM	Coquina Salon B	55
Teichert, S.	28-Jan	3:20PM	Coquina Salon B	35
ten Elshof, J.E.	29-Jan	3:20PM	Coquina Salon B	47
Teocoli, F.	30-Jan	8:20AM	Coquina Salon D	53
Terrani, K.	29-Jan	10:30AM	Oceanview	45
Tiainen, H.	30-Jan	8:40AM	Coquina Salon E	55
Tietema, R.	29-Jan	3:40PM	Ponce De Leon	49
Tikare, V.	30-Jan	4:40PM	Oceanview	63
Timofeeva, E.V.	30-Jan	11:40AM	Coquina Salon B	55
to Baben, M.	28-Jan	8:00AM	Coquina Salon F	32
Toksoy, M.F.	28-Jan	1:20PM	Coquina Salon E	34
Tonge, A.L.	29-Jan	8:00AM	Coquina Salon E	42
Traversa, E.	31-Jan	10:40AM	Coquina Salon H	66
Trice, R.	30-Jan	1:30PM	Coquina Salon G	59
Trombin, F.	29-Jan	9:00AM	Coquina Salon A	44
Trunec, M.	27-Jan	5:00PM	Coquina Salon E	24
Tseng, L.	28-Jan	1:30PM	Coquina Salon H	34
Tsuda, H.	30-Jan	10:20AM	Coquina Salon A	56
Tsuru, T.	29-Jan	3:20PM	Coquina Salon C	48
U				
Ulmer, C.	31-Jan	10:00AM	Oceanview	68
Ürgen, M.	28-Jan	1:30PM	Coquina Salon B	35
V				
Vaidhyanathan, B.	29-Jan	9:20AM	Coquina Salon A	44
Vaidhyanathan, B.	30-Jan	8:30AM	Coquina Salon B	55
Valle, M.	30-Jan	4:50PM	Ponce De Leon	63
Vandeperre, L.J.	29-Jan	8:00AM	Coquina Salon F	44
Varela, J.A.	27-Jan	9:40AM	Coquina Salon D	22
Vargas-Gonzalez, L.	27-Jan	2:00PM	Coquina Salon E	24
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Venugopal, S.	29-Jan	4:40PM	Coquina Salon B	47
Vetrone, F.	28-Jan	4:00PM	Oceanview	33
Vidal-Setif, M.	29-Jan	9:00AM	Coquina Salon G	41
Vignoles, G.L.	28-Jan	1:30PM	Coquina Salon G	36
Vignoles, G.L.	28-Jan	4:20PM	Coquina Salon G	37
Vishnyakov, V.	30-Jan	8:20AM	Coquina Salon F	57
Vu, M.	27-Jan	5:20PM	Coquina Salon E	24
Vulfson, Y.	31-Jan	10:40AM	Coquina Salon A	67
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Wakihara, T.	28-Jan	9:00AM	Coquina Salon A	31
Walker, L.S.	27-Jan	4:30PM	Coquina Salon F	27
Walker, L.S.	29-Jan	11:20AM	Coquina Salon A	44
Wan, J.	30-Jan	9:20AM	Coquina Salon G	53
Wang, D.	28-Jan	3:30PM	Ponce De Leon	35
Wang, J.	27-Jan	3:20PM	Coquina Salon G	26
Wang, J.	28-Jan	10:40AM	Coquina Salon C	27
Wang, M.	28-Jan	8:10AM	Coquina Salon C	27
Wang, M.	30-Jan	8:00AM	Coquina Salon E	54
Wang, W.	30-Jan	4:30PM	Coquina Salon D	59
Wang, Y.	30-Jan	8:30AM	Coquina Salon G	53
Wark, M.	27-Jan	3:50PM	Coquina Salon B	25
Wark, M.	29-Jan	4:30PM	Coquina Salon C	48
Watts, J.	27-Jan	4:10PM	Coquina Salon F	27
Weber, W.J.	27-Jan	2:00PM	Coquina Salon G	26
Webster, T.	30-Jan	1:30PM	Coquina Salon A	62
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Wereszczak, A.	27-Jan	3:20PM	Coquina Salon E	24
Wereszczak, A.	27-Jan	4:20PM	Coquina Salon E	24
Werheit, H.	28-Jan	8:30AM	Coquina Salon E	29
Westin, G.	27-Jan	2:30PM	Coquina Salon B	25
Westin, G.	28-Jan	1:30PM	Oceanview	33
White, M.	30-Jan	8:20AM	Coquina Salon E	54
Wiederhorn, S.	27-Jan	9:00AM	Coquina Salon D	22
Wiesner, S.	30-Jan	11:00AM	Coquina Salon A	56
Wiesner, V.L.	28-Jan	4:00PM	Coquina Salon F	37
Wiesner, V.L.	30-Jan	11:40AM	Coquina Salon G	54
Witz, G.	30-Jan	5:10PM	Coquina Salon G	60
Wolfe, D.E.	29-Jan	3:20PM	Coquina Salon G	46
Wolfenstine, J.	28-Jan	2:30PM	Ponce De Leon	35
Wolfenstine, J.	28-Jan	2:50PM	Ponce De Leon	35
Woydt, M.	31-Jan	8:40AM	Coquina Salon D	65
Wu, H.	29-Jan	4:40PM	Coquina Salon E	47
Wu, H.	31-Jan	8:20AM	Coquina Salon D	65
Wu, Y.	28-Jan	5:00PM	Oceanview	33
Wu, Y.	30-Jan	8:20AM	Coquina Salon A	56
Wu, Y.	30-Jan	9:20AM	Coquina Salon D	53
Wu, Z.	30-Jan	5:20PM	Coquina Salon C	63
X				
Xiao, J.	28-Jan	1:30PM	Ponce De Leon	35
Xie, K.	28-Jan	2:00PM	Coquina Salon E	34
Xu, C.	29-Jan	4:40PM	Coquina Salon F	50
Xu, C.	31-Jan	9:20AM	Coquina Salon C	67
Xu, Y.	31-Jan	10:00AM	Coquina Salon F	64
Y				
Yamazoe, M.	29-Jan	3:50PM	Coquina Salon G	46
Yang, J.	31-Jan	9:00AM	Coquina Salon C	67
Yasuda, K.	27-Jan	3:50PM	Coquina Salon C	22
Yasuda, K.	30-Jan	9:00AM	Coquina Salon A	56
Yilmaz, C.	27-Jan	2:30PM	Oceanview	23
Yin, X.	30-Jan	4:10PM	Coquina Salon A	62
Yoshida, K.	29-Jan	5:10PM	Coquina Salon D	45
Yoshida, K.	30-Jan	2:50PM	Coquina Salon C	62
Yoshimura, M.	30-Jan	3:20PM	Coquina Salon B	61
Yoshiya, M.	27-Jan	2:30PM	Coquina Salon G	26
Yu, J.	31-Jan	12:00PM	Coquina Salon B	64
Yueh, K.	29-Jan	10:00AM	Oceanview	45
Yuh, C.	28-Jan	1:50PM	Coquina Salon H	34
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Zhang, G.	28-Jan	10:00AM	Coquina Salon F	32
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Zhang, W.	27-Jan	5:30PM	Coquina Salon F	27
Zhang, X.	28-Jan	4:40PM	Oceanview	33
Zhang, Y.	28-Jan	11:20AM	Coquina Salon G	31
Zhao, H.	30-Jan	10:40AM	Coquina Salon H	54
Zhao, H.	31-Jan	10:30AM	Coquina Salon B	64
Zhao, L.	30-Jan	4:40PM	Coquina Salon H	60
Zhao, L.	30-Jan	8:40AM	Coquina Salon H	54
Zhao, Y.	28-Jan	4:40PM	Coquina Salon F	37
Zhen, Q.	30-Jan	6:00PM	Coquina Salon B	62
Zhou, Y.	28-Jan	10:20AM	Coquina Salon C	27
Zhou, Y.	28-Jan	5:10PM	Coquina Salon C	33
Zhou, Y.	29-Jan	9:00AM	Coquina Salon F	44
Zhu, B.	29-Jan	10:50AM	Ponce De Leon	43
Zhu, D.	27-Jan	4:10PM	Coquina Salon C	22
Zhu, S.X.	28-Jan	11:20AM	Coquina Salon H	28
Zhu, Y.	30-Jan	4:10PM	Coquina Salon B	61
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Zocca, A.	29-Jan	3:50PM	Coquina Salon A	48
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Bobo, L.	28-Jan	5:30PM	Ocean Center Arena	37
Bolon, A.M.	28-Jan	5:30PM	Ocean Center Arena	38
Cabala, G.V.	29-Jan	5:00PM	Ocean Center Arena	52
Castkova, K.	28-Jan	5:30PM	Ocean Center Arena	40
Chen, Y.	29-Jan	5:00PM	Ocean Center Arena	50
Choi, J.	28-Jan	5:30PM	Ocean Center Arena	38
Colombo, P.	29-Jan	5:00PM	Ocean Center Arena	52
Costa, A.S.	28-Jan	5:30PM	Ocean Center Arena	38
Cox, S.	28-Jan	5:30PM	Ocean Center Arena	38
David, L.	28-Jan	5:30PM	Ocean Center Arena	39
Dela Cruz, M.L.	29-Jan	5:00PM	Ocean Center Arena	51
Dericioglu, A.F.	29-Jan	5:00PM	Ocean Center Arena	51
Ding, R.	28-Jan	5:30PM	Ocean Center Arena	39
Dong, Y.	29-Jan	5:00PM	Ocean Center Arena	52
Drdlik, D.	28-Jan	5:30PM	Ocean Center Arena	40
El-Sheikh, S.M.	29-Jan	5:00PM	Ocean Center Arena	51
Engqvist, H.	29-Jan	5:00PM	Ocean Center Arena	51
Ferraris, M.	29-Jan	5:00PM	Ocean Center Arena	52
Fiz, R.	29-Jan	5:00PM	Ocean Center Arena	51

Poster Presenters

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Gad, A.A.	29-Jan	5:00PM	Ocean Center Arena	53
Gajek, M.	29-Jan	5:00PM	Ocean Center Arena	50
Gao, P.	28-Jan	5:30PM	Ocean Center Arena	38
Ghazi Daryani, A.	28-Jan	5:30PM	Ocean Center Arena	37
Gheisari Dehsheikh, H.	28-Jan	5:30PM	Ocean Center Arena	37
Gianella, S.	29-Jan	5:00PM	Ocean Center Arena	52
Gocmez, H.	28-Jan	5:30PM	Ocean Center Arena	38
Golt, M.C.	28-Jan	5:30PM	Ocean Center Arena	39
Green, W.H.	28-Jan	5:30PM	Ocean Center Arena	39
Greenfield, M.	28-Jan	5:30PM	Ocean Center Arena	39
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Guzi de Moraes, E.	29-Jan	5:00PM	Ocean Center Arena	52
Haney, L.	28-Jan	5:30PM	Ocean Center Arena	40
Helfinstine, J.D.	28-Jan	5:30PM	Ocean Center Arena	38
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Iqbal, N.	29-Jan	5:00PM	Ocean Center Arena	52
Ito, T.	28-Jan	5:30PM	Ocean Center Arena	39
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Jang, B.	29-Jan	5:00PM	Ocean Center Arena	50
Jang, S.	29-Jan	5:00PM	Ocean Center Arena	52
Jiang, C.	29-Jan	5:00PM	Ocean Center Arena	50
Jimenez, J.A.	29-Jan	5:00PM	Ocean Center Arena	51
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Jin, X.	28-Jan	5:30PM	Ocean Center Arena	39
Ju, C.	29-Jan	5:00PM	Ocean Center Arena	52
Jung, D.	29-Jan	5:00PM	Ocean Center Arena	52
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Kan, Y.	28-Jan	5:30PM	Ocean Center Arena	38
Kao, H.I.	28-Jan	5:30PM	Ocean Center Arena	38
Kaya, S.	29-Jan	5:00PM	Ocean Center Arena	52
Kilczewski, S.	28-Jan	5:30PM	Ocean Center Arena	39
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Kim, Y.	28-Jan	5:30PM	Ocean Center Arena	38
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King, D.	28-Jan	5:30PM	Ocean Center Arena	39
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Kriven, W.M.	29-Jan	5:00PM	Ocean Center Arena	53
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LaSalvia, J.	28-Jan	5:30PM	Ocean Center Arena	39
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Lee, R.	28-Jan	5:30PM	Ocean Center Arena	38
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Li, C.	29-Jan	5:00PM	Ocean Center Arena	52
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Rampelberg, G.	29-Jan	5:00PM	Ocean Center Arena	53
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ten Elshof, J.E.	29-Jan	5:00PM	Ocean Center Arena	53
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Zhao, L.	28-Jan	5:30PM	Ocean Center Arena	38
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Zhu, D.	29-Jan	5:00PM	Ocean Center Arena	50
Zuo, K.	29-Jan	5:00PM	Ocean Center Arena	51

Monday, January 27, 2014

Plenary Session

Room: Coquina Salon D

8:30 AM

Opening Remarks

Sujanto Widjaja, Division Chair; Michael C. Halbig, 2014 Program Chair

9:00 AM

(ICACC-PL-001-2014) From the Rattler Test to Modern Fracture Mechanics: A Perspective on Toughness (Invited)

S. Wiederhorn*, National Institute of Standards & Technology, USA

9:40 AM

(ICACC-PL-002-2014) Building Bridges in Materials Science and Technology: An Important Issue for Solving Basic Problems in Modern Society (Invited)

J. A. Varela*, University of Sao Paulo State, Brazil and Sao Paulo State Research Funding Agency

10:20 AM

Break

10:40 AM

(ICACC-PL-003-2014) The Need and Potential of Porous Ceramic Materials (Invited)

W. Cutler*, Corning Incorporated, USA

11:20 AM

(ICACC-PL-004-2014) Nanostructured Metal Oxides in Gas Sensing Applications: Challenges and Perspectives (Invited)

U. Simon*, RWTH Aachen University, Germany

2nd Pacific Rim Engineering Ceramics Summit

Pacific Rim Ceramic Technologies: Trends and Directions I

Room: Coquina Salon C

Session Chairs: Kouichi Yasuda, Tokyo Institute of Technology; Hisayuki Suematsu, Nagaoka University of Technology

1:30 PM

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

T. Goto*, M. Kitiwan, A. Ito, J. Zhang, IMR Tohoku University, Japan

2:00 PM

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

Y. Kim*, K. Lim, The University of Seoul, Republic of Korea; K. 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)

H. Suematsu*, Nagaoka University of Technology, Japan; Y. Tokoi, Nagaoka National College of Technology, Japan; T. Suzuki, T. Nakayama, K. Niihara, Nagaoka University of Technology, Japan

2:40 PM

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

M. Naito*, Osaka University, Japan

3:00 PM

Break

3:20 PM

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

Y. 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)

K. 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)

D. 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)

S. Kitaoka*, T. Matsudaira, M. Wada, M. Tanaka, T. Ogawa, Japan Fine Ceramics Center, Japan; Y. 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)

S. Dong*, J. Hu, Y. Kan, Z. Wang, X. 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)

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

5:30 PM

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

Y. Suzuki*, University of Tsukuba, Japan

3rd Global Young Investigator Forum

GYIF I

Room: Coquina Salon H

Session Chairs: Trilok Singh, Institute of Inorganic and Materials Chemistry; Thomas Fischer, University of Cologne

1:30 PM

(ICACC-GYIF-001-2014) Ln^{3+}-Doped Gd_2O_3 Nanostructures for NIR-NIR Bioimaging (Invited)

E. Hemmer*, INRS-EMT, Canada; T. Yamano, H. Kishimoto, Tokyo University of Science, Japan; F. Vetrone, F. Légaré, INRS-EMT, Canada; K. Soga, Tokyo University of Science, Japan

2:00 PM

(ICACC-GYIF-002-2014) Three-dimentional printing of dense and porous materials for bio ceramics

S. Tasaki*, University of Cologne, Germany

2:20 PM

(ICACC-GYIF-003-2014) Modification of TiO_2 nanotubes for various applications

S. Mathur, Y. Gönüllü*, University of Cologne, Germany; B. Saruhan, German Aerospace Centre (DLR), Germany

2:40 PM

(ICACC-GYIF-004-2014) Direct integration of metal oxide nanowires on sensor platforms

T. Fischer*, S. Mathur, University of Cologne, Germany

3:00 PM

Break

GYIF II

Room: Coquina Salon H

Session Chairs: Yakup Gönüllü, Inorganic Chemistry; Satoko Tasaki, University of Cologne

3:20 PM

(ICACC-GYIF-005-2014) ALD of transparent and conducting doped ZnO thin films for TCO and Memristive applications

T. Singh*, S. Wang, A. Sasinska, T. Leuning, S. Mathur, Institute of Inorganic and Materials Chemistry, Germany

3:40 PM

(ICACC-GYIF-006-2014) Luminous complex point-defect structure in cerium-doped cubic boron nitride

R. Ishikawa*, ORNL, USA; N. Shibata, University of Tokyo, Japan; F. Oba, Kyoto University, Japan; T. Taniguchi, NIMS, Japan; S. D. Findlay, Monash University, Australia; I. Tanaka, Kyoto University, Japan; Y. Ikuhara, University of Tokyo, Japan

4:00 PM

(ICACC-GYIF-007-2014) Properties of Yttria-Stabilized-Zirconia as Thermal Barrier Coating

C. Gergel*, Ohio State University, USA; L. Ghosn, NASA Glenn Research Center, USA

4:20 PM

(ICACC-GYIF-009-2014) Fabrication and Properties of RE4Si2O7N2 (RE=Y, Lu) Ceramics A Systematic Theoretical-Experimental Study

L. Sun*, Institute of Metal Research, China; J. Wang, Institute of Metal Research, China

4:40 PM

(ICACC-GYIF-010-2014) Novel polymer/metal oxide nanocomposites for high-efficiency energy harvesting and transmission

R. Raccis*, L. Wortmann, S. Ilyas, A. Kaouk, S. Mathur, University of Cologne, Germany

FS2: Advanced Ceramic Materials and Processing for Photonics and Energy

Growth

Room: Oceanview

Session Chair: Giovanni Fanchini, University of Western Ontario

1:30 PM

(ICACC-FS2-001-2014) 3D Atom-by-Atom Mapping of Electronic Materials and Nanostructures (Invited)

O. Moutanabbir*, Ecole Polytechnique Montreal, Canada

1:50 PM

(ICACC-FS2-002-2014) 3D Photonic Architectures by Self-Assembly and Directed Solidification of Eutectics (Invited)

P. Braun*, University of Illinois at Urbana-Champaign, USA

2:10 PM

(ICACC-FS2-003-2014) Controlling microstructure of semiconducting polymers through their precision synthesis (Invited)

C. Luscombe*, M. Durban, A. Rice, University of Washington, USA

2:30 PM

(ICACC-FS2-004-2014) Rare Earth doped Yttrium Aluminum Garnet (YAG) Ceramics

C. Yilmaz*, R. Ergun, U. Unal, Koc University, Turkey

2:50 PM

Break

3:20 PM

(ICACC-FS2-005-2014) Analysis on Functionally Graded AAO with a variation of Microstructure in Metal Matrix

H. Shin*, H. Lee, Korea Institute of Industrial Technology(KITECH), Republic of Korea; S. Jung, Sungkyunkwan University, Republic of Korea

3:40 PM

(ICACC-FS2-006-2014) Effect of Substrate Temperature on Structural, Optical and Electrical properties of Ba0.95Sr0.05(Fe0.5Nb0.5)O3 thin film grown by Pulse Laser Deposition

P. K. Patel*, K. L. Yadav, Indian Institute of Technology Roorkee, India

Multiferroics

Room: Oceanview

Session Chair: Oussama Moutanabbir, Ecole Polytechnque de Montreal

4:00 PM

(ICACC-FS2-007-2014) Semiconducting ferroelectrics for photovoltaics (Invited)

R. Nechache*, INRS-EMT, Canada

4:20 PM

(ICACC-FS2-008-2014) Enhanced surface-quality, magnetic and ferroelectric properties in epitaxial PZT/LSMO multiferroic heterostructures grown using dual-laser ablation

D. Mukherjee*, M. Hordagoda, H. Srikanth, S. Witanachchi, P. Mukherjee, University of South Florida, USA

4:40 PM

(ICACC-FS2-009-2014) Controlled seed-layer assisted growth of hierarchically-ordered Pb(Zr0.52Ti0.48)O3 nanostructure arrays with improved ferroelectric properties

A. Datta*, D. Mukherjee, S. Witanachchi, P. Mukherjee, University of South Florida, USA

5:00 PM

(ICACC-FS2-012-2014) Vanadium dioxide: a "smart" material for "smart" technological opportunities (Invited)

A. Hendouai*, M. Chaker, INRS-EMT, Canada

FS3: Rare Earth Oxides for Energy, Optics and Biomedical Applications

Rare Earth Oxides for Energy, Optics and Biomedical Applications

Room: Coquina Salon D

Session Chair: Sudipta Seal, UCF

1:30 PM

(ICACC-FS3-001-2014) Sol-gel derived active materials for diode-pumped Yb disk lasers

T. Ribeiro, L. Santos, M. Goncalves, R. M. Almeida*, Instituto Superior Tecnico, Portugal

1:50 PM

(ICACC-FS3-002-2014) Solid-state Single Crystal Conversion for Sr5F(PO4)3 Ceramics

Y. Li*, Y. Wu, Alfred University, USA

2:10 PM

(ICACC-FS3-003-2014) Why Lasers Need Ceramic Materials (Invited)

M. Bass*, University of Central Florida, USA

2:40 PM

(ICACC-FS3-004-2014) Neuroprotective Effects of Nanoceria Formulations in a Murine Model of Multiple Sclerosis (Invited)

J. Erlichman*, K. Heckman, W. DeCoteau, M. Skeels, St. Lawrence University, USA

3:10 PM

Break

3:30 PM

(ICACC-FS3-005-2014) Multi-Modal Molecular Imaging to Study Radio-Protection by Cerium Oxide Nanoparticles (Invited)
P. R. McDonagh*, L. Yang, P. Jose, S. Gobalakrishnan, M. Sun, R. Mikkelsen, J. Zweit, Virginia Commonwealth University, USA

4:00 PM

(ICACC-FS3-006-2014) Engineered optical ceramics for laser applications (Invited)
R. Gaume*, University of Central Florida, USA

4:30 PM

(ICACC-FS3-007-2014) Effect of Cerium Nanomaterials on the Mechanical Property of Cell membrane
A. Ly*, S. Das, S. Barkam, S. Seal, University of Central Florida, USA

4:50 PM

(ICACC-FS3-008-2014) Role of dilute La-doping in enhancing the polarization in epitaxial $Pb_{1-x}La_xZr_{0.52}Ti_{0.48}O_3$ thin films
M. Hordagoda*, D. Mukherjee, University of South Florida, USA; D. Ghosh, J. L. Jones, University of Florida, USA; S. Witanachchi, P. Mukherjee, University of South Florida, USA

S4: Armor Ceramics

Special Topic Focus: Adhesive Bonding

Room: Coquina Salon E

Session Chair: Lionel Vargas-Gonzalez, U.S. Army Research Lab

1:30 PM

(ICACC-S4-001-2014) Surface treatment of alumina and silicon carbide for improved adhesive bond strength in armour (Invited)
A. Harris*, J. Yeomans, P. Smith, University of Surrey, United Kingdom; B. Vaughan, S. Burnage, Lockheed Martin UK, United Kingdom

2:00 PM

(ICACC-S4-002-2014) Surface Modification of Ballistic Ceramic and Composite Materials by Use of Atmospheric Pressure Plasma
L. Vargas-Gonzalez*, V. Rodriguez-Santiago, A. Bujanda, U.S. Army Research Lab, USA

2:20 PM

(ICACC-S4-003-2014) The Application of Materials Analytics to Explore Adhesive Performance
M. S. Bratcher*, U.S. Army Research Laboratory, USA; M. C. Golt, Bowhead Science and Technology, LLC, USA; R. Jensen, W. Kosik, U.S. Army Research Laboratory, USA

Glass and Transparent Ceramics

Room: Coquina Salon E

Session Chair: Jeffrey Swab, Army Research Laboratory

2:40 PM

(ICACC-S4-004-2014) Hardness and Crack Resistance of Oxide Network Glasses
M. M. Smedskjaer*, Aalborg University, Denmark

3:00 PM

Break

3:20 PM

(ICACC-S4-005-2014) Comparison of Starphire and BOROFLOAT Characteristics
A. Wereszczak*, Oak Ridge National Laboratory, USA

3:40 PM

(ICACC-S4-006-2014) Investigation of failure mechanisms in glass under dynamic loading using high speed x-ray phase contrast imaging
N. Parab, M. C. Hudspeth, B. Claus, J. T. Black, Purdue University, USA; S. Luo, Sichuan University, China; K. Fezzaa, X. Xiao, Argonne National Laboratory, USA; W. W. Chen*, Purdue University, USA

4:00 PM

(ICACC-S4-007-2014) Nucleation and Growth of Internal Cracks in Glass
D. Shockey*, T. Kobayashi, T. J. Holmquist, SRI International, USA; A. A. Wereszczak, Oak Ridge National Laboratory, USA

4:20 PM

(ICACC-S4-008-2014) Detecting and Mapping Flaw Size Distributions on Glass Surfaces
A. Wereszczak*, M. Ferber, Oak Ridge National Laboratory, USA

4:40 PM

(ICACC-S4-009-2014) Transparent Ceramics for Demanding Optical Applications
M. R. Pascucci*, M. V. Parish, N. D. Corbin, B. Boucher-Puputti, CeraNova Corporation, USA

5:00 PM

(ICACC-S4-010-2014) Highly Transparent Alumina Ceramics Prepared by Combined SPS/HIP process
M. Trunec*, J. Kastyl, Brno University of Technology, Czech Republic; Z. J. Shen, Stockholm University, Sweden

5:20 PM

(ICACC-S4-011-2014) Optimization of the spark plasma sintering condition for transparent spinel
M. Vu*, R. Haber, Rutgers University, USA

S6: Advanced Materials and Technologies for Energy Generation and Rechargeable Energy Storage

Li-ion Battery Technology - Advanced Electrodes I

Room: Ponce De Leon

Session Chairs: Bradley Fahlman, Central Michigan University; Valerie Pralong, CNRS CRISMAT

1:30 PM

(ICACC-S6-001-2014) Strategies for the synthesis of new materials for Li ion batteries (Invited)
V. Pralong*, CNRS CRISMAT, France

2:00 PM

(ICACC-S6-002-2014) High performance Li7MnN4 as negative electrode material for lithium-ion batteries
J. Pereira-Ramos*, CNRS, France; E. Panabiere, CNRS, France; N. Emery, CNRS, France; S. Bach, CNRS, France; P. Willmann, CNRS, France

2:20 PM

(ICACC-S6-003-2014) Hydrothermal Synthesis and Characterization of LiMnPO4 Cathode Material for Li-ion Battery
E. Camci*, K. Aydinol, Middle East Technical University, Turkey

2:40 PM

(ICACC-S6-004-2014) Capacity Enhancement of doped Li4Ti5O12 Anode for Li Battery Application
K. Fung*, S. Tsai, C. Ni, M. Chen, National Cheng Kung University, Taiwan; A. Orliukas, Vilnius University, Lithuania; G. Bajars, University of Latvia, Latvia

3:00 PM

Break

Li-ion Battery Technology - Advanced Electrodes II

Room: Ponce De Leon

Session Chairs: Bradley Fahlman, Central Michigan University; Valerie Pralong, CNRS CRISMAT

3:20 PM

(ICACC-S6-005-2014) Reversible Lithium Capacities of Partially Oxidized Graphene Nanostructures (Invited)
C. Uthaisar, A. Antic, P. A. Medina, D. Hicks, V. Barone, B. D. Fahlman*, Central Michigan University, USA

3:50 PM

(ICACC-S6-006-2014) Investigation of the electrode / electrolyte interphase in lithium-ion batteries using MAS NMR (Invited)
N. Dupré*, M. Cuisinier, Institut des Matériaux Jean Rouxel CNRS, France; M. Hirayama, R. Kanno, Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology, Japan; D. Guyomard, Institut des Matériaux Jean Rouxel CNRS, France

4:20 PM

(ICACC-S6-007-2014) Fabrication of all-solid-state rechargeable lithium batteries using a Li-rich solid solution cathode material
H. Munakata*, K. Ando, M. Shoji, K. Kanamura, Tokyo Metropolitan University, Japan

4:40 PM

(ICACC-S6-008-2014) One-step approach of a Fe2O3/carbon composite for use in a high-performance lithium ion battery
Y. Li*, D. Zhang, Q. Liu, W. Zhang, J. Gu, S. Zhu, State Key Laboratory of Metal Matrix Composites, China

5:00 PM

(ICACC-S6-009-2014) Preparation of cubic Li7La3Zr2O12 film by chemical vapor deposition
H. Katsui*, T. Goto, Tohoku University, Japan

S7: 8th International Symposium on Nanostructured Materials and Nanocomposites

Nanomaterials for Energy I: Photovoltaics

Room: Coquina Salon B

Session Chair: Sanjay Mathur, University of Cologne

1:30 PM

(ICACC-S7-001-2014) Nanowire device concepts for thin film photovoltaics (Invited)
S. H. Christiansen*, Max Planck for the Science of Light, Germany

2:00 PM

(ICACC-S7-002-2014) Understanding and improving the performance of hybrid solar cells (Invited)
B. Conings*, L. Baeten, H. Boyen, M. Van Bael, J. Manca, Hasselt University - IMO division IMOMEC, Belgium

2:30 PM

(ICACC-S7-003-2014) Electroceramic oxide films and composites by solution chemistry (Invited)
G. Westin*, Uppsala University, Sweden

3:00 PM

Break

Nanomaterials for Energy II: Photoelectochemical and Photocatalytic Systems

Room: Coquina Salon B

Session Chairs: Gunnar Westin, Uppsala University; Michael Wark, Carl-von-Ossietzky University Oldenburg

3:20 PM

(ICACC-S7-004-2014) Doped and Core/shell Structured Hematite Nanorods for Efficient Solar Water Splitting (Invited)
S. Shen*, Xi'an Jiaotong University, China

3:50 PM

(ICACC-S7-005-2014) Photocatalytic hydrogen generation from pyrochlore and perovskite mixed metal oxides (Invited)
M. Wark*, Carl-von-Ossietzky University Oldenburg, Germany; J. Soldat, P. Wang, Ruhr-University Bochum, Germany; R. Marschall, Justus-Liebig-University Giessenhum, Germany

4:20 PM

(ICACC-S7-006-2014) Hematite-nickel oxide hetero-junction thin film for solar hydrogen application via chemical vapor deposition
S. Tasaki*, T. Singh, S. Mathur, University of Cologne, Germany

4:40 PM

(ICACC-S7-059-2014) Template-Free Fabrication of Colloidal Grid Array by Convective Self-Assembly (Invited)
M. Miyahara*, Y. Mino, S. Watanabe, Kyoto University, Japan

5:10 PM

(ICACC-S7-008-2014) Atomic Layer Deposition and Plasma-enhanced CVD of Metal Oxide Thin Films for Energy Applications
T. Singh*, A. Mettenbörger, T. Leuning, S. Wang, A. Sasinska, S. Mathur, Institute of Inorganic and Materialsersity of Cologne Chemistry, Univ, Germany

5:30 PM

(ICACC-S7-010-2014) Titania Nanobowl Arrays used in Photoelectrocatalytic Degradation of Acid Orange 7
P. J. Arias*, F. Quintero, H. Zea, National University of Colombia, Colombia

S8: 8th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT8) In Honor of Prof. Stuart Hampshire

In Honor of Professor Stuart Hampshire I; Oxynitride & Related Materials

Room: Coquina Salon A

Session Chairs: M. Singh, OAI/NASA GRC; Tatsuki Ohji, National Institute of Advanced Industrial Science and Technology (AIST)

1:30 PM

(ICACC-S8-001-2014) Oxynitride Glasses as Grain Boundary Phases in Silicon Nitride: Correlations of Chemistry and Properties (Invited)
S. Hampshire*, University of Limerick, Ireland

2:00 PM

(ICACC-S8-002-2014) Oxynitride Glasses: From SiALONs to Bio-Materials (Invited)
R. Brow*, Missouri S&T, USA

2:30 PM

(ICACC-S8-003-2014) The Evolution of Toughened Ceramics (Invited)
P. F. Becher*, University of Tennessee, USA

3:00 PM

Break

3:20 PM

(ICACC-S8-004-2014) The properties of fine grained coatings using small-scale testing (Invited)

S. Liu, Singapore Institute of Manufacturing Technology, Singapore; J. M. Wheeler, EMPA - Materials Science & Technology, Switzerland; P. R. Howie, University of Cambridge, United Kingdom; X. Zeng, Singapore Institute of Manufacturing Technology, Singapore; J. Michler, EMPA - Materials Science & Technology, Switzerland; W. J. Clegg*, University of Cambridge, United Kingdom

3:50 PM

(ICACC-S8-005-2014) Preparation and properties of aluminosilicate glasses containing N and F (Invited)

M. J. Pomeroy*, University of Limerick, Ireland

4:20 PM

(ICACC-S8-006-2014) Influence of dopant and N/O anion exchange on the electronic structure and luminescent properties of oxynitride based phosphors

Z. Lences*, I. Ibrahim, M. Hrabalova, L. Benco, P. Sajgalik, Institute of Inorganic Chemistry, Slovakia

4:40 PM

(ICACC-S8-007-2014) Characterisation of Some Oxynitride Glass- Ceramics by TEM: Effect of Starting Composition and Heat-Treatment Temperature on Crystallisation Products

H. Yurdakul, Dumlupinar University, Turkey; E. Dolekcekic*, S. Turan, Anadolu University, Turkey; M. J. Pomeroy, S. Hampshire, University of Limerick, Ireland

5:00 PM

(ICACC-S8-008-2014) Pressureless Sintering of SiAlON Ceramics

F. Kara*, Anadolu University, Turkey; U. Akkasoglu, MDA Advanced Ceramics, Turkey; S. Turan, A. Kara, Anadolu University, Turkey; H. Mandal, Sabanci University, Turkey

5:20 PM

(ICACC-S8-009-2014) SiAlON Phosphors from a Preceramic Polymer and Nano-sized Fillers

E. Bernardo*, G. Parcianello, S. Pilati, P. Colombo, University of Padova, Italy; A. C. Delsing, H. T. Hintzen, Eindhoven University of Technology, Netherlands

S10: Virtual Materials (Computational) Design and Ceramic Genome

Ceramic Genome and Modeling of Structure and Property I

Room: Coquina Salon G

Session Chair: Jingyang Wang, Institute of Metal Research

1:30 PM

(ICACC-S10-001-2014) Classification of CSH Crystals via a Quantum Mechanical Metric (Invited)

W. Ching*, C. C. Dharmawardhana, University of Missouri-Kansas City, USA; A. Misra, University of Kansas, USA

2:00 PM

(ICACC-S10-002-2014) Experimental and Computational Studies of Damage Production and Recovery in Irradiated Ceramics (Invited)

W. J. Weber*, M. Backman, University of Tennessee, USA; O. H. Pakarinen, Oak Ridge National Laboratory, USA; F. Djurabekova, K. Nordlund, University of Helsinki, Finland; M. Toulemonde, University of Caen, France; A. Debelle, University Paris Sud, France; Y. Zhang, Oak Ridge National Laboratory, USA

2:30 PM

(ICACC-S10-003-2014) Impact of Interlayer Interaction on Thermal Conduction in Layered Thermoelectric Oxides (Invited)

M. Yoshiya*, Osaka University, Japan

3:00 PM

Break

Ceramic Genome and Modeling of Structure and Property II

Room: Coquina Salon G

Session Chairs: Wai-Yim Ching, University of Missouri-Kansas City; Liping Huang, Rensselaer Polytechnic Institute

3:20 PM

(ICACC-S10-004-2014) Integrated method to search low thermal conductivity ceramics (Invited)

J. Wang*, Institute of Metal Research, China

3:50 PM

(ICACC-S10-005-2014) Electronic Structure and Optical Properties of Stable Phases in Calcium Aluminate System

W. Ching, University of Missouri-Kansas City, USA; A. Huassain*, The Islamia University of Bahawalpur, Pakistan; P. Rulis, University of Missouri-Kansas City, USA

4:10 PM

(ICACC-S10-006-2014) Variable-composition Structural Optimization and Experimental Verification of Manganese Borides

H. Niu*, X. Chen, D. Li, Y. Li, Institute of Metal Research, Chinese Academy of Sciences, China

4:30 PM

(ICACC-S10-007-2014) Nanocrystalline Ceramic-Oxides: Microstructure Evolution and Materials Design (Invited)

D. Aidhy*, Y. Zhang, Oak Ridge National Laboratory, USA; W. Weber, University of Tennessee, USA

5:00 PM

(ICACC-S10-008-2014) A theoretical study of oxygen permeation in α-alumina

T. Ogawa*, A. Kuwabara, C. Fisher, H. Moriwake, Japan Fine Ceramics Center, Japan; K. Matsunaga, Nagoya University, Japan; K. Tsuruta, Okayama University, Japan; S. Kitaoka, Japan Fine Ceramics Center, Japan

5:20 PM

(ICACC-S10-009-2014) Energetics of Dopants and Oxygen Vacancies at Grain Boundaries in CeO2: Insights from Density Functional Theory

V. Cooper*, D. Aidhy, Oak Ridge National Laboratory, USA; H. Xiao, W. Weber, University of Tennessee, USA

5:40 PM

(ICACC-S10-010-2014) Developing Stability Diagrams for Interfaces and Nanostructured Materials in Support of the "Materials Genome" Project (Invited)

N. Zhou, J. Luo*, UCSD, USA

S12: Materials for Extreme Environments: Ultrahigh Temperature Ceramics (UHTCs) and Nanolaminated Ternary Carbides and Nitrides (MAX Phases)

Material Design

Room: Coquina Salon F

Session Chair: Per Eklund, Linkoping University

1:30 PM

(ICACC-S12-001-2014) Magnetic MAX phases from first principles and thin film synthesis (Invited)

J. Rosen*, Thin Film Physics Division, Sweden

2:00 PM

(ICACC-S12-002-2014) Materials Design From ab initio Calculations : Nanolayered MAX Phases

W. Luo, M. Ramzan, R. Ahuja*, Uppsala University, Sweden

2:20 PM

(ICACC-S12-003-2014) Ab initio determination of the ionic channel of the thermal conductivity of select 211 MAX phases
G. A. Hug*, L. Andrea, ONERA-CNRS, France; L. Chaput, Université de Lorraine, France; A. Togo, Kyoto University, Japan

2:40 PM

(ICACC-S12-004-2014) MAX Phase's transport properties
W. Yu, V. Mauchamp, V. Brunet, T. Cabioch, Institut PPRIME, France; L. Piraux, L. Gence, Institute of Condensed Matter and Nanosciences, Belgium; A. Drevin-Bazin, M. Beaufort, J. Barbot, S. Dubois*, Institut PPRIME, France

3:00 PM

Break

Methods for Improving Damage Tolerance, Oxidation and Thermal Shock Resistance I

Room: Coquina Salon F

Session Chair: William Fahrenholtz, Missouri University of Science & Technology

3:20 PM

(ICACC-S12-005-2014) Carbon Fiber Reinforced Ultra-high Temperature Ceramic Based Matrix Composites (Invited)
S. Dong*, Q. Li, Y. Kan, X. Zhang, L. Gao, Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

3:50 PM

(ICACC-S12-006-2014) Microstructure, mechanical properties and oxidation behavior of short SiC fiber reinforced HfC- and TaC-based materials
L. Pienti*, L. Silvestroni, C. Melandri, D. Dalle Fabbriche, D. Sciti, CNR, Italy

4:10 PM

(ICACC-S12-007-2014) Development and Evaluation of ZrB_2-Graphite Fibrous Monolithic Ceramic Composites
J. Watts*, G. Hilmas, W. Fahrenholtz, Missouri University of Science and Technology, USA

4:30 PM

(ICACC-S12-008-2014) Self-protective C-C composites for high temperature oxidation resistance using reverse infiltrated ultra high temperature ceramic coatings
L. S. Walker*, E. L. Corral, The University of Arizona, USA

4:50 PM

(ICACC-S12-009-2014) Compositional design of ultra-refractory ZrB2-SiC ceramics for extreme environments (Invited)
F. Monteverde*, National Research Council of Italy, Italy

5:10 PM

(ICACC-S12-010-2014) Evaluation of oxidation resistance of ZrB2-SiC-ZrC ceramics for application at above 2000 K
Y. Arai*, M. Ishikawa, Y. Kogo, Tokyo University of Science, Japan; S. Guo, National Institute for Material Science (NIMS), Japan; K. Goto, Institute of Space and Astronautical Science/ Japan Aerospace Exploration Agency (ISAS/JAXA), Japan; H. Suzuki, Iwaki Meisei University, Japan; T. Yasuno, National Police Agency, Japan

5:30 PM

(ICACC-S12-011-2014) Preparation,microstructure and ablation properties of C/C-Zr(Hf)B2-Zr(Hf)C-SiC composites derived from polymeric precursors (Invited)
W. Zhang*, X. Wei, J. Li, Institute of Process Engineering, CAS, China

Tuesday, January 28, 2014

2nd Pacific Rim Engineering Ceramics Summit

Pacific Rim Ceramic Technologies: Trends and Directions II

Room: Coquina Salon C

Session Chair: Min Wang, The University of Hong Kong ; Jingyang Wang, Institute of Metal Research

8:10 AM

(ICACC-PRECS-012-2014) Bioceramics and Nanocomposites for Human Hard Tissue Repair and Regeneration (Invited)
M. Wang*, The University of Hong Kong, Hong Kong

8:40 AM

(ICACC-PRECS-013-2014) Two photon polymerization of inorganic-organic hybrid materials (Invited)
R. Narayan*, UNC/NCSU Joint Department of Biomedical Engineering, USA

9:00 AM

(ICACC-PRECS-014-2014) Nanoscale structure and modification of Biomaterials (Invited)
F. 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)
Z. Sun*, AIST, Japan

9:40 AM

Break

10:00 AM

(ICACC-PRECS-016-2014) Development of Joining Process Technology of Silicon Carbide (Invited)
S. Suyama*, Toshiba Corporation, Japan

10:20 AM

(ICACC-PRECS-017-2014) Prospective and challenges of nanolaminated ternary carbides and nitrides (MAX phases) (Invited)
Y. Zhou*, Aerospace Research Institute of Material & Processing Technology, China

10:40 AM

(ICACC-PRECS-018-2014) Genome Approach for advanced ceramics (Invited)
J. Wang*, Institute of Metal Research, China

11:00 AM

(ICACC-PRECS-019-2014) High-precision process technology for ceramic ferrules (Invited)
S. Masaki*, S. Nakano, K. 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)
S. Lee*, Y. Oh, H. Kim, Korea Institute of Ceramic Engineering & Technology (KICET), Republic of Korea

11:40 AM

(ICACC-PRECS-021-2014) New functional ceramics in Taiwan (Invited)
J. Huang*, C. Lee, National Cheng Kung University, Taiwan

3rd Global Young Investigator Forum

GYIF III

Room: Coquina Salon H

Session Chairs: Annika Leifert, TU Dresden; Craig Smith, Ohio Aerospace Institute

9:00 AM

(ICACC-GYIF-011-2014) Superplasticity in yttria-stabilized zirconia ceramics
M. Shirooyeh*, University of Southern California, USA

9:20 AM

(ICACC-GYIF-012-2014) Fabrication of Anode-Supported Micro-Tubular Solid Oxide Fuel Cells by Dip Coating
H. J. Avila-Paredes*, R. De la Torre García, Universidad Autónoma Metropolitana Unidad Iztapalapa, Mexico

9:40 AM

Break

GYIF IV

Room: Coquina Salon H

Session Chairs: Thomas Fischer, University of Cologne; Hugo Avila-Paredes, Universidad Autónoma Metropolitana Unidad Iztapalapa

10:00 AM

(ICACC-GYIF-013-2014) Processing and microstructure of Si3N4 based nanocomposites for highly wear-resistant application
C. A. Lee*, National Cheng Kung University, Taiwan; H. Lu, National Chin-Yi University of Technology, Taiwan; T. Goto, Tohoku University, Japan; H. Lin, Oak Ridge National Laboratory, USA; R. Tu, Wuhan University and Technology, China; P. K. Nayak, National Tsinghua University, Taiwan; C. Chen, National Cheng Kung University, Taiwan; J. Huang, National University of Kaohsiung, Taiwan

10:20 AM

(ICACC-GYIF-014-2014) The Importance of Tribofilms on the Tribological Behavior of Layered Nanolaminates (MAX Phases)
S. Gupta*, University of North Dakota, USA

10:40 AM

(ICACC-GYIF-015-2014) Mechanical Reinforcement of Copper Films with Ceramic Nanoparticles
A. Leifert*, B. Schumm, N. Mohamed-Noriega, A. Meier, TU Dresden, Germany; C. Nowka, Leibniz Institute for Solid State and Materials Research Dresden, Germany; G. Mondin, S. Doerfler, TU Dresden, Germany; S. Hampel, Leibniz Institute for Solid State and Materials Research Dresden, Germany; E. M. Lopez Cuellar, Universidad Autonoma de Nuevo Leon, Mexico; S. Kaskel, TU Dresden, Germany

11:00 AM

(ICACC-GYIF-016-2014) Matrix cracking in 3D fiber-reinforced SiC/SiC
C. Smith*, R. Bhatt, Ohio Aerospace Institute, USA

11:20 AM

(ICACC-GYIF-017-2014) Characterization of Matrix Materials for Additive Manufacturing of Silicon Carbide-Based Composites
S. X. Zhu*, The Ohio State University, USA; M. C. Halbig, NASA Glenn Research Center, USA; M. Singh, Ohio Aerospace Institute, USA

11:40 AM

(ICACC-GYIF-018-2014) Damage Characterization of EBC Coated SiC/SiC Ceramic Matrix Composites Under Imposed Thermal Gradient Testing
M. P. Appleby*, G. N. Morscher, The University of Akron, USA; D. Zhu, NASA Glenn Research Center, USA

FS2: Advanced Ceramic Materials and Processing for Photonics and Energy

Energy

Room: Oceanview

Session Chairs: Christine Luscombe, University of Washington; Isabella Concina, CNR-IDASC SENSOR Laboratory & Brescia University

8:00 AM

(ICACC-FS2-013-2014) Nanochemistry for Engineered Functional Materials for Light Harvesting and Energy Applications (Invited)
S. Mathur*, T. Fischer, University of Cologne, Germany

8:20 AM

(ICACC-FS2-014-2014) All solid hybrid thin film solar cells with perovskite materials (Invited)
S. Hayase*, Kyushu Institute of Technology, Japan

8:40 AM

(ICACC-FS2-015-2014) Thermal conductivity of graphene laminates and nanocomposites for energy applications (Invited)
G. Fanchini*, University of Western Ontario, Canada

9:00 AM

(ICACC-FS2-016-2014) Improving Photoresponse of Dye-Sensitized Solar Cell by Co-Sensitization (Invited)
L. Han*, National Institute for Materials Science, Japan

9:20 AM

(ICACC-FS2-017-2014) Excitonic Solar Cells: Engineering Materials And Processes To Boost Solar Energy Conversion (Invited)
I. Concina*, University of Brescia, Italy

9:40 AM

Break

10:00 AM

(ICACC-FS2-018-2014) Designing Novel Nanostructured Materials for High-Performance and Low-Cost Fuel Cells (Invited)
S. Sun*, Institut National de la Recherche Scientifique, Canada; G. Zhang, Institut National de la Recherche Scientifique, Canada; M. Cai, General Motors Research & Development Center, USA; R. Li, the University of Western Ontario, Canada; J. Dodelet, Institut National de la Recherche Scientifique, Canada; X. Sun, the University of Western Ontario, Canada

10:20 AM

(ICACC-FS2-019-2014) Integrating 2D Materials in Electron emission and PEM fuel cells (Invited)
D. H. Chua*, National University of Singapore, Singapore

10:40 AM

(ICACC-FS2-020-2014) Development of quantum dot sensitized solar cells
Y. Tachibana*, RMIT University, Australia

Optics I

Room: Oceanview

Session Chair: Fiorenzo Vetrone, INRS-EMT, Université du Québec

11:00 AM

(ICACC-FS2-021-2014) Detection of Plasmonic Induced Heating Using Terahertz Radiation (Invited)
R. Naccache, M. Clerici, L. Razzari, F. Vetrone, R. Morandotti*, INRS-EMT, Canada

11:20 AM

(ICACC-FS2-022-2014) Patterning of multicomponent oxides intended for photonic applications (Invited)
J. Margot*, Université de Montréal, Canada; M. Chaker, INRS-EMT, Canada

11:40 AM

(ICACC-FS2-023-2014) Nanoantenna Arrays Resonating in the Terahertz Spectral Region (Invited)

L. Razzari*, INRS-EMT, Canada; A. Toma, Istituto Italiano di Tecnologia, Italy; M. Clerici, INRS-EMT, Canada; S. Tuccio, M. Chirumamilla, Istituto Italiano di Tecnologia, Italy; M. Shalaby, INRS-EMT, Canada; C. Liberale, R. Proietti Zaccaria, G. Das, F. De Angelis, Istituto Italiano di Tecnologia, Italy; M. Peccianti, R. Morandotti, INRS-EMT, Canada; E. Di Fabrizio, Istituto Italiano di Tecnologia, Italy

S1: Mechanical Behavior and Performance of Ceramics & Composites

Mechanics & Characterizations I

Room: Coquina Salon D

Session Chairs: Jonathan Salem, NASA GRC; Rajan Tandon, Sandia National Lab

8:00 AM

(ICACC-S1-001-2014) Improving the Fracture Toughness from Atomic-Scale Modeling

M. Bauchy*, M. Abdolhosseini Qomi, H. Laubie, MIT, USA; C. Bichara, CINaM, France; R. Pellenq, MIT, USA; F. Ulm, CINaM, France

8:20 AM

(ICACC-S1-002-2014) Evaluation of Fracture Mechanics Based Tools for Bi-Material Interface Design

P. M. Rao*, X. Wang, United Technologies Research Center, USA; R. G. Hutchinson, Pratt & Whitney, USA; G. V. Srinivasan, United Technologies Research Center, USA

8:40 AM

(ICACC-S1-003-2014) In-plane shear response of continuous fiber ceramic matrix composites: modeling and experiment

V. P. Rajan*, F. W. Zok, University of California, Santa Barbara, USA

9:00 AM

(ICACC-S1-004-2014) Degradation in mechanical performance due to weave defects in a 3D woven ceramic matrix composite

J. H. Shaw*, F. W. Zok, UC Santa Barbara, USA

9:20 AM

(ICACC-S1-005-2014) Electromechanical Modeling of SiC/SiSiC Composites Under Tension

C. R. Baker*, E. Maillet, G. N. Morscher, M. P. Appleby, University of Akron, USA

9:40 AM

Break

10:00 AM

(ICACC-S1-006-2014) High Velocity Impact Resistance of SiC/SiC Composites

C. R. Baker*, University of Akron, USA; A. L. Gyekenyesi, Ohio Aerospace Institute, USA; G. N. Morscher, E. Maillet, University of Akron, USA

10:20 AM

(ICACC-S1-007-2014) Origin of "Tough Behavior" in Short Carbon Fiber-SiC Matrix Composites: Discussion Based on Micro-Fracture Process

R. Inoue*, H. Kakisawa, Y. Kagawa, The University of Tokyo, Japan; Y. Kagawa, National Institute for Materials Science, Japan

10:40 AM

(ICACC-S1-008-2014) Effect of Specimen Geometry on Microstructural Fracture Behavior in Nano Composites under HVEM

H. Serizawa*, Osaka University, Japan; T. Shibayama, Hokkaido University, Japan; H. Murakawa, Osaka University, Japan

11:00 AM

(ICACC-S1-009-2014) Dimensioning and testing of ultra fast rotating composite structures made of carbon fiber reinforced carbon

H. Richter*, D. Weck, A. Langkamp, W. Hufenbach, Technische Universität Dresden, Germany

11:20 AM

(ICACC-S1-010-2014) Improved Adhesive Characterization and Selection Using High Throughput Testing and Materials Informatics

M. S. Bratcher*, U.S. Army Research Laboratory, USA; M. C. Golt, Bowhead Science and Technology, LLC, USA; R. Jensen, W. Kosik, U.S. Army Research Laboratory, USA

11:40 AM

(ICACC-S1-011-2014) Study on prediction model the stiffness of unidirectional composites

H. Zhang*, W. Wen, H. Cui, Nanjing University of Aeronautics and Astronautics, China

S4: Armor Ceramics

Special Topic Focus: Boron Carbide I

Room: Coquina Salon E

Session Chair: Jerry LaSalvia, U.S. Army Research Laboratory

8:30 AM

(ICACC-S4-012-2014) On microstructure and electronic properties of boron carbide (Invited)

H. Werheit*, University Duisburg-Essen, Germany

9:00 AM

(ICACC-S4-013-2014) Synchrotron X-ray Diffraction and Raman Spectroscopy Studies of Elasticity and Structure of B4C to 70 GPa

M. H. Manghnani*, P. Dera, A. Hushur, University of Hawaii, USA

9:20 AM

(ICACC-S4-014-2014) Strain-Rate Sensitivity of the Amorphized Zone Surrounding Quasistatic and Dynamic Vickers Indentations in Boron Carbide

G. Parsard*, G. Subhash, University of Florida, USA

9:40 AM

Break

10:00 AM

(ICACC-S4-015-2014) Further Results on the Characterization of Knoop Indents in Boron Carbide

J. LaSalvia*, E. Shanholtz, K. Behler, U.S. Army Research Laboratory, USA; V. Domnich, Rutgers University, USA; K. Strawhecker, S. Walck, U.S. Army Research Laboratory, USA

10:20 AM

(ICACC-S4-016-2014) Stability of Indentation-Induced Amorphous Boron Carbide: Effect of Annealing Treatments

V. Domnich*, Rutgers Univ, USA; J. C. LaSalvia, U.S. Army Research Laboratory, USA; R. A. Haber, Rutgers Univ, USA; E. R. Shanholtz, U.S. Army Research Laboratory, USA

10:40 AM

(ICACC-S4-017-2014) Compressive Strength of Single-Crystal Boron Carbide Micropillars

J. Ligda*, Army Research Laboratory, USA; V. Domnich, Rutgers University, USA; T. Tanaka, National Institute for Materials Science, Japan; J. LaSalvia, B. Schuster, Army Research Laboratory, USA

11:00 AM

(ICACC-S4-018-2014) Synthesis and Consolidation of Submicron-Grained Boron Carbide

K. C. Mills*, C. D. Haines, R. K. Sadangi, D. G. Martin, D. Kapoor, US ARMY, USA

11:20 AM

(ICACC-S4-020-2014) Assessing the Carbon Concentration in Boron Carbide: A Combined X-Ray Diffraction and Chemical Analysis

K. A. Kuwelkar*, V. Domnich, R. A. Haber, Rutgers University- New Brunswick, USA

S6: Advanced Materials and Technologies for Energy Generation and Rechargeable Energy Storage

Li-ion Battery Technology - Diagnostics and Characterization

Room: Ponce De Leon

Session Chairs: Dean Miller, Argonne National Laboratory; Dewei Chu, The University of New South Wales

8:00 AM

(ICACC-S6-010-2014) What can we learn from measurement and characterization of Li-ion battery single particles? (Invited)

D. J. Miller*, C. Proff, J. Wen, Z. Yang, L. Trahey, R. P. Winarski, B. Stripe, Argonne National Laboratory, USA

8:30 AM

(ICACC-S6-011-2014) In SituTransmission Electron Microscopy of Anode Materials for Li ion Batteries (Invited)

R. Shahbzian-Yassar*, Michigan Technological University, USA

9:00 AM

(ICACC-S6-012-2014) Experimental Confirmation of Low Surface Energy in LiCoO2 and Implications for Lithium Battery Electrodes

P. Maram*, G. Costa, A. Navrotsky, University of California Davis, USA

9:20 AM

(ICACC-S6-013-2014) Electrochemical Performance of Large Area Graphene Films Prepared by Rapid Heating and Quenching at Ambient Pressures

L. David*, G. Singh, Kansas State University, USA

9:40 AM

Break

Li-ion Battery Technology - Characterization and Design

Room: Ponce De Leon

Session Chairs: Dean Miller, Argonne National Laboratory; Dewei Chu, The University of New South Wales

10:00 AM

(ICACC-S6-014-2014) Synchrotron x-ray and neutron studies of nanocomposite materials for energy applications (Invited)

Y. Ren*, Argonne National Laboratory, USA

10:30 AM

(ICACC-S6-015-2014) Self-discharge phenomenon of a high voltage Li(MnNi)O spinel investigated by Raman spectroscopy

R. Baddour-Hadjean*, J. Pereira-Ramos, Y. Dridi, CNRS, France

10:50 AM

(ICACC-S6-016-2014) Material and Interface Characterization of Complete Li-ion Coin Cells Using Differential Scanning Calorimetry

P. J. Ralbovsky, B. Fidler*, Netzsch Instruments, USA

11:10 AM

(ICACC-S6-017-2014) Stable Electrochemical Performance of Graphene/SiBCN Layered Composite Electrode for Lithium Ion Battery Applications

L. David*, G. Singh, Kansas State University, USA

11:30 AM

(ICACC-S6-018-2014) Self-assembled Metal Oxide Nanomaterials for Energy Efficient Nanoelectronics and Future Energy Storage Nanodevices (Invited)

D. Chu*, A. Younis, The University of New South Wales, Australia

S7: 8th International Symposium on Nanostructured Materials and Nanocomposites

Nano-Bio Interactions

Room: Coquina Salon B

Session Chairs: Christina Graf, Freie Universitaet Berlin; Eva Hemmer, INRS-EMT

8:00 AM

(ICACC-S7-011-2014) Nanostructured Materials and Nanocomposites for OTN-NIR Small Animal Fluorescence Imaging (Invited)

K. Soga*, N. Venkatachalam, Tokyo Univ. of Science, Japan; E. Hemmer, INRS, Canada

8:30 AM

(ICACC-S7-012-2014) Silver and Silicon Nanostructures: From Plasmonics to Cancer Theranostics (Invited)

V. Sivakov*, Institute of Photonic Technology, Germany; V. Y. Timoshenko, M. V. Lomonosov Moscow State University, Russian Federation; S. Demyanov, National Academy of Science, Belarus

9:00 AM

(ICACC-S7-013-2014) Selective and Highly Sensitive Iron Oxide Nanoparticles as Magnetic Resonance Imaging (MRI) Contrast Enhancers (Invited)

C. Graf*, D. Nordmeyer, P. Stumpf, C. Goroncy, D. Groeger, Freie Universitaet Berlin, Germany; C. Boeglin, Institut de Physique et de Chimie de Strasbourg Département Surfaces-Interfaces, France; S. B. Riese, J. Dernedde, Charité – Universitätsmedizin Berlin, Germany; R. Haag, E. Ruehl, Freie Universitaet Berlin, Germany

9:30 AM

(ICACC-S7-014-2014) Lanthanide-doped $NaGdF_4$ Nanostructures: Synthesis, Characterization and their Potential for Nanothermometry

E. Hemmer*, F. Légaré, F. Vetrone, INRS-EMT, Canada

9:50 AM

Break

Nanoscopic Films and Composites I

Room: Coquina Salon B

Session Chairs: Elena Timofeeva, Argonne National Laboratory; Susanne Hoffmann-Eifert, Forschungszentrum juelich

10:00 AM

(ICACC-S7-015-2014) Nanocomposite Magnetoersistive and Magnetoelectric Films (Invited)

M. Jain*, University of Connecticut, USA

10:30 AM

(ICACC-S7-016-2014) Integration of sub-10nm functional metal oxide films with tailored compositions for application in nonvolatile resistive switching memory devices (Invited)

S. Hoffmann-Eifert*, Forschungszentrum Juelich, Germany

11:00 AM

(ICACC-S7-033-2014) High Power Density Primary and Secondary Micro and Large-Format Batteries Based on Three-Dimensionally Templated Nanostructured Current Collectors (Invited)

P. V. Braun*, University of Illinois at Urbana-Champaign, USA

11:30 AM

(ICACC-S7-018-2014) Microwave Assisted Processing of Copper Nano Inks for Electronic Interconnect Applications
S. Qi*, B. Vaidhyanathan, D. Hutt, Loughborough University, United Kingdom

11:50 AM

(ICACC-S7-019-2014) Physical/Chemical Combinatorial Strategy Towards Multi-dimensional Perovskite Nano- and Micro-structures with Enhanced Functionality (Invited)
A. Datta*, D. Mukherjee, S. Witanachchi, P. Mukherjee, University of South Florida, USA

S8: 8th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT8) In Honor of Prof. Stuart Hampshire

In Honor of Professor Stuart Hampshire II; Novel Processing

Room: Coquina Salon A

Session Chairs: Pavol Sajgalik, Institute of Inorganic Chemistry, Slovak Academy of Sciences; MIchael Pomeroy, University of Limerick

8:00 AM

(ICACC-S8-010-2014) Laser milling of ceramic oxide compacts: application to dentistry and jewelry (Invited)
F. J. Cambier*, X. Buttol, V. Lardot, F. Petit, Belgian Ceramics Research Center, Belgium

8:30 AM

(ICACC-S8-011-2014) Comparison of conventional and microwaves sintering of bioceramics (Invited)
A. L. Leriche*, E. Savary, University of Valenciennes, France; A. Thuault, University of Caen, France; J. Hornez, M. Descamps, University of Valenciennes, France; S. Marinel, University of Caen, France

9:00 AM

(ICACC-S8-012-2014) Bead-Milling and Post-Milling Recrystallization: An Organic Template-Free Methodology for the Production of Nano-Zeolite Catalyst
T. Wakihara*, the university of tokyo, Japan; J. Tatami, S. Inagaki, Y. Kubota, Yokohama National University, Japan; T. Okubo, the university of tokyo, Japan

9:20 AM

(ICACC-S8-013-2014) Supercritical fluid-assisted processing of ceramics
S. O. Matthews*, J. Matthews, SCF Processing Ltd, Ireland

9:40 AM

Break

10:00 AM

(ICACC-S8-014-2014) Teaching and Learning Sustainable Ceramic Processing (Invited)
R. D. Sisson*, Worcester Polytechnic Institute, USA

10:30 AM

(ICACC-S8-015-2014) Thin film electrodes for gas and force sensor applications (Invited)
B. Saruhan-Brings*, German Aerospace Center, Germany

11:00 AM

(ICACC-S8-016-2014) Particle & Powder Technology: The Foundation of Process and Product Reliability (Invited)
M. J. Murtagh*, Corning Incorporated, USA

11:30 AM

(ICACC-S8-017-2014) Low Temperature Processable Yttria Doped Mullite Precursors
J. J. Rocha-Jimenez*, University of Guanajuato, Mexico; S. Tanaka, Nagaoka University of Technology, Japan; S. Hampshire, University of Limerick, Ireland; S. Sugita, University of Guanajuato, Mexico; M. J. Pomeroy, Y. Guo, University of Limerick, Ireland

S10: Virtual Materials (Computational) Design and Ceramic Genome

Virtual Materials Design and Modeling I

Room: Coquina Salon G

Session Chairs: Gerard Vignoles, University Bordeaux; Paul Rulis, University of Missouri - Kansas City

10:00 AM

(ICACC-S10-015-2014) Towards an Accurate Model of Amorphous Hydrogenated Boron Carbide: A Study in Electronic Structure and Spectroscopic Properties (Invited)
P. Rulis*, R. Cramm Horn, University of Missouri - Kansas City, USA

10:30 AM

(ICACC-S10-016-2014) Prediction of temperature-dependant thermal conductivity of some RE-Si-O-N ceramics
S. Luchao*, Institute of Metal Research, China; W. Jingyang, Institute of Metal Research, China

10:50 AM

(ICACC-S10-017-2014) Equilibrating Complex and Disordered Materials (Invited)
W. Kob*, University Montpellier 2, France

11:20 AM

(ICACC-S10-018-2014) Prediction of Phase Stability in TiAlN Coatings: From First-Principles to CALPHAD
Y. Zhang*, P. Franke, Karlsruhe Institute of Technology, Germany; J. Wang, Institute of Metal Research, China; H. J. Seifert, Karlsruhe Institute of Technology, Germany

Ceramic Genome and Modeling of Structure and Property III

Room: Coquina Salon G

Session Chair: William Weber, University of Tennessee

8:00 AM

(ICACC-S10-011-2014) Theoretical investigation of low energy recoil events and point defects of $SrTiO_3$ (Invited)
B. Liu*, Oak Ridge National Laboratory, USA; H. Xiao, University of Tennessee, USA; Y. Zhang, Oak Ridge National Laboratory, USA; W. J. Weber, University of Tennessee, USA

8:30 AM

(ICACC-S10-012-2014) Thermodynamic modeling of copper and iron oxides used as conversion electrodes in lithium ion batteries
M. Lepple*, P. Franke, D. M. Cupid, H. J. Seifert, Karlsruhe Institute of Technology, Germany

8:50 AM

(ICACC-S10-013-2014) Tailoring the Mechanical Properties of Glass Guided by Computer Simulations (Invited)
L. Huang*, Rensselaer Polytechnic Institute, USA

9:20 AM

(ICACC-S10-014-2014) Development of a Numerical Model on Radiation Induced Segregation and Surface Nano–Structuring in a Binary System
E. Hernandez*, University of Michigan, USA; V. Tikare, Sandia National Laboratory, USA; L. Wang, University of Michigan, USA

9:40 AM

Break

S12: Materials for Extreme Environments: Ultrahigh Temperature Ceramics (UHTCs) and Nanolaminated Ternary Carbides and Nitrides (MAX Phases)

Methods for Improving Damage Tolerance, Oxidation and Thermal Shock Resistance II

Room: Coquina Salon F

Session Chair: Yanchun Zhou, Aerospace Research Institute of Material & Processing Technology

8:00 AM

(ICACC-S12-012-2014) Oxygen incorporation in MAX phases (Invited)

M. to Baben*, L. Shang, J. Emmerlich, J. M. Schneider, Materials Chemistry RWTH Aachen University, Germany

8:20 AM

(ICACC-S12-013-2014) A Critical Review of the Oxidation of Ti2AlC, Ti3AlC2 and Cr2AlC in Air

D. J. Tallman*, B. Anasori, M. W. Barsoum, Drexel University, USA

8:40 AM

(ICACC-S12-014-2014) Formation of a Nonstoichiometric Zirconium Oxide Interface during Oxidation of ZrB_2

M. Kazemzadeh Dehdashti, W. G. Fahrenholtz*, G. E. Hilmas, Missouri University of S & T, USA

9:00 AM

(ICACC-S12-015-2014) Comparing Oxyacetylene Torch Testing and Furnace Facilities for Oxidation of Aerospace Materials

M. Miller-Oana*, L. Walker, M. Packard, P. Neff, E. Corral, University of Arizona, USA

9:20 AM

(ICACC-S12-016-2014) Oxide phase stabilization and high temperature oxidation resistance of Zr and Ta alloyed $Ti_{1-x}Al_xN$ coatings

R. Hollerweger*, H. Riedl, M. Arndt, Vienna University of Technology, Austria; R. Rachbauer, OC Oerlikon Balzers AG, Liechtenstein; P. Polcik, Plansee Composite Materials GmbH, Germany; J. Paulitsch, P. H. Mayrhofer, Vienna University of Technology, Austria

9:40 AM

Break

Structure-Property Relationships I

Room: Coquina Salon F

Session Chair: Greg Hilmas, Missouri University of Science and Technology

10:00 AM

(ICACC-S12-033-2014) Dopant effects on the preparation and performance of ultra high temperature ceramics (Invited)

G. Zhang*, Shanghai Institute of Ceramics, China

10:20 AM

(ICACC-S12-018-2014) Processing and Thermal Conductivity of ZrB_2-ZrC Ceramics

G. J. Harrington*, G. E. Hilmas, W. G. Fahrenholtz, Missouri University of Science and Technology, USA

10:40 AM

(ICACC-S12-019-2014) Microstructure and mechanical properties of (Ta,Hf)C ultra-high temperature ceramics

O. Cedillos*, D. D. Jayaseelan, W. E. Lee, Imperial College London, United Kingdom

11:00 AM

(ICACC-S12-020-2014) Effect of ZrB_2 particle size and $MoSi_2$ volume fraction on the mechanical properties of ZrB_2-$MoSi_2$ composite ceramics

R. J. Grohsmeyer*, Missouri University of Science and Technology, USA; A. D'Angio, National Research Council of Italy, Italy; G. Hilmas, W. Fahrenholtz, Missouri University of Science and Technology, USA; F. Monteverde, National Research Council of Italy, Italy; L. Silvestroni, National Research Council of Italy, Italy; D. Sciti, National Research Council of Italy, Italy

11:20 AM

(ICACC-S12-021-2014) Densification mechanisms and microstructural characteristics of ZrB_2-$MoSi_2$ ceramics varying starting ZrB_2 particle size and $MoSi_2$ content

A. D'Angiò, National Research Council, Italy; W. Fahrenholtz, R. Grohsmeyer, G. Hilmas, Missouri University of Science and Technolgy, USA; F. Monteverde*, National Research Council, Italy; D. Sciti, National Research Council, Italy; L. Silvestroni, National Research Council, Italy

11:40 AM

(ICACC-S12-022-2014) Densification and Mechanical properties of ZrB_2-TiB_2 Ultra High Temperature Ceramic Composites

K. Sengottaian*, B. S. Murty, S. Bakshi, Indian Institute of Technology Madras, India

2nd Pacific Rim Engineering Ceramics Summit

Pacific Rim Ceramic Technologies: Trends and Directions III

Room: Coquina Salon C

Session Chairs: M. Singh, OAI/NASA GRC; Do Kyung Kim, KAIST

1:30 PM

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

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

2:00 PM

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

F. 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)

D. 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)

S. 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)

M. Heil*, Ohio Aerospace Institute, USA

4:10 PM

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

T. Ishikawa*, Ube Industries, Ltd., Japan

4:30 PM

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

K. Shimamura*, E. 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)
S. Kirihara*, Osaka University, Japan

5:10 PM

(ICACC-PRECS-030-2014) Development of High-Thermal-Conductivity Silicon Nitride Ceramics for Power Module Applications (Invited)
Y. Zhou*, H. Hyuga, Y. Yoshizawa, T. Ohji, N. Murayama, K. Hirao, National Institute of Advanced Industrial Science and Technology (AIST), Japan

FS2: Advanced Ceramic Materials and Processing for Photonics and Energy

Optics II

Room: Oceanview

Session Chair: Mauro Epifani, CNR-IMM

1:30 PM

(ICACC-FS2-024-2014) Solutions for synthesis of complex photo-active materials (Invited)
G. Westin*, Uppsala University, Sweden

1:50 PM

(ICACC-FS2-025-2014) Highly Photosensitive Fiber Fabricated from Photo-Thermo-Refractive Glass (Invited)
P. Hofmann, University of Central Florida, USA; K. Al Yahyaei, University of Arizona, USA; C. Jollivet, A. Van Newkirk, R. Amezcua-Correa, E. Antonio-Lopez, D. Ott, M. SeGall, I. Divliansky, L. Glebova, L. Glebov, A. Schulzgen*, University of Central Florida, USA

2:10 PM

(ICACC-FS2-026-2014) Advanced Photonics based on Infrared Glass and Glass Ceramic Solutions (Invited)
K. Richardson*, University of Central Florida, USA; J. Musgraves, IRradiance Glass, Inc., USA; P. Wachtel, Clemson University, USA; T. Mayer, D. Werner, Pennsylvania State University, USA

2:30 PM

(ICACC-FS2-027-2014) Full Color Up-conversion Fluorescence as Full Color Display
H. N. Luitel*, Saga University, Japan; H. Gotou, Shinwa Bisho Kabushiki Khaisa, Japan; T. Watari, Saga University, Japan

2:50 PM

Break

3:20 PM

(ICACC-FS2-028-2014) Effect of non-stoichiometry on the terahertz properties of YAG optical ceramics
R. Gaume*, University of Central Florida, USA; D. Steere, S. K. Sundaram, Alfred University, USA

Advanced Applications

Room: Oceanview

Session Chair: Luca Razzari, INRS-EMT

3:40 PM

(ICACC-FS2-029-2014) Modified metal oxide nanomaterials for gas sensing: from doping to surface coating and beyond (Invited)
M. Epifani*, CNR-IMM, Italy

4:00 PM

(ICACC-FS2-030-2014) Multiphoton Excited Nanoparticles as Multi-Modal Bioimaging Probes (Invited)
F. Vetrone*, Institut National de la Recherche Scientifique - Énergie, Matériaux et Télécommunications, Université du Québec, Canada

4:20 PM

(ICACC-FS2-031-2014) Design and Mass Transport in Hexaboride Nanomaterials for Hydrogen Storage Applications (Invited)
O. A. Graeve*, University of California, San Diego, USA; V. R. Vasquez, University of Nevada, Reno, USA

4:40 PM

(ICACC-FS2-032-2014) Chalcogenide glass ceramics based on GeSe2-Sb2Se3 for photo-catalysis (Invited)
X. Zhang*, Y. Xu, B. Fan, L. Calvez, H. Ma, University of Rennes I, France; X. Fan, Q. Shen, X. Qiao, Q. Luo, Zhejiang University, China; A. Lafond, CNRS, France

5:00 PM

(ICACC-FS2-033-2014) Eu2+-doped Alumina Scintillator produced by Gel-casting and Vacuum Sintering
Y. Wu*, Y. Yang, Alfred University, USA

S1: Mechanical Behavior and Performance of Ceramics & Composites

Mechanics & Characterizations II

Room: Coquina Salon D

Session Chairs: Greg Morscher, University of Akron; Jiageng Su, Tsinghua University

1:30 PM

(ICACC-S1-012-2014) Advancements in Acoustic Micro Imaging for the Non-Destructive Inspection of Ceramic Components and Devices
J. H. Richtsmeier*, T. McClenahan, Sonoscan, Inc., USA

1:50 PM

(ICACC-S1-013-2014) Acoustic Emission and Electrical Resistivity During Tensile Testing of Different Volume Fraction SiC/SiC Composites
A. Almansour*, E. Maillet, G. Morscher, The University of Akron, USA

2:10 PM

(ICACC-S1-014-2014) Health monitoring of Ceramic Matrix Composites using waveform-based analysis of Acoustic Emission
E. Maillet*, G. N. Morscher, The University of Akron, USA

2:30 PM

(ICACC-S1-015-2014) Indicators for the damage evolution at high temperature under air of a SiC/[Si-B-C] composite subjected to cyclic and static loading
E. Racle*, N. Godin, P. Reynaud, M. R'Mili, G. Fantozzi, INSA Lyon, France; L. Marcin, Snecma Groupe Safran, France; F. Bouillon, Herakles Groupe Safran, France; M. Kaminski, Onera, France

2:50 PM

Break

3:10 PM

(ICACC-S1-016-2014) Characterization of Thermal Expansion and Phase Transformations in the Ln2TiO5 System via in situ Synchrotron X-ray Diffraction (Ln= Dy, Y, Ho, Er) up to 1500 °C
K. C. Seymour*, R. W. Hughes, W. M. Kriven, University of Illinois at Urbana-Champaign, USA

3:30 PM

(ICACC-S1-017-2014) High Energy X-rays Characterizing the Material Behavior of High Temperature Thermal Barrier Coatings
K. Knipe*, S. Sofronsky, S. Siddiqui, A. Manero, University of Central Florida, USA; C. Meid, J. Wischek, German Aerospace Center, Germany; J. Okasinski, J. Almer, Argonne National Laboratory, USA; A. Karlsson, Cleveland State University, USA; M. Bartsch, German Aerospace Center, Germany; S. Raghavan, University of Central Florida, USA

3:50 PM

(ICACC-S1-018-2014) Piezospectroscopy Measurements of Thermal Barrier Coating Systems

A. Manero*, S. Siddiqui, S. Sofronsky, K. Knipe, University of Central Florida, USA; C. Lacdao, M. Smith, Cleveland State University, USA; J. Wischek, C. Meid, German Aerospace Center, Germany; A. Karlsson, Cleveland State University, USA; M. Bartsch, German Aerospace Center, Germany; S. Raghavan, University of Central Florida, USA

4:10 PM

(ICACC-S1-019-2014) Coefficient of Thermal Expansion and Pressure-Induced Phase Transformation Measurement of β-eucryptite Doped with Mg

Y. Chen*, S. Ramalingam, I. E. Reimanis, Colorado School of Mines, USA

4:30 PM

(ICACC-S1-020-2014) Optical Dilatometry

C. Linseis*, Linseis Messgerate GmbH, Germany

S3: 11th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Status and Prospectives of SOFC and SOEC

Room: Coquina Salon H

Session Chairs: Mihails Kusnezoff, Fraunhofer IKTS; Jeffry Stevenson, Pacific Northwest National Lab; Alexander Michaelis, Fraunhofer Inst. for Ceramic Technology & Systems; Narottam Bansal, NASA Glenn Research Center

1:30 PM

(ICACC-S3-001-2014) SOFC as the central control and essentials supply of plant factory aka vertical farming

L. Tseng*, Electric Energy Express, Taiwan

1:50 PM

(ICACC-S3-002-2014) High-Temperature Direct Fuel Cell Material Experience

C. Yuh*, M. Farooque, FuelCell Energy, Inc., USA

2:10 PM

(ICACC-S3-003-2014) Biomass gasification and catalytic reforming for SOFC

U. Cheong*, national taiwan university, Taiwan; W. J. Wei, national taiwan university, Taiwan

2:30 PM

Break

2:50 PM

(ICACC-S3-004-2014) Stacks on basis of CFY interconnects: status and prospects

M. Kusnezoff*, S. Megel, N. Trofimenko, A. Michaelis, Fraunhofer IKTS, Germany

3:10 PM

(ICACC-S3-005-2014) SOECs: Prospects and Problems (Invited)

P. V. Hendriksen*, R. Kiebach, M. Chen, X. Sun, J. V. Høgh, K. Agersted, J. J. Bentzen, Y. Liu, S. Molin, S. Ebbesen, C. Graves, A. Hauch, P. Hjalmarsson, J. R. Bowen, M. B. Mogensen, Technical University of Denmark, Denmark; C. G. Greisen, Topsoe Fuel Cell, Denmark; B. V. Mathiesen, Aalborg University, Denmark

3:40 PM

(ICACC-S3-006-2014) SOEC developments status at sunfire GmbH (Invited)

D. Klemm*, T. Strohbach, sunfire GmbH, Germany; A. Glauche, KERAFOL Keramische Folien GmbH, Germany; J. Schefold, EIFER Institut, Germany; D. Schimanke, C. Geipel, C. von Olshausen, sunfire GmbH, Germany

4:10 PM

(ICACC-S3-007-2014) Development of a cost-efficient and performing High Temperature Steam Electrolysis stack

J. Mougin*, M. Reytier, J. Cren, M. Petitjean, CEA/LITEN, France

4:30 PM

(ICACC-S3-008-2014) Stability Testing Beyond 1000 Hours of Solid Oxide Cells under Steam Electrolysis Operation

J. Schefold*, A. Brisse, European Institute for Energy Research, Germany

S4: Armor Ceramics

Special Topic Focus: Boron Carbide II

Room: Coquina Salon E

Session Chair: Vladislav Domnich, Rutgers Univ

1:20 PM

(ICACC-S4-021-2014) Densification of Commercial and Rapid Carbothermal Synthesized Boron Carbide

M. F. Toksoy*, W. Rafaniello, R. A. Haber, Rutgers University, USA

1:40 PM

(ICACC-S4-022-2014) Effect of SiO_2 and B_2O_3 Additives on the Microstructure and Hardness of Hot-Pressed Boron Carbide

K. D. Behler*, E. R. Shanholtz, U.S. Army Research Laboratory, USA; K. Xie, Johns Hopkins University, USA; J. C. LaSalvia, U.S. Army Research Laboratory, USA

2:00 PM

(ICACC-S4-023-2014) Improving the Hardness and Toughness of Boron Carbide Using Alumina as a Sintering Aid

K. Xie*, Johns Hopkins University, USA; F. Toksoy, Rutgers University, USA; J. LaSalvia, The Army Research Lab, USA; R. Haber, Rutgers University, USA; K. Hemker, Johns Hopkins University, USA

2:20 PM

(ICACC-S4-024-2014) Novel Synthesis and Densification of Ultra-Hard Boron Suboxide

R. Pavlacka*, G. Gilde, K. Xie, K. Hemker, U.S. Army Research Laboratory, USA

2:40 PM

(ICACC-S4-025-2014) Application of mechanism-based, defect-distribution-driven analytical model for dynamic brittle failure to boron carbide

N. Daphalapurkar*, Johns Hopkins University, USA

3:00 PM

Break

3:20 PM

(ICACC-S4-026-2014) Mechanical properties of icosahedral boron carbide explained from first principles (Invited)

N. Vast*, Ecole Polytechnique, France

3:50 PM

(ICACC-S4-027-2014) First Principles Based Multiscale Multiparadigm Simulations on Boron Carbide (B4C), boron, and Related icosahedral materials aimed of developing improved performance (Invited)

W. A. Goddard*, A. Jaramillo-Botero, Q. An, H. Xiao, S. Zybin, California Institute of Technology, USA

4:20 PM

(ICACC-S4-028-2014) Modeling Nonlinear Elasticity, Intrinsic Instability, and Failure of Boron Carbide (Invited)

J. Clayton*, US ARL, USA

4:50 PM

(ICACC-S4-029-2014) Quantum Mechanical Study of Fracture in Boron Carbide

T. D. Beaudet*, Army Research Laboratory, USA; J. R. Smith, University of Michigan, USA

S6: Advanced Materials and Technologies for Energy Generation and Rechargeable Energy Storage

Li-ion Battery Technology - Applications

Room: Ponce De Leon

Session Chairs: Charles Sorrell, University of New South Wales; Shoji Mao, Tokyo Metropolitan University

1:30 PM

(ICACC-S6-019-2014) Micro Battery Development: from Fundamental Research to Manufacturing (Invited)

J. Xiao*, H. Chen, S. S. Cartmell, Q. Wang, T. Lozano, T. Carlson, Z. Deng, Pacific Northwest National Laboratory, USA

2:00 PM

(ICACC-S6-020-2014) Nanocrystalline TiO2 Thin Films on Poly(Ethylene Terephthalate) at ≤130°C (Invited)

C. Pham, D. Hanor, J. Cox, C. Sorrell*, University of New South Wales, Australia

2:30 PM

(ICACC-S6-021-2014) Properties of the Solid Ionic Conductor: Li7La3Zr2O12

J. Wolfenstine*, J. Allen, J. Read, Army Research Laboratory, USA; T. Thompson, I. David, J. Sakamoto, Michigan State University, USA

2:50 PM

(ICACC-S6-022-2014) The Effect of Processing and Microstructural Variables on the Li-ion Conductivity of Li0.29La0.57TiO3

J. Wolfenstine*, C. Cooper, C. Brennan, A. Sutorik, Army Research Laboratory-APG, USA

3:10 PM

Break

Li-ion Battery Technology - Design and Solar Application

Room: Ponce De Leon

Session Chairs: Charles Sorrell, University of New South Wales; Shoji Mao, Tokyo Metropolitan University

3:30 PM

(ICACC-S6-025-2014) Photovoltaic Properties of (Bi, Na)TiO3-BaTiO3 Ferroelectric Ceramics Prepared by Spark Plasma Sintering (Invited)

D. Wang*, L. Chen, The University of New South Wales, Australia; N. Chan, The Hong Kong Polytechnic University, Hong Kong; B. Luo, The University of New South Wales, Australia; J. Dai, The Hong Kong Polytechnic University, Hong Kong

4:00 PM

(ICACC-S6-024-2014) Broadband Dielectric Spectroscopy of Materials for Lithium Batteries: From Low Frequencies to Microwaves (Invited)

J. Badot*, Chimie ParisTech, CNRS, France; K. Seid, Adama Science and Technology University, Ethiopia; O. Dubrunfaut, SUPELEC, UPMC Univ Paris 06, Univ Paris-Sud, CNRS, France; P. Soudan, B. Lestriez, Université de Nantes, CNRS, France

4:30 PM

(ICACC-S6-023-2014) Design and fabrication of all-solid-state rechargeable lithium batteries for future applications (Invited)

M. Shoji*, J. Wakasugi, R. Osone, T. Nishioka, H. Munakata, K. Kanamura, Tokyo Metropolitan University, Japan

5:00 PM

(ICACC-S6-026-2014) Towards the Conversion of a Solid Oxide Cell into a High Temperature Battery

C. M. Berger*, O. A. Tokariev, P. Orzessek, A. Hospach, N. H. Menzler, M. Bram, W. J. Quadakkers, H. P. Buchkremer, Forschungszentrum Juelich, Germany

5:20 PM

(ICACC-S6-027-2014) Electrospray Deposition of CuAlO2 Thin Film and Possibility of Y Doping

Y. Liu*, Y. Wu, Alfred University, USA

5:40 PM

(ICACC-S6-028-2014) Modelling and Simulation of Lithium Bromide-Water solar-powered absorption cooling system for Riyadh

E. D. Kerme*, King Saud University, Saudi Arabia

S7: 8th International Symposium on Nanostructured Materials and Nanocomposites

Nanoscopic Films and Composites II

Room: Coquina Salon B

Session Chairs: Vladimir Sivakov, Institute of Photonic Technology; Steffen Teichert, University of Applied Sciences Jena

1:30 PM

(ICACC-S7-021-2014) Electrochemical Routes for the Production of Free Standing Nanowire Structures and Nano Functional Surfaces (Invited)

M. Ürgen*, Istanbul Technical University, Turkey

2:00 PM

(ICACC-S7-057-2014) Sol Gel synthesis of Indium doped ZnO TCO films for PV cells

O. Dinner, G. E. Shter, G. S. Grader*, Technion, Israel

2:20 PM

(ICACC-S7-024-2014) Montmorillonite-based nanocomposites: modular compounds for electrorheological fluids

C. S. Peyratout*, ENSCI, France; M. Geist, University of Wuerzburg, Germany; K. Boussois, A. Smith, ENSCI, France; D. G. Kurth, University of Wuerzburg, Germany

2:40 PM

(ICACC-S7-026-2014) Synthesis of Coaxial WO2.9/Al Thermite Nanocomposite

J. Al-Sharab*, New York University of Polytechnic Institute (NYU-Poly), USA; Z. Dong, S. D. Tse, B. H. Kear, Rutgers University, USA

3:00 PM

Break

Materials Integration and Gas Sensors

Room: Coquina Salon B

Session Chairs: Mustafa Ürgen, Istanbul Technical University; Bilge Saruhan-Brings, German Aerospace Center

3:20 PM

(ICACC-S7-020-2014) Nanomaterials and Nanoanalysis for Microelectronics (Invited)

S. Teichert*, University of Applied Sciences Jena, Germany

3:50 PM

(ICACC-S7-023-2014) Nanostructured ZnO: Synthesis and Gas Sensing Properties

V. Galstyan*, E. Comini, C. Baratto, A. Ponzoni, University of Brescia and CNR INO, Italy; E. Bontempi, M. Brisotto, University of Brescia, Italy; G. Faglia, G. Sberveglieri, University of Brescia and CNR INO, Italy

4:10 PM

(ICACC-S7-025-2014) Mesoporous transparent bulk SiOC processed via hydrogen decarbonization as optical gas sensor

G. D. Soraru*, A. Quaranta, S. Dirè, V. Nguyen, University of Trento, Italy; M. Narisawa, Osaka Prefecture University, Japan

4:30 PM

(ICACC-S7-027-2014) CdS Quanty Dots Sensitized WO3 Thin Film as Chemical Gas Sensors

I. Concina*, E. Comini, CNR-IDASC SENSOR Laboratory & Brescia University, Italy; S. Kaciulis, CNR-ISMN, Institute for the study of nanostructured materials, Italy; G. Sberveglieri, CNR-IDASC SENSOR Laboratory & Brescia University, Italy

4:50 PM

(ICACC-S7-028-2014) Gas sensing mechanism of undoped and doped TiO_2 nanotubes (NTs) at intermediate operating temperatures

S. Mathur, Y. Gönüllü*, University of Cologne, Germany; B. Saruhan, German Aerospace Centre (DLR), Germany

5:10 PM

(ICACC-S7-029-2014) Novel carbon nanotube gas sensors functionalized by Si(O)CN

A. Karakuscu*, A. Ponzoni, Sensor lab, CNR-IDASC and University of Brescia, Italy; L. Hu, University of Colorado, USA; C. Baratto, Sensor lab, CNR-IDASC and University of Brescia, Italy; R. Cecato, University of Trento, Italy; R. Raj, University of Colorado, USA; G. Faglia, G. Sberveglieri, Sensor lab, CNR-IDASC and University of Brescia, Italy

5:30 PM

(ICACC-S7-030-2014) Inorganic Surface Modification of Titania Nanocrystals for Enhanced Chemical Gas Sensors

M. Epifani*, CNR-IMM, Italy; E. Comini, SENSOR Lab, Department of Information Engineering, Brescia University and CNR-IDASC, Italy; R. Díaz, Electrochemical Processes Unit, IMDEA Energy Institute, Spain; C. Force, NMR Unit,Centro de Apoyo Tecnológico, Universidad Rey Juan Carlos, Spain; R. R. Zamani, Institut de Recerca en Energia de Catalunya (IREC), Barcelona, Spain; J. Arbiol, Institut de Ciència de Materials de Barcelona, ICMAB-CSIC, Spain; T. Andreu, Institut de Recerca en Energia de Catalunya (IREC), Barcelona, Spain; P. Siciliano, CNR-IMM, Italy; G. Faglia, SENSOR Lab, Department of Information Engineering, Brescia University and CNR-IDASC, Italy; J. R. Morante, Institut de Recerca en Energia de Catalunya (IREC), Barcelona, Spain

S8: 8th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT8) In Honor of Prof. Stuart Hampshire

In Honor of Professor Stuart Hampshire III; Silicon Nitride

Room: Coquina Salon A

Session Chairs: Francis Cambier, Belgian Ceramics Research Center; Anne Leriche, University of Valenciennes

1:30 PM

(ICACC-S8-018-2014) GB chemistry of silicon nitride based nano-composites – implications to fracture behavior - experimental and theoretical study

P. Sajgalik*, M. Hnatko, Z. Lences, M. Gall, Institute of Inorganic Chemistry, Slovak Academy of Sciences, Slovakia; Z. Chlup, Institute of Physics of Materials, Academy of Sciences of the Czech Republic, Czech Republic

2:00 PM

(ICACC-S8-019-2014) Local mechanical properties of Si_3N_4 ceramics measured using very small cantilever specimens (Invited)

J. Tatami*, M. Katayama, Yokohama National University, Japan; T. Takahashi, T. Yahagi, Kanagawa Academy of Science and Technology, Japan; T. Horiuchi, M. Yokouchi, Kanagawa Industrial Technology Center, Japan; K. Yasuda, Tokyo Institute of Technology, Japan

2:30 PM

(ICACC-S8-020-2014) Old and New in SRBSN (Sintered Reaction Bonded Silicon Nitride) (Invited)

H. Kim*, KIMS, Republic of Korea

3:00 PM

Break

3:20 PM

(ICACC-S8-021-2014) Si3N4 Based Materials for Structural Applications, What is Next? (Challenges and Potentials) (Invited)

H. M. Mandal*, Sabanci University, Turkey; F. Kara, S. Turan, A. Kara, Anadolu University, Turkey

3:50 PM

(ICACC-S8-022-2014) Developments of Silicon nitride based composite materials (Invited)

C. Balazsi*, Bay Zoltan Nonprofit Ltd. for Applied Research, Hungary

4:20 PM

(ICACC-S8-023-2014) Medium Pressure PIM of Silicon Nitride using a Novel Binder System Concept for Improved Dispersability and Removal by Thermal Evaporation

R. Pompe*, GOCERAM AB, Sweden; D. Yan, W. Zhang, Beijing SINOMA Synthetic Crystals Co., Ltd., China

4:40 PM

(ICACC-S8-024-2014) Fabrication of c-axis oriented Si3N4 ceramics by highly magnetic field

T. Takahashi*, Kanagawa Academy of Science and Technology, Japan; J. Tatami, Yokohama National University, Japan; S. Tanaka, Nagaoka University of Technology, Japan

5:00 PM

(ICACC-S8-025-2014) Study on thermal conductivity of epoxy resin/silicon nitride composites

A. Shimamura*, H. Hyuga, Y. Hotta, K. Hirao, National Institute of Advanced Industrial Science and Technology (AIST), Japan

S10: Virtual Materials (Computational) Design and Ceramic Genome

Virtual Materials Design and Modeling II

Room: Coquina Salon G

Session Chair: Magnus Rohde, Karlsruhe Institute for Technology (KIT)

1:30 PM

(ICACC-S10-020-2014) Image-Based Computation of Thermo-Elasticity for C/C Composite Bundles (Invited)

G. L. Vignoles*, P. Engerand, A. Gillard, G. Couégnat, O. Caty, University Bordeaux, France

2:00 PM

(ICACC-S10-021-2014) Homogenization and sensitivity analysis for optimal thermoelastic design of metal-ceramic composites

R. Piat*, Y. Sinchuk, Karlsruhe Inst of Technology, Germany

2:20 PM

(ICACC-S10-022-2014) Multi-scale modeling of shape distortions during sintering of bi-layered porous structures

T. T. Molla*, R. Bjork, H. L. Frandsen, N. Pryds, Technical University of Denmark, Denmark

2:40 PM

(ICACC-S10-023-2014) Generation and Calibration of Stochastic Virtual Textile Composite Specimens for Analyzing Local Strain Variations

M. Blacklock, J. H. Shaw, F. W. Zok, University of California, USA; B. N. Cox*, Teledyne Scientific Company, USA

3:00 PM

Break

Virtual Materials Design and Modeling III

Room: Coquina Salon G

Session Chairs: Walter Kob, University Montpellier 2; Masato Yoshiya, Osaka University

3:20 PM

(ICACC-S10-024-2014) Modelling of laser surface alloying and dispersing of technical ceramics (Invited)
M. Rohde*, Karlsruhe Institute for Technology (KIT), Germany

3:50 PM

(ICACC-S10-025-2014) Microstructure optimization for the two dimensional problem of heat conduction in fiber reinforced composites
R. Piat*, G. Stasiuk, V. V. Deshpande, Karlsruhe Inst of Technology, Germany

4:20 PM

(ICACC-S10-026-2014) Simulation of C/C Composite Ablation under Fluid Flow
G. L. Vignoles*, M. Besnier, University Bordeaux, France; G. Couégnat, CNRS, France; L. Duquesne, G. Perrot, University Bordeaux, France; J. Epherre, CEA, France

4:40 PM

(ICACC-S10-028-2014) First Principles Calculations of Boron Suboxide
J. S. Dunn*, Army Research Laboratory, USA; V. Kumar, Vijay Kumar Institute, India

S12: Materials for Extreme Environments: Ultrahigh Temperature Ceramics (UHTCs) and Nanolaminated Ternary Carbides and Nitrides (MAX Phases)

Novel Processing I

Room: Coquina Salon F

Session Chair: Sylvain Dubois, Institute PPRIME

1:30 PM

(ICACC-S12-023-2014) A current overview of the MAX phases and thin film processing (Invited)
P. Eklund*, Linkoping University, Sweden

2:00 PM

(ICACC-S12-024-2014) Elevated Temperature Tribological Behavior of MAX Phase Coating Deposited by High Velocity Oxyfuel Spraying
C. Zhang, S. Rengifo, A. Nieto, A. Agarwal*, Florida International University, USA

2:20 PM

(ICACC-S12-025-2014) Synthesis and densification of Cr2AlC powder using Spark Plasma Sintering apparatus
S. Lee*, H. Oh, KIMS, Republic of Korea; S. Choi, Hanyang University, Republic of Korea

2:40 PM

(ICACC-S12-026-2014) Densification and Phase Evolution of SHS Derived Ti_3AlC_2 Powders in Pressureless Sintering and Hot Pressing Processes
L. R. Chlubny*, J. Lis, AGH University of Science and Techniology, Poland

3:00 PM

Break

Novel Processing II

Room: Coquina Salon F

Session Chair: Carmen Carney, UES, Inc

3:20 PM

(ICACC-S12-027-2014) Nanostructured HfC-SiC composite prepared using reactive spark plasma sintering
S. Lee*, F. Lun, KIMS, Republic of Korea; H. Lee, Pusan National University, Republic of Korea

3:40 PM

(ICACC-S12-028-2014) Reaction Spark Plasma Sintering and Mechanical Properties of Monolithic Titanium Boride
K. Sengottaian*, B. S. Murty, S. Bakshi, Indian Institute of Technology Madras, India

4:00 PM

(ICACC-S12-029-2014) Producing Zirconium Diboride Components with Complex, Near-Net Shape Geometries by Room-Temperature Injection Molding of Aqueous Ceramic-Polyvinylpyrrolidone Suspensions
V. L. Wiesner*, J. P. Youngblood, R. W. Trice, Purdue University, USA

4:20 PM

(ICACC-S12-030-2014) Densification and Scaleup Mechanical Properties of Direct Current Sintered High Purity ZrB2 Ultrahigh Temperature Ceramics
D. Pham*, L. S. Walker, W. Pinc, E. L. Corral, University of Arizona, USA

4:40 PM

(ICACC-S12-031-2014) Carbothermal reduction synthesis of nanocrystalline refractory carbides powders using sucrose as carbon source
Y. Zhao*, Y. Zhou, H. Liu, J. Li, Z. Feng, Aerospace Research Institute of Materials and Processing Technology, China

5:00 PM

(ICACC-S12-032-2014) Tough ceramics by microwave sintering of nanocrystalline titanium diboride ceramics
D. Demirskyi*, National Institute for Materials Science (NIMS), Japan; D. Agrawal, The Pennsylvania State University, USA; A. Ragulya, Frantsevich Institute for Problems in Material Science, Ukraine; Y. Sakka, National Institute for Materials Science (NIMS), Japan

Posters

Poster Session A

Room: Ocean Center Arena

5:30 PM

(ICACC-S1-P001-2014) Comparison of Thermo Mechanical Properties in Alumina and Alumina-Carbon Nano Composite Sintered by SPS
H. Gheisari Dehsheikh*, F. Ziłabi, Shahreza University, Islamic Republic of Iran

(ICACC-S1-P002-2014) Advanced insulation properties for environmental and economic ceramic product
M. A. Melhem*, Civil Engineering Faculty, Syrian Arab Republic

(ICACC-S1-P003-2014) Evaluation of ceramic/ceramic (SiC/SiC & Al2O3/Al2O3) joint interface prepared via brazing
A. Ghazi Daryani*, A. Nemati, Sharif University, Islamic Republic of Iran

(ICACC-S1-P004-2014) Fabrication of Highly Dense Pure SiC Ceramics via the HTPVT Method Using Nano SiC powders
L. Bobo*, Y. Jianfeng, Xi'an Jiaotong University, China

(ICACC-S1-P005-2014) Effect of thermal cycling on thermal conductivity of diamond particle reinforced copper composites
M. J. Kruszewski*, L. Ciupinski, M. Rosinski, K. J. Kurzydlowski, A. Michalski, Warsaw University of Technology, Poland

(ICACC-S1-P006-2014) Image reconstruction of defects 100 mm deep by probe array using TSVD
Y. Nishimura*, T. Suzuki, National Institute of Advanced Industrial Science and Technology, Japan

(ICACC-S1-P007-2014) Compressive Strength and Durability of Concrete Utilizing Recycled Concrete Aggregate
E. D. Magdaluyo*, L. Atterado, J. Paz, University of the Philippines, Philippines

(ICACC-S1-P008-2014) Standard Property Measurements of Advanced Ceramics
J. D. Helfinstine*, Corning Inc., USA; J. Salem, NASA GRC, USA; G. Quinn, American Dental Association Foundation, NIST, USA; S. Gonczy, Gateway Materials Technology, Inc., USA

(ICACC-S1-P010-2014) Microstructure and Mechanical Properties of Silicon Carbide (SiC) with MgO-Y2O3 Oxide System as Sintering Agent
H. Gocmez*, M. Tuncer, S. Altun, Dumlupinar University, Turkey

(ICACC-S1-P011-2014) Crack Generation in TiC-316L Steel Cermets Using Vickers Indentation
C. Jin*, K. Plucknett, Dalhousie University, Canada

(ICACC-S1-P012-2014) Effects on Mechanical and Thermal Properties by Varying the Interconntectivity of SiC in a Si:SiC Composite System
A. L. Marshall*, M Cubed Technologies, Inc., USA

(ICACC-S1-P013-2014) Microstructure-Property Relationships in SiC/Diamond Composites as a Function of Diamond Content
A. L. Marshall*, A. F. Liszkiewicz, S. M. Salamone, P. G. Karandikar, M. K. Aghajanian, M Cubed Technologies, Inc., USA

(ICACC-S1-P014-2014) Effect of SiC:B_4C Ratio on the Properties of Si-Cu/SiC/B_4C Composites
S. Salamone*, M. Aghajanian, M Cubed Technologies, Inc., USA; S. Horner, J. Zheng, Program Executive Office-Soldier, US Army, USA

(ICACC-S1-P015-2014) Tensile Creep Testing of Different Volume Fraction SiC/SiC Composites
A. Almansour*, E. Maillet, G. N. Morscher, The University of Akron, USA

(ICACC-S1-P016-2014) Damage Monitoring of Silicon Carbide Matrix Composites by Digital Image Correlation
T. Nozawa*, K. Ozawa, H. Tanigawa, Japan Atomic Energy Agency, Japan

(ICACC-S1-P017-2014) The study on processing conditions for pressureless sintered SiC starting from solarcell wafer sludge
Y. Kim*, D. Chun, B. Yoon, Inocera inc., Republic of Korea

(ICACC-S1-P018-2014) Durability Results from Ceramic Matrix Composite with Differing Porosity Levels
G. Ojard*, United Technologies Research Center, USA; I. Smyth, Pratt & Whitney, USA; U. Santhosh, J. Ahmad, Structural Analytics, Inc., USA; Y. Gowayed, Auburn University, USA

(ICACC-S1-P019-2014) Ultra-fine WC Cemented Carbides Prepared by a Novel Nitride Conversion Method
Y. Kan*, S. Sun, S. Dong, G. Zhang, Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

(ICACC-S1-P020-2014) A high-temperature neutron diffraction study of Nb2AlC and (Ti0.45Nb0.55)2AlC
G. Bentzel*, Drexel University, USA; E. Caspi, Nuclear Research Centre, Israel; M. Barsoum, Drexel University, USA

(ICACC-S1-P021-2014) Effects of Stress Concentrators on Damage Evolution in SiC/SiC Composites
C. R. Baker*, E. Maillet, M. Appleby, G. N. Morscher, University of Akron, USA; T. Cook, Rolls Royce, USA

(ICACC-S1-P022-2014) Effect of MgO and CaO doping on the superplasticity of silicon nitride ceramics with Al_2O_3-Y_2O_3 additives
R. Wananuruksawong*, Y. Shinoda, T. Akatsu, F. Wakai, Tokyo Institute of Technology, Japan

(ICACC-S1-P023-2014) Processing and Characterization of Basalt Fiber Reinforced Ceramic Composites for High Temperature Applications Using Polymer Precursors
S. Cox*, D. Lui, J. Gou, University of Central Florida, USA

(ICACC-S3-P024-2014) Effect of Anelastic Relaxation and Phase Transformations on the Elastic Properties of Stabilized Zirconias
P. Gao*, Texas A&M University, USA; E. Lara-Curzio, R. Trejo, Oak Ridge National Laboratory, USA; M. Radovic, Texas A&M University, USA

(ICACC-S3-P025-2014) Eu2Zr2O7 carbonate composite as an electrolyte used in the low temperature SOFC
H. I. Kao*, L. Wen, C. Hsieh, Y. Tsai, S. Chang, Tamkang University, Taiwan; H. Sheu, National Synchrotron Radiation Research Center, Taiwan; M. Lee, Y. Lee, Institute of Nuclear Energy Research, Taiwan

(ICACC-S3-P026-2014) Effect of CeO2 Addition on the Ionic Conductivity of 8 mol. % Y2O3 – ZrO2
A. Gupta*, S. Omar, K. Balani, Indian Institute of Technology Kanpur, India, India

(ICACC-S3-P027-2014) Performance and microstructural stability of fibrous composite cathodes for solid oxide fuel cells
J. Choi*, B. Kim, D. Shin, Hanyang University, Republic of Korea

(ICACC-S3-P028-2014) Recoverable Performance of Plasma-Sprayed Metal-Supported Solid Oxide Fuel Cell
C. Hwang, C. Tsai, C. Chang, C. Chuang, S. Yang, S. Cheng, Z. Chuang Shie, R. Lee*, Institute of Nuclear Energy Research, Taiwan

(ICACC-S3-P029-2014) Changes of Elastic Properties of Pure and Doped Cerias with Temperature as Determined by Resonant Ultrasound Spectroscopy
A. M. Bolon*, P. Gao, M. Radovic, Texas A&M University, USA

(ICACC-S3-P030-2014) Effects of TiO2 Addition on Microstructure and Ionic Conductivity of Gadolinia-doped Ceria Solid Electrolyte
E. N. Muccillo*, M. F. Dias, Energy and Nuclear Research Institute, Brazil

(ICACC-S3-P031-2014) Ceramic Deposition of Electrolyte Layer for Large Area SOFC
A. Sanson*, E. Mercadelli, A. Gondolini, P. Pinasco, CNR-ISTEC, Italy

(ICACC-S3-P032-2014) Manufacturing of Sn-$LaCrO_3$ by solution combustion for SOFC
A. S. Costa*, W. Acchar, Federal University of Rio Grande do Norte, Brazil; C. Bergmann, Federal University of Rio Grande do Sul, Brazil

(ICACC-S3-P033-2014) Fabrication and characterization of anode supported thin film IT-SOFCs by pulsed laser deposition
L. Zhao*, T. Kawabata, K. Sasaki, S. Bishop, Kyushu university, Japan

(ICACC-S3-P034-2014) Proton exchange resistance of a zirconate proton conductor
S. Bishop*, H. Matsumoto, Kyushu University, Japan

(ICACC-S3-P035-2014) Synthesis and Characterization of Yttrium-doped Barium Cerate BaCe1-xYxO3-δ via Modified Sol-gel Pechini Method
E. D. Magdaluyo*, J. Gapasin, University of the Philippines, Philippines

(ICACC-S3-P036-2014) Decreasing the Chemical Expansion of SOFC Electrodes: The Role of Charge Localization
N. H. Perry*, Kyushu University, Japan; J. E. Thomas, Massachusetts Institute of Technology, USA; D. Marrocchelli, Trinity College, Ireland; L. Zhao, S. R. Bishop, Kyushu University, Japan; H. L. Tuller, Massachusetts Institute of Technology, USA

(ICACC-S3-P037-2014) Combinatorial pulsed laser deposition of La0.8Sr0.2MnxCo1-xO3±δ for SOFC cathode applications
A. B. Saranya, A. Morata, IREC, Spain; M. Burriel, S. N. Cook, J. A. Kilner, Imperial College London, United Kingdom; A. Tarancón*, IREC, Spain

(ICACC-S3-P038-2014) Finite-elements simulation study of the feasibility of micro solid oxide fuel cells systems for portable applications
D. Pla, IREC, Spain; M. Salleras, IMB-CNM, CSIC, Spain; A. Morata, I. Garbayo, A. Sánchez, A. Tarancón*, IREC, Spain

(ICACC-S3-P039-2014) Oxidation Suppression of Metallic Interconnects using Thermal-Sprayed Protective Coating
K. Fung*, S. Tsai, C. Ni, H. Ho, National Cheng Kung University, Taiwan

(ICACC-S3-P040-2014) Effect of Cation Mixing on Structural and Electrical Properties of Mixed Conducting $LaFeO_3$ Perovskite in Reducing Atmosphere
K. Fung*, S. Tsai, C. Ni, Y. Su, H. Liu, National Cheng Kung University, Taiwan

(ICACC-S3-P041-2014) Lattice structure, electrical and electrochemical properties of Co-doped SrTiO3 as electrode material for SOFC
Z. Du, H. Zhao*, X. Li, L. Wang, University of Science and Technology Beijing, China

(ICACC-S3-P042-2014) Investigation of carbon deposition behavior on ferritic alloys in low S/C ratio using direct heating method
T. Ito*, K. Fujita, Y. Matsuzaki, Tokyo Gas Co., Ltd., Japan; M. Ueda, T. Maruyama, Tokyo Institute of Technology, Japan

(ICACC-S4-P043-2014) Electrical Properties of Silicon Carbide Identified Through Scanning Probe Microscopy
M. C. Golt*, M. S. Bratcher, K. E. Strawhecker, U.S. Army Research Laboratory, USA

(ICACC-S4-P044-2014) X-ray Computed Tomography (XCT) of Ceramics
C. Peitsch*, Chesapeake Testing, USA; B. Leavy, ARL, USA; W. Bruchey, Survice Engineering, USA; R. Brannon, University of Utah, USA

(ICACC-S4-P045-2014) Orientation Dependence of Indentation Crack Length for Single-Crystal SiC
A. Trachet*, G. Subhash, C. Kunka, University of Florida, USA

(ICACC-S4-P046-2014) Transparent AlON Pressurelessly Sintered from Powder Synthesized by a Novel Solid-state Reaction Method
X. Jin*, L. Gao, J. Sun, Y. Liu, L. Gui, Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

(ICACC-S4-P047-2014) The Effects of Testing Methods on the Strength of Glass
S. Kilczewski*, A. Gott, M. Gaviola, J. Wright, J. Swab, Army Research Laboratory, USA

(ICACC-S4-P048-2014) Synthesis of Boron-rich Boron Carbide by Rapid Carbothermal Reduction
T. Munhollon*, Rutgers University, USA

(ICACC-S4-P049-2014) Specimen Preparation Methodologies for Revealing Deformation Features Beneath Knoop Hardness Indents in Boron Carbide
S. Walck*, J. LaSalvia, C. Brennan, U.S. Army Research Laboratory, USA

(ICACC-S6-P050-2014) Effect of F and C on the charge-discharge behavior of TiO2 nanotube anodes
H. Lee*, J. Park, T. Chung, Andong National University, Republic of Korea

(ICACC-S6-P051-2014) Synthesis and characterization of LiMnBO3/C as a potential cathode material
H. Lee*, J. Park, T. Chung, Andong National University, Republic of Korea

(ICACC-S6-P052-2014) Toward achieving long term performance stability of Li ion batteries: can evaluation of trace and ultra-trace level contaminants help?
X. Wang*, K. Putyera, S. Patel, Evans Analytical Group LLC, USA

(ICACC-S6-P053-2014) Synthesis and Battery Performance of Spinel-Type Lithium Iron Manganese Silicate Crystals
T. Togashi*, T. Honma, T. Komatsu, Nagaoka University of Technology, Japan

(ICACC-S6-P054-2014) Ultrahigh temperature ceramics as novel solar absorbers for CSP systems
D. Sciti*, L. Silvestroni, L. Pienti, National Research Council of Italy, Italy; J. Sans, CNRS, Falkland Islands (Malvinas); L. Mercatelli, National Research Council of Italy, Italy; E. Sani, National Research Council of Italy, Italy

(ICACC-S4-P055-2014) Characterization of Knoop Indents in Several Boron-Icosahedral Based Ceramics by SEM and Raman Spectroscopy
J. LaSalvia*, U.S. Army Research Laboratory, USA; V. Domnich, Rutgers University, USA; R. Pavlacka, S. Walck, A. Hutchinson, J. Campbell, U.S. Army Research Laboratory, USA

(ICACC-S6-P056-2014) Silicon Oxycarbides: Novel High Reliability, Safe and High C-rate Materials for Li+ Anodes
M. J. Puett*, R. Raj, University of Colorado at Boulder, USA

(ICACC-S4-P057-2014) Operational Equations of State with Arbitrary Heat Capacity
M. Greenfield*, ARL, USA

(ICACC-S6-P058-2014) Nanostructured $LiCoO_2$ Cathode by Hydrothermal Process
K. Fung*, C. Ni, S. Tsai, National Cheng Kung University, Taiwan; A. Orliukas, Vilnius University, Lithuania; G. Bajars, University of Latvia, Latvia

(ICACC-S4-P059-2014) Evaluation of Flaws in Composite Materials Using a Microwave Interference Scanning System
W. H. Green*, J. Gardner, U.S. Army Research Laboratory, USA

(ICACC-S6-P060-2014) Lead-Free Epitaxial $Ba(Zr_{0.2}Ti_{0.8})O_3$-$x(Ba_{0.7}Ca_{0.3})TiO_3$ Thin Films for Piezoelectric Energy Harvesting
Q. Lin*, B. Luo, D. Wang, The University of New South Wales, Australia

(ICACC-S4-P061-2014) Robust Hand-Held Microwave Interferometry System
K. Schmidt*, J. Little, R. Goitia, Evisive, Inc., USA; W. Ellingson, ERC Company, USA

(ICACC-S6-P062-2014) Mn doped ZnO Nanopowders by Direct Chemical Synthesis Method
X. Luo*, J. Yi, University of New South Wales, Australia

(ICACC-S4-P063-2014) Limits of accelerating numerical analysis study of the failure mechanism of ceramics during low velocity impact used in protective systems
C. G. Fountzoulas*, R. E. Brennan, U.S.Army Research Laboratory, USA

(ICACC-S6-P064-2014) Processing and Electrical Characterization of Mn-doped Lead-free Ferroelectric (Bi0.5Na0.5)TiO3-BaTiO3 Thin Films
R. Ding*, University of New South Wales, Australia; B. Luo, Northwestern Polytechnical University, China; Q. Li, Y. Liu, Australian National University, Australia; D. Wang, S. Li, University of New South Wales, Australia

(ICACC-S6-P065-2014) Polymer-derived Siliconoxycarbide Intercalated Graphene Composite Papers for Li-ion Battery Anode
L. David*, G. Singh, Kansas State University, USA

(ICACC-S6-P066-2014) Free-Standing Polymer Derived SiCN/MoS2 Composite Paper Anode for Li-Ion Battery
L. David*, G. Singh, Kansas State University, USA

(ICACC-S7-P067-2014) Synthesis of multi-compositional nanoparticles using RF thermal plasma method
S. Sohn*, S. M. Song, S. M. Cho, NuriVista Co. Ltd., Republic of Korea

(ICACC-S12-P068-2014) Simultaneous Synthesis and Densification of ZrB_2 Ultra High Temperature Ceramic Composites reinforced with Carbon Nanotubes
K. Sengottaian*, B. S. Murty, S. Bakshi, Indian Institute of Technology Madras, India

(ICACC-S12-P070-2014) Oxidation of β–SiC–SiC_f/BN/SiC_m Composite in Static Air and Combustion Environments
A. Mohan*, Indian Institute of Technology (I.I.T) Madras, India; U. Kumar, National Aerospace Laboratories (Council of Scientific and Industrial Research), India; A. S. Gandhi, Indian Institute of Technology (I.I.T) Madras, India

(ICACC-S12-P071-2014) Optimization of Fusion Welding Parameters for ZrB_2-20vol.% ZrC
D. King*, G. Hilmas, W. Fahrenholtz, Missouri University of Science and Technology, USA

(ICACC-S12-P072-2014) Experimental methods for ZrB_2-$MoSi_2$ composite powder granule production for dual architectural toughening of UHTC composites
A. D'Angiò, National Research Council of Italy, Italy; R. Grohsmeyer*, W. Fahrenholtz, G. Hilmas, Missouri University of Science and Technolgy, USA; F. Monteverde, D. Sciti, L. Silvestroni, National Research Council of Italy, Italy

(ICACC-S12-P073-2014) Oxidation Protection of Carbon/carbon Composites above 2000 K
Y. Song*, Z. Feng, Aerospace Research Institute of Material & Processing Technology, China

(ICACC-S12-P074-2014) Heat transfer through phenolic resin/EPDM rubber blended composites
S. Sagar*, N. Iqbal, A. Maqsood, National University of Sciences and Technology (NUST), Pakistan

(ICACC-FS2-P075-2014) Phosphate double cladding optical fibers for short cavity pulsed lasers
D. Milanese*, E. Mura, J. Lousteau, N. G. Boetti, G. C. Scarpignato, L. Scaltrito, M. Rondinelli, Politecnico di Torino, Italy

(ICACC-FS2-P076-2014) Pr-doped As_2Se_3-based glasses for biosensing
Y. Shpotyuk*, B. Bureau, C. Boussard-Pledel, V. Nazabal, University of Rennes 1, France

(ICACC-FS2-P077-2014) Photoluminescence properties of red emitting ZrO2:Eu3+,M3+ (M=Sm, Ce, Dy, Bi, Al) phosphors for white-light emitting diodes
S. J. Yoon, K. Park*, Sejong University, Republic of Korea

(ICACC-FS2-P078-2014) Comparative study of ZnSe powders synthesized by two different methods and sintered by Hot-Pressing
G. Zhou*, L. Calvez, University of Rennes, France; G. Delaizir, Universite de Limoges, France; X. Zhang, J. Rocherulle, University of Rennes, France

(ICACC-FS3-P079-2014) Synthesis and sintering of ceria, praseodymia and samaria nanorods
K. Castkova*, A. Matousek, E. Bartonickova, J. Cihlar jr., J. Cihlar, Brno University of Technology, CEITEC - Central European Institute of Technology, Czech Republic

(ICACC-FS3-P080-2014) Investigation of the influence of CuO and SnO doping on the luminescence of Dy^{3+} ions in phosphate glass
J. A. Jimenez, L. Haney*, University of North Florida, USA

(ICACC-FS3-P081-2014) Anti-cancer activity of cerium oxide nanoparticles depends on its surface chemistry
S. Barkam*, S. Das, V. Perez, S. Seal, UCF, USA

(ICACC-FS3-P082-2014) Understanding the Material Aspects of Cerium Oxide Nanoparticle's Reactive Oxygen Species
A. Gupta*, S. Das, S. Seal, University of Central Florida, USA

(ICACC-GYIF-P083-2014) Influence of the anionic stabilization of alumina particles by anions of chloroacetic acids in 2-propanol dispersions on physico-mechanical properties of alumina ceramics prepared by electrophoretic deposition
D. Drdlik*, CEITEC BUT - Central European Institute of Technology, Brno University of Technology, Czech Republic; H. Hadraba, CEITEC IPM - Central European Institute of Technology, Academy of Sciences of the Czech Republic, Czech Republic; J. Cihlar, CEITEC BUT - Central European Institute of Technology, Brno University of Technology, Czech Republic

Wednesday, January 29, 2014

2nd Pacific Rim Engineering Ceramics Summit

Pacific Rim Ceramic Technologies: Trends and Directions IV

Room: Coquina Salon C

Session Chairs: Tatsuki Ohji, National Institute of Advanced Industrial Science and Technology (AIST); Swapan Das, CSIR-Central Glass & Ceramic Research Institute

8:10 AM

(ICACC-PRECS-031-2014) Energy Efficiency Challenges Addressed Through the Use of Advanced Refractory Ceramic Materials (Invited)
J. 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)
S. K. 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)
T. Ohji*, H. Hyuga, Y. Zhou, N. Kondo, M. Hotta, K. 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)
L. K. Sharma*, D. Karmakar, C. Prasad, Central Glass & Ceramic Research Institute, India

9:40 AM

Break

10:00 AM

(ICACC-PRECS-035-2014) Hybrid-interface based Future Materials (Invited)
K. Kim*, Pusan National University, Republic of Korea

10:30 AM

(ICACC-PRECS-036-2014) Polymer-Derived Ceramics: Fundamentals and Applications (Invited)
L. An*, university of central florida, USA

10:50 AM

(ICACC-PRECS-037-2014) Ceramic fillers as the key for high performance polymers
J. Eichler*, ESK - a 3M company, Germany

11:10 AM

(ICACC-PRECS-038-2014) High Performance SRBSN (Sintered Reaction Bonded Silicon Nitride) (Invited)
H. Kim*, KIMS, Republic of Korea

11:30 AM

(ICACC-PRECS-039-2014) Addressing Water Mark Problem in Porcelain Tile Industries in India (Invited)
C. Agarwal*, Imerys ceramics India, India

11:50 AM

(ICACC-PRECS-040-2014) Microstructure Development and Properties of SnO_2-TiO_2 Binary Composites via Spinodal Phase Separation (Invited)
T. Sekino*, Tohoku University, Japan; T. Kusunose, Kagawa University, Japan; S. Tanaka, Tohoku University, Japan

S1: Mechanical Behavior and Performance of Ceramics & Composites

Mechanical Behavior

Room: Coquina Salon D

Session Chairs: Monica Ferraris, Politecnico di Torino; Andrew Gyekenyesi, OAI/NASA GRC

8:00 AM

(ICACC-S1-021-2014) Mechanical Behavior of SiC Coated, High Conductivity Graphite Foam (Invited)
A. Gyekenyesi*, C. Smith, M. Singh, Ohio Aerospace Institute, USA

8:30 AM

(ICACC-S1-022-2014) Fracture Mechanics Properties of Fused Silicas used in the International Space Station
J. Salem*, NASA GRC, USA

8:50 AM

(ICACC-S1-023-2014) Effect of microstructure and grain boundary chemistry on slow crack growth in silicon carbide
N. Al Nasiri*, E. Saiz, Imperial College London, United Kingdom; J. Chevalier, National Institute for applied Science, INSA de Lyon, France; L. J. Vandeperre, F. Giuliani, Imperial College London, United Kingdom

9:10 AM

(ICACC-S1-024-2014) Plastic Deformation and Cracking Resistance of SiC Ceramics Measured by Indentation
J. M. Wade*, S. Ghosh, P. Claydon, H. Wu, Loughborough University, United Kingdom

9:30 AM

(ICACC-S1-025-2014) Hardess of Composite Oxide Ceramics for Infrared Transparent Systems
J. A. Miller*, I. E. Reimanis, Colorado School of Mines, USA

9:50 AM

Break

10:10 AM

(ICACC-S1-026-2014) High Failure Resistance Behavior in Alumina-Based Multilayer Microstructure Composites With Highly Textured Compressive Layers
Y. Chang, G. L. Messing*, Penn State University, USA; R. Pavlacka, Army Research Laboratory, USA; R. Bermejo, Montanuniversitaet Leoben, Austria

10:30 AM

(ICACC-S1-027-2014) Torsion tests on joined materials
M. Ferraris*, M. Salvo, A. Ventrella, F. Smeacetto, S. Rizzo, V. Casalegno, Politecnico di Torino, Italy; D. Gross, Darmstadt University, Germany; Y. Katoh, ORNL, USA

10:50 AM

(ICACC-S1-028-2014) A New Analysis of the Edge Chipping Resistance of Brittle Materials
G. D. Quinn*, J. B. Quinn, American Dental Association Foundation, USA

11:10 AM

(ICACC-S1-029-2014) Strength characterization of tubular ceramic materials by flexure of sectored specimens
K. Kwok, H. L. Frandsen, M. Søgaard, P. V. Hendriksen*, Technical University of Denmark, Denmark

11:30 AM

(ICACC-S1-030-2014) Experimental analyses to the mechanical behavior of carbon-carbon composite under compressive loading in through-thickness direction
H. Richter*, M. Andrich, W. Hufenbach, Technische Universität Dresden, Germany

S2: Advanced Ceramic Coatings for Structural, Environmental, and Functional Applications

Advanced Thermal Barrier Coatings: Failure Mechanisms and Process Modeling

Room: Coquina Salon G

Session Chair: Dongming Zhu, NASA Glenn Research Center; Robert Vassen, Forschungszentrum Julich GmbH

8:00 AM

(ICACC-S2-001-2014) Attack of Thermal Barrier Coatings in Gas-Turbine Engines by Molten Silicate Deposits (Sand, Ash) and its Mitigation (Invited)
N. P. Padture*, Brown University, USA

8:30 AM

(ICACC-S2-002-2014) Thermal stability and CMAS resistance of ZrO2-Y2O3 and Gd2Zr2O7 thermal barrier coatings deposited by a novel low power plasma process (Invited)
F. Rousseau*, Ecole Nationale Supérieure de Chimie de Paris, France; O. Lavigne, M. Vidal-Sétif, ONERA, France; D. Morvan, Ecole Nationale Supérieure de Chimie de Paris, France

9:00 AM

(ICACC-S2-003-2014) Solubility of oxides from ZrO2-Y2O3 and ZrO2-Nd2O3 systems in a molten CAS: Selection of a thermal barrier composition resistant to CAS infiltration
M. Vidal-Setif*, N. Chellah, C. Rio, O. Lavigne, ONERA, France; M. Vilasi, C. Rapin, C. Petitjean, P. Panteix, Institut Jean Lamour, France

9:20 AM

(ICACC-S2-004-2014) Limitations of Rare Earth Reactive Crystallization for CMAS Mitigation in T/EBCs
D. L. Poerschke*, C. G. Levi, University of California Santa Barbara, USA

9:40 AM

Break

10:00 AM

(ICACC-S2-005-2014) Advanced thermal spray methods for thermal barrier coatings (Invited)
R. Vassen*, N. Schlegel, S. Rezanka, G. Mauer, D. Mack, Forschungszentrum Jülich GmbH, Germany

10:30 AM

(ICACC-S2-006-2014) Emerging Issues in Hot-Section Materials Development for Gas Turbine Systems and Use of Alternative Fuels (Invited)
M. H. Sullivan, T. J. Montalbano, J. P. Horwath, D. R. Mumm*, University of California, Irvine, USA

11:00 AM

(ICACC-S2-007-2014) Solid particle erosion of TBCs: jet tester modelling and erosion forecasts
F. Cernuschi*, L. Augello, RSE, Italy

11:20 AM

(ICACC-S2-008-2014) Lifetime Modeling of Plasma Sprayed Thermal Barrier Coatings
C. Nordhorn*, R. Muecke, R. Vassen, Forschungszentrum Juelich GmbH, Germany

11:40 AM

(ICACC-S2-009-2014) Investigation of bond coat rumpling under the TBC and on a bare bond coat using computed X-ray tomography and 3D SEM-Photogrammetry
S. Shahbazmohamadi*, N. Asadizanjani, E. H. Jordan, University of Connecticut, USA

S3: 11th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Cell Manufacturing

Room: Coquina Salon H

Session Chairs: Toshio Suzuki, National Institute of Advanced Industrial Science and Technology; Enrico Traversa, King Abdullah University of Science and Technology

8:00 AM

(ICACC-S3-009-2014) Progress and Challenges of Metal supported SOFC (Invited)
N. Christiansen*, Topsoe Fuel Cell A/S, Denmark

8:30 AM

(ICACC-S3-010-2014) mT-SOFC: Fabrication and performance under fuel cell and electrolysis operation modes (Invited)
V. M. Orera*, M. A. Laguna-Bercero, A. Larrea, H. Monzón, C.S.I.C., Spain

9:00 AM

(ICACC-S3-011-2014) Doping NiO and 8YSZ, and optimisation of tape cast multilayer design for production of Metal Supported Solid Oxide Fuel Cell by co-sintering
P. Satardekar*, University of Trento, Italy; D. Montinaro, Viale Trento, Italy; V. M. Sglavo, University of Trento, Italy

9:20 AM

(ICACC-S3-012-2014) Single Step Production of Cathode Supported SOFC
A. Gondolini*, E. Mercadelli, P. Pinasco, A. Sanson, ISTEC-CNR, Italy

9:40 AM

Break

Joining Technology

Room: Coquina Salon H

Session Chairs: Prabhakar Singh, University of Connecticut; Niels Christiansen, Topsoe Fuel Cell A/S

10:00 AM

(ICACC-S3-013-2014) Novel glass-ceramic compositions for application as sealants for Solid Oxide Cells (Invited)
F. Smeacetto*, A. De Miranda, M. Salvo, M. Ferraris, P. Leone, A. Lanzini, M. Santarelli, Politecnico di Torino, Italy

10:30 AM

(ICACC-S3-014-2014) Microstructure and thermal cycling properties of reactive air brazed joints (Invited)
E. Skiera*, C. Li, B. Kuhn, T. Beck, L. Singheiser, Forschungszentrum Jülich, Germany

11:00 AM

(ICACC-S3-015-2014) Compliant sealing glass for SOFC applications: effect of fillers on thermal cycling and validation in a generic stack fixture test
Y. Chou*, J. Choi, J. W. Stevenson, Pacific Northwest National Lab, USA; V. Garcia-Negron, R. Trejo, B. Armstrong, E. Lara-Curzio, Oak Ridge National Lab, USA

11:20 AM

(ICACC-S3-016-2014) High-Temperature Viscous Sealing Glasses for Solid Oxide Fuel Cells
C. Kim*, J. Szabo, R. Crouch, R. Baird, MO-SCI Corporation, USA; R. K. Brow, J. Hsu, C. Townsend, R. Reis, Missouri University of Science and Technology, USA

11:40 AM

(ICACC-S3-017-2014) Characterization and Performance of a High-temperature Glass Sealant for Solid Oxide Fuel Cell
C. Liu*, R. Lee, K. Tsai, S. Wu, K. Lin, Institute of Nuclear Energy Research, Taiwan

S4: Armor Ceramics

Modeling

Room: Coquina Salon E

Session Chair: Costas Fountzoulas, U.S.Army Research Laboratory

8:00 AM

(ICACC-S4-030-2014) Using Micromechanics-based Models to Inform the Design of Advanced Ceramic Materials
A. L. Tonge*, The Johns Hopkins University, USA; K. T. Ramesh, The Johns Hopkins University, USA

8:20 AM

(ICACC-S4-031-2014) Numerical study of stress and fracture propagation in glass during ring-on-ring testing
C. G. Fountzoulas*, J. J. Swab, P. J. Patel, U.S.Army Research Laboratory, USA

8:40 AM

(ICACC-S4-032-2014) Prediction of roughness in transverse crack surfaces from impact on a glass-polycarbonate two-layer system
F. Bobaru*, Y. Wang, University of Nebraska-Lincoln, USA; J. Yu, C. Yen, ARL, USA

Testing and Evaluation / Materials Characterization / Quasi-Static and Dynamic Behavior I

Room: Coquina Salon E

Session Chair: Sikhanda Satapathy, U.S. Army Research Lab

9:00 AM

(ICACC-S4-033-2014) Characterization of Silicon Carbide Microstructure Using Nondestructive Ultrasound Techniques
V. DeLucca*, R. A. Haber, Rutgers University, USA

9:20 AM

(ICACC-S4-034-2014) The Effect of Microstructure on the Static and Dynamic Mechanical Response of Reaction Bonded B4C-SiC-Si Ceramics
P. Jannotti*, G. Subhash, University of Florida, USA

9:40 AM

Break

10:00 AM

(ICACC-S4-035-2014) Shock experiments to study source of inelasticity in ceramics
S. Satapathy*, C. Williams, D. Dandekar, U.S. Army Research Lab, USA

10:20 AM

(ICACC-S4-036-2014) Direct and Reverse Electromechanical Response of Piezoelectric Ceramics under Impact
L. Shannahan, L. E. Lamberson*, Drexel University, USA

10:40 AM

(ICACC-S4-037-2014) High-Rate Three-Point Flexure of Ceramic Materials using a Three-Bar Kolsky Method
D. Casem*, J. Swab, A. Dwivedi, J. Wright, U.S. Army Research Lab, USA

11:00 AM

(ICACC-S4-038-2014) Static and dynamic fracture toughness of Sintered and Reaction Bonded SiC and B_4C composites
J. J. Pittari*, G. Subhash, University of Florida, USA

11:20 AM

(ICACC-S4-039-2014) Analysis of Interacting Cracks Due to Sequential Indentations on Single Crystal SiC
A. Trachet, G. Subhash*, University of Florida, USA

11:40 AM

(ICACC-S4-040-2014) An Innovative Transmission Electron Microscopy Sample Preparation Technique for Heavily Deformed Ceramic Materials
C. V. (Weiss) Brennan*, US Army Research Lab, USA; S. D. Walck, Bowhead Science & Technology, USA; J. J. Swab, US Army Research Lab, USA

S6: Advanced Materials and Technologies for Energy Generation and Rechargeable Energy Storage

Energy Storage Technology (Sodium Battery and Beyond)

Room: Ponce De Leon

Session Chairs: Do Kyung Kim, KAIST; Sean Li, The University of New South Wales

8:00 AM

(ICACC-S6-029-2014) Ultrahigh performance of Sulfur Nanowire array for Lithium Sulfur battery (Invited)
S. Moon, Y. Jung, W. Jung, D. Kim*, KAIST, Republic of Korea

8:30 AM

(ICACC-S6-030-2014) Organic Electrode Materials for Sodium Ion Batteries (Invited)
A. Abouimrane*, W. Weng, Y. Cui, K. Amine, Argonne National Laboratory, USA

9:00 AM

(ICACC-S6-031-2014) Sodium insertion properties of titanates and related materials as negative electrodes for sodium ion batteries (Invited)
A. Kuhn*, Universidad San Pablo-CEU, Spain; J. Pérez-Flores, Universidad San Pablo-CEU, Spain; M. Hoelzel, TU München, Germany; C. Baehtz, Helmholtz-Zentrum Dresden-Rossendorf, Germany; F. García-Alvarado, Universidad San Pablo-CEU, Spain

9:30 AM

(ICACC-S6-032-2014) Crystallization behavior of sodium iron phosphate glass-ceramic cathode for sodium ion batteries
T. Honma*, A. Sato, N. Ito, T. Togashi, T. Komatsu, Nagaoka Univeristy of Technology, Japan

9:50 AM

Break

Advanced Materials for Energy Harvesting and Storage

Room: Ponce De Leon

Session Chairs: Do Kyung Kim, KAIST; Sean Li, The University of New South Wales

10:10 AM

(ICACC-S6-033-2014) Enhancement of Thermoelectric Properties of Ca3Co4O9 based Oxides (Invited)

S. Li*, The University of New South Wales, Australia

10:30 AM

(ICACC-S6-034-2014) Comparative study on thermoelectric properties of polycrystalline Ca0.9Yb0.1MnO3: effects of processing method and sintered density

R. Kabir*, T. S. Zhang, The University of New South Wales, Australia; R. Donelson, CSIRO, Australia; S. Li, The University of New South Wales, Australia

10:50 AM

(ICACC-S6-035-2014) Electrical and Thermal Transport Properties of Hf doped In2O3

B. Zhu*, T. Zhang, University of New South Wales, Australia; R. Donelson, Commonwealth Scientific and Industrial Research Organisation, Australia; S. Li, University of New South Wales, Australia

11:10 AM

(ICACC-S6-036-2014) Thermal Stability and Evolved Gas Analysis of Selected Semiconductor Materials by a Simultaneous Thermal Analysis Instrument with Mass Spectrometer Skimmer System

E. Post*, NETZSCH Geraetebau GmbH, Germany; B. Fidler, NETZSCH Instruments, USA

11:30 AM

(ICACC-S6-037-2014) Hierarchical Nanostructured Porous Carbons for Energy-related Applications

K. Chae, L. Huang*, Rensselaer Polytechnic Institute, USA

11:50 AM

(ICACC-S6-038-2014) Overview of High Energy Solid State Capacitor (HESSCAP) Development at Marshall Space Flight Center

L. Allen*, C. Hill, T. Rolin, M. Strickland, NASA MSFC, USA

S7: 8th International Symposium on Nanostructured Materials and Nanocomposites

Nanomaterials for Energy III: Batteries I

Room: Coquina Salon B

Session Chairs: Gurpreet Singh, Kansas State University; Bala Vaidhyanathan, Loughborough University

8:00 AM

(ICACC-S7-017-2014) Bottom-up approach to epitaxial complex oxide nanostructures and nanocomposite thin films with outstanding magnetic, superconducting and electronic properties (Invited)

X. Obradors*, T. Puig, N. Mestres, M. Coll, J. Gázquez, A. Palau, S. Ricart, J. Arbiol, A. Queraltó, P. Cayado, V. Rouco, R. Guzmán, J. González, M. de la Mata, P. Garcés, L. Soler, M. Gibert, J. Zabaleta, A. Llordés, ICMAB - CSIC, Spain

8:30 AM

(ICACC-S7-031-2014) One-pot mechanical process to make nanocomposite structure for advanced materials (Invited)

M. Naito*, T. Kozawa, A. Kondo, H. Abe, Osaka University, Japan

9:00 AM

(ICACC-S7-032-2014) Design of Self-supported Metal Oxide Heterostructures and Hybrids for Energy Storage Applications

R. Fiz*, M. Bueyuekyazi, University of Cologne, Germany; A. Gutierrez-Pardo, University of Seville, Spain; S. Mathur, University of Cologne, Germany

9:20 AM

(ICACC-S7-034-2014) Nanoparticles and carbon nanomaterial coated fine particles for various applications prepared through colloidal and CVD combined process (Invited)

H. Kamiya*, Y. Nomura, A. Kurumiya, Tokyo University of Agriculture and Technology, Japan; M. Iijima, Yokohama National University, Japan; I. Anoshkin, A. Nasibulin, E. Kauppinen, Aalto University School of Science, Finland

9:50 AM

Break

Nanomaterials for Energy IV: Batteries II

Room: Coquina Salon B

Session Chairs: Gurpreet Singh, Kansas State University; Bala Vaidhyanathan, Loughborough University

10:00 AM

(ICACC-S7-035-2014) Robust Li-ion battery anodes prepared from nanostructured polymer-derived ceramics (Invited)

G. Singh*, Kansas State University, USA

10:30 AM

(ICACC-S7-036-2014) Graphene-based Nanomaterials as Next Generation Lithium-ion Battery Anodes

R. Mueller*, S. Mathur, R. Raccis, R. von Hagen, University of Cologne, Germany

10:50 AM

(ICACC-S7-037-2014) One-Pot Mechanical Synthesis of Cathode Materials for Lithium Ion Batteries

T. Kozawa*, A. Kondo, E. Nakamura, H. Abe, M. Naito, Osaka University, Japan

11:10 AM

(ICACC-S7-038-2014) Random and aligned nano-structured metal oxides for energy storage devices (Invited)

B. Saruhan-Brings*, C. G. Mondragón Rodríguez, German Aerospace Center, Germany; Y. -. Gönüllü, University to Cologne, Germany

11:40 AM

(ICACC-S7-039-2014) Chemical Synthesis and Functionalization of Inorganic Nanowires and Nano-Heterostructures

S. Mathur*, T. Fischer, A. Lepcha, T. Singh, R. Müller, I. Giebelhaus, A. Gad, R. Raccis, R. Fiz, University of Cologne, Germany

S8: 8th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT8) In Honor of Prof. Stuart Hampshire

Novel Sintering & Forming I; Flash Sintering, etc

Room: Coquina Salon A

Session Chairs: Rishi Raj, University of Colorado, Boulder; Eugene Medvedovski, Endurance Technologies Inc.

8:10 AM

(ICACC-S8-026-2014) Field Assisted Viscous Flow and Crystallization in a Sodium Aluminosilicate Glass at Elevated Temperature

R. Tessarollo, University of Trento, Italy; R. Raj*, University of Colorado at Boulder, USA; V. M. Sglavo, University of Trento, Italy

8:40 AM

(ICACC-S8-027-2014) Photoemission measurements during flash sintering

J. Lebrun*, J. S. Francis, R. Raj, University of Colorado at Boulder, USA

9:00 AM

(ICACC-S8-028-2014) Effect of flash sintering on Monoporosa tiles
F. Trombin*, University of Trento, Italy; J. Francis, R. Raj, University of Colorado at Boulder, USA; V. M. Sglavo, University of Trento, Italy

9:20 AM

(ICACC-S8-029-2014) Flash Sintering of Electronic Ceramics
B. Vaidhyanathan*, S. Ghosh, K. Annapoorani, J. Binner, P. Ramanujam, Loughborough University, United Kingdom

9:40 AM

Break

10:00 AM

(ICACC-S8-030-2014) Spark plasma sintering and mechanical properties of magnesia-yttria (50:50 vol.%) nanocomposite
L. Huang, W. Yao, J. Liu, A. K. Mukherjee, J. M. Schoenung*, UC Davis, USA

10:20 AM

(ICACC-S8-031-2014) Flash sintering and electrolytic breakdown 8YSZ
J. Downs*, V. Sglavo, University of Trento, Italy

10:40 AM

(ICACC-S8-032-2014) Flash Sintering of $MnCo_2O_4$ composite with Ceria
A. Gaur*, V. M. Sglavo, University of Trento, Italy

11:00 AM

(ICACC-S8-033-2014) Direct Current Sintering (DCS) for rapid, large scale densification of silicon nitride ceramics
W. Pinc*, L. S. Walker, E. L. Corral, University of Arizona, USA

11:20 AM

(ICACC-S8-034-2014) Direct Current Sintering (DCS) for rapid, large-scale densification of ZrB_2 ultra high temperature ceramics
L. S. Walker*, D. Pham, W. R. Pinc, E. L. Corral, The University of Arizona, USA

11:40 AM

(ICACC-S8-035-2014) An Industrial Microwave (Hybrid) System for In-line Processing of High Temperature Ceramics
R. Peelamedu*, D. Seccombe, BTU International, USA

S12: Materials for Extreme Environments: Ultrahigh Temperature Ceramics (UHTCs) and Nanolaminated Ternary Carbides and Nitrides (MAX Phases)

Structure-Property Relationships II

Room: Coquina Salon F

Session Chair: Johanna Rosen, Thin Film Physics Division

8:00 AM

(ICACC-S12-017-2014) An overview of high temperature deformation behaviour of candidate high temperature materials (Invited)
L. J. Vandeperre*, Imperial College London, United Kingdom

8:20 AM

(ICACC-S12-034-2014) Processing and Thermal Properties of ZrB_2 with Varying Boron Isotope Ratios
J. Lonergan*, W. G. Fahrenholtz, G. E. Hilmas, Missouri University of Science and Technology, USA

8:40 AM

(ICACC-S12-035-2014) Modelling Environmental degradation at elevated temperatures
F. Biglari, Imperial College, United Kingdom; F. Abdi, Alphastar Corp, USA; K. Nikbin*, Imperial College, United Kingdom

9:00 AM

(ICACC-S12-036-2014) Electronic structure and elastic properties of transition metal diborides TMB2 (TM= Y, Zr, Hf, Nb, and Ta)
Y. Zhou*, Aerospace Research Institute of Material & Processing Technology, China; J. Wang, J. Wang, Institute of Metal Research, CAS, China

9:20 AM

(ICACC-S12-037-2014) On the Atomic Displacement Parameters of the MAX Phases: Theory versus Experiment
N. Lane, Drexel university, USA; S. C. Vogel, Los Alamos National Laboratory, USA; G. Hug, ONERA-CNRS, France; A. Togo, Kyoto University, Japan; L. Chaput, Universite de Nancy, France; L. Hultman, Linkoping University, Sweden; M. W. Barsoum*, Drexel university, USA

9:40 AM

Break

Enviromental Stability

Room: Coquina Salon F

Session Chair: Yanchun Zhou, Aerospace Research Institute of Material & Processing Technology

10:00 AM

(ICACC-S12-038-2014) Ultra High Temperature Mechanical Testing of ZrB_2 Based Ceramics (Invited)
G. Hilmas*, W. Fahrenholtz, E. Neuman, Missouri University of Science and Technology, USA

10:30 AM

(ICACC-S12-039-2014) Modelling Damage and Creep Crack Growth in Ultra-High Temperature Ceramics
M. Pettina'*, K. Nikbin, Imperial College London, United Kingdom

10:50 AM

(ICACC-S12-040-2014) Effect of Neutron Irradiation on Select Mn+1AXn Phases
D. J. Tallman*, Drexel University, USA; E. Hoffman, Savannah River National Lab, USA; E. Caspi, Drexel University, USA; G. Kohse, Massachusetts's institute of Technology, USA; R. L. Sindelar, Savannah River National Lab, USA; M. W. Barsoum, Drexel University, USA

11:10 AM

(ICACC-S12-041-2014) Processing and Testing of Ultrahigh Temperature Fiber-reinforced Ceramics
J. J. Stiglich*, B. E. Williams, Ultramet, USA

11:30 AM

(ICACC-S12-042-2014) Oxidation of HfB_2-SiC and HfB_2-$MoSi_2$ above 1700°C
C. Carney*, T. Parthasarathy, UES, Inc, USA; M. Cinibulk, Air Force Research Laboratory, USA

11:50 AM

(ICACC-S12-043-2014) Dynamic Non-Equilibrium Thermal Gravimetric Analysis of Ultra-high Temperature Ceramics
M. Miller-Oana*, L. Walker, E. Corral, University of Arizona, USA

S13: Advanced Ceramics and Composites for Sustainable Nuclear Energy and Fusion Energy

Materials Science in Nuclear Waste Management

Room: Oceanview

Session Chair: Josef Matyas, PNNL

8:00 AM

(ICACC-S13-001-2014) Ceramic Waste Forms: Present status and perspectives (Invited)
S. Neumeier*, F. Brandt, A. A. Bukaemskiy, S. Finkeldei, Y. Arinicheva, J. Heuser, E. Ebert, C. Schreinemachers, A. Wilden, G. Modolo, D. Bosbach, Institute of Energy and Climate Research - IEK-6: Nuclear Waste Management, Germany

8:30 AM

(ICACC-S13-002-2014) Encapsulation of HLW in SiC for long-term immobilization (Invited)
J. Knorr*, GWT-TUD GmbH, Germany; A. Kerber, SiCeram GmbH, Germany

9:00 AM

(ICACC-S13-003-2014) Silver-functionalized silica aerogel: An experimental platform for 129I remediation
J. Matyas*, Pacific Northwest National Lab, USA

9:20 AM

(ICACC-S13-004-2014) The Impact of O/M and Dopants on the Sinterability of Actinide and Rare-earth Oxides
J. B. Henderson*, Netzsch Instruments North America LLC, USA

9:40 AM

Break

Materials Science and Technologies for Advanced Reactors I

Room: Oceanview

Session Chairs: Kurt Terrani, Oak Ridge National Laboratory; Theodore Besmann, Oak Ridge National Laboratory; Yutai Katoh, Oak Ridge National Laboratory

10:00 AM

(ICACC-S13-005-2014) Silicon Carbide Composite for Boiling Water Reactor Channel Application (Invited)
K. Yueh*, Electric Power Research Institute, USA

10:30 AM

(ICACC-S13-006-2014) Silicon Carbide Oxidation in Steam (Invited)
K. Terrani*, B. Pint, L. Snead, Y. Katoh, Oak Ridge National Laboratory, USA

11:00 AM

(ICACC-S13-007-2014) Fabrication and Corrosion Resistance of Joined SiC and SiC Composite Structures Required in Advanced Nuclear Reactor Design
C. Lewinsohn*, J. Fellows, M. Wilson, H. Anderson, Ceramatec, Inc., USA

11:20 AM

(ICACC-S13-008-2014) Fabrication and Properties of SiC Composite Tubes for Fuel Cladding Application
W. Kim*, D. Kim, J. Park, J. Park, Y. Jung, Korea Atomic Energy Research Institute, Republic of Korea

11:40 AM

(ICACC-S13-009-2014) Diffusion Bonding of Zircaloy-4 and Select Mn+1AXn Phases
D. J. Tallman*, B. Anasori, M. W. Barsoum, Drexel University, USA

S1: Mechanical Behavior and Performance of Ceramics & Composites

Fibers, Matrices, Coatings and Interfaces

Room: Coquina Salon D

Session Chairs: Randall Hay, AFRL/RXCC; Jacques Lamon, CNRS

1:30 PM

(ICACC-S1-031-2014) Size effects on the fracture strength of CMCs
J. Lamon*, CNRS, France; M. R'Mili, INSA Lyon/University of Lyon, France

1:50 PM

(ICACC-S1-033-2014) Glass fiber tow: a model specimen for the investigation of the post fatigue behavior of SiC fibers
J. Lamon*, CNRS/ENS, France; M. R'Mili, INSA Lyon/University of Lyon, France

2:10 PM

(ICACC-S1-034-2014) Creep Mechanisms and Microstructure Evolution of Nextel™ 610 Fiber in Air and Steam
R. Hay*, AFRL/RXCC, USA; C. Armani, M. Ruggles-Wrenn, AFIT, USA; G. Fair, AFRL/RXCC, USA

2:30 PM

(ICACC-S1-035-2014) Foreign Object Impact Damage in Ceramic Matrix Composites
R. S. Kumar*, M. Mordasky, G. Ojard, United Technologies Research Center, USA

2:50 PM

(ICACC-S1-036-2014) Boria Fluxing of SiC in Ceramic Matrix Composite Aeropropulsion Applications
B. McFarland*, E. J. Opila, University of Virginia, USA

3:10 PM

Break

3:30 PM

(ICACC-S1-037-2014) The role of water vapor on the intermediate temperature oxidation of SiC-fiber composites and volatilization of BN fiber coatings
M. N. Rossol*, F. W. Zok, University of California Santa Barbara, USA

3:50 PM

(ICACC-S1-038-2014) Processing and testing of Re2Si2O7 as a weak interface for SiC/SiC composites
E. Boakye*, P. Mogilevsky, T. A. Parthasarathy, K. A. Keller, T. Key, UES Inc., USA; H. S. Randall, M. K. Cinibulk, AFRL, USA

4:10 PM

(ICACC-S1-039-2014) Mechanical behavior of alumina based wound highly porous CMCs
S. Hackemann*, DLR - German Aerospace Center, Germany

4:30 PM

(ICACC-S1-040-2014) Characterization of fiber matrix interface in CMCs using single fiber push out tests
C. Steinborn*, H. Klemm, A. Michaelis, FhG IKTS Dresden, Germany

4:50 PM

(ICACC-S1-041-2014) Characterization of Advanced SiC/SiC Composite Tubes Under Monotonic Axial Tensile Loading at Ambient Temperature
J. Su*, Tsinghua University, China; J. Hemrick, Oak Ridge National Laboratory, USA; S. Yu, Tsinghua University, China; C. Shih, Oak Ridge National Laboratory, USA; R. J. Shinavski, Rolls-Royce High Temperature Composites, USA; S. Gonczy, Gateway Materials Technology, Inc, USA; Y. Katoh, Oak Ridge National Laboratory, USA

5:10 PM

(ICACC-S1-042-2014) Carbon and Boron Nitride Interphase Coatings for SiC_f/SiC Composites by Electrophoretic Deposition Method
K. Yoshida*, H. Akimoto, A. Yamauchi, T. Yano, Tokyo Institute of Technology, Japan; M. Kotani, T. Ogasawara, Japan Aerospace Exploration Agency (JAXA), Japan

S2: Advanced Ceramic Coatings for Structural, Environmental, and Functional Applications

Advanced Thermal Barrier Coatings I: New Compositions, Processing, Testing Development

Room: Coquina Salon G

Session Chair: Rodney W. Trice, Purdue University; Yutaka Kagawa, University of Tokyo

1:30 PM

(ICACC-S2-010-2014) Processing and Properties of Yttrium Aluminum Garnet Thermal Barrier Coatings Made By the Solution Precursor Plasma Spray Process (Invited)
M. Gell*, E. Jordan, J. Roth, C. Jiang, University of Connecticut, USA; B. Nair, J. Wang, HiFunda LLC, USA

2:00 PM

(ICACC-S2-011-2014) Performance of advanced thermal barrier coating systems in a thermal gradient test rig

R. Vassen*, V. Kochubey, Forschungszentrum Jülich GmbH, Germany; T. Wobst, Rolls-Royce Deutschland LtdCo, Germany; B. Rittmeister, GfE Fremat GmbH, Germany; F. Brückner, Fraunhofer IWS, Germany

2:20 PM

(ICACC-S2-012-2014) The influence of process parameters on the microstructure evolution of ZrO2-CeO2-TiO2 thermal barrier coatings

C. Macauley*, University of California Santa Barbara, USA; D. Lipkin, GE Global Research, USA; S. Sampath, Stony Brook University, USA; C. Levi, University of California Santa Barbara, USA

2:40 PM

(ICACC-S2-013-2014) Thermal Conductivity and Phase Stability in the Y2O3-Ta2O5-ZrO2 System

S. Shian*, A. M. Limarga, Harvard University, USA; R. M. Leckie, C. G. Levi, University of California, USA; D. R. Clarke, Harvard University, USA

3:00 PM

Break

3:20 PM

(ICACC-S2-014-2014) Performance and Stability of Unique Multiphase Thermal Barrier Coatings (TBCs) (Invited)

D. E. Wolfe*, M. P. Schmitt, The Pennsylvania State University, USA; A. K. Rai, UES Inc, USA; R. Bhattacharya, D. Zhu, NASA Glenn Research Center, USA

3:50 PM

(ICACC-S2-015-2014) Optimum wavy multilayer structure for high efficiency thermal radiation energy reflection coatings

M. Yamazoe*, H. Kakisawa, Y. Kagawa, University of Tokyo, Japan; S. Kitaoka, M. Tanaka, Japan Fine Ceramics Center, Japan

4:10 PM

(ICACC-S2-016-2014) Temperature Measurements of Thermal Barrier Coating Surfaces Using a Cr-Doped $GdAlO_3$ Thermographic Phosphor

J. I. Eldridge*, T. J. Bencic, D. Zhu, NASA Glenn Research Center, USA; M. D. Cuy, Vantage Partners, USA; D. E. Wolfe, Penn State University, USA; T. P. Jenkins, MetroLaser, Inc., USA; S. W. Allison, D. L. Beshears, Emerging Measurements, USA; B. Heeg, Lumium, Netherlands

4:30 PM

(ICACC-S2-017-2014) Stress in NiCoCrAlY Bond Coat Induced by Phase Transformation

Y. Chen*, University of Manchester, United Kingdom; X. Zhao, Shanghai Jiao Tong University, China; P. Xiao, University of Manchester, United Kingdom; N. Curry, N. Markocsan, P. Nylen, University West, Sweden

4:50 PM

(ICACC-S2-018-2014) Contribution of in situ high temperature Raman spectroscopy to the fundamental understanding of CAS/8YPSZ interaction

S. Margueron*, S. Ropers, University of Lorraine, France; M. Vidal-Sétif, C. Rio, O. Lavigne, Onera, The French Aerospace Lab, France

5:10 PM

(ICACC-S2-019-2014) Effects of deposition rate and temperature gradient on the damage mechanisms of thermal barrier coatings subjected to corrosion by glassy deposits

A. Harris*, E. Jordan, University of Connecticut, USA

5:30 PM

(ICACC-S2-020-2014) In situ measurement of modulus of elasticity for 7 wt. % YSZ Electron Beam-Physical Vapor Deposition Thermal Barrier Coating for small strains

S. Ahmadian*, E. H. Jordan, University of Connecticut, USA

S3: 11th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Micro-SOFCs

Room: Coquina Salon H

Session Chairs: Vincenzo Esposito, Technical University of Denmark; Sascha Kuehn, eZelleron GmbH; Ling-yuan Tseng, Electric Energy Express

1:30 PM

(ICACC-S3-018-2014) Full Metal Fuel Cells (FMFCs) with Solid Oxide Thin Films allow start-up from room temperature to 850 °C in 10 Seconds (Invited)

S. Kuehn*, K. Paciejewska, A. Stoeck, S. Mnich, L. Winkler, eZelleron, Germany

2:00 PM

(ICACC-S3-019-2014) WATT Fuel Cell & Parker Hannifin Target RV & Marine CHP Markets (Invited)

C. Finnerty*, S. DeWald, WATT Fuel Cell, USA

2:30 PM

(ICACC-S3-020-2014) All-ceramic μSOFC fully integrated in Si for a new generation of reliable micropower generators (Invited)

I. Garbayo, IMB-CNM, CSIC, Spain; D. Pla, A. Morata, IREC, Spain; L. Fonseca, IMB-CNM, CSIC, Spain; S. Sanna, V. Esposito, DTU RISO, Denmark; N. Sabaté, IMB-CNM, CSIC, Spain; A. Tarancón*, IREC, Spain

3:00 PM

Break

3:20 PM

(ICACC-S3-021-2014) Thin-film and nanostructure-based anode-supported solid oxide fuels cells by multi-scale architecture: Low-temperature performance and thermomechanical stability (Invited)

J. Son*, Korea Institute of Science and Technology (KIST), Republic of Korea

3:50 PM

(ICACC-S3-022-2014) The Eneramic® Power Generator – A Reliable Fuel Cell Battery Hybrid System for Off-grid Power Supply

A. Poenicke*, S. Reuber, C. Wunderlich, A. Michaelis, Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Germany

4:10 PM

(ICACC-S3-023-2014) Portable solid oxide fuel cells (SOFCs) and holder operated with biofuel

M. Chen*, U. Cheong, W. J. Wei, National Taiwan University, Taiwan

4:30 PM

(ICACC-S3-024-2014) Fabrication and characterization of a micro-reformer unit fully integrated in silicon for ethanol conversion

D. Pla, IREC, Spain; N. Jiménez, INTE-UPC, Spain; M. Salleras, IMB-CNM, CSIC, Spain; I. Garbayo, G. Gadea-Diez, A. Morata, IREC, Spain; N. Sabaté, IMB-CNM, CSIC, Spain; J. Llorca, INTE-UPC, Spain; A. Tarancón*, IREC, Spain

4:50 PM

(ICACC-S3-025-2014) Performance of Ni-based Anode Supported SOFCs with Doped Ceria Electrolyte at Low Temperatures (300~550°C)

T. Suzuki*, B. Liang, T. Yamaguchi, H. Sumi, K. Hamamoto, Y. Fujishiro, National Institute of Advanced Industrial Science and Technology, Japan; N. Sammes, POSTECH, Republic of Korea

5:10 PM

(ICACC-S3-026-2014) Adjustment of process parameters for attaining a dense gadolinium-doped ceria layer for production of microtubular SOFC cells

K. M. Paciejewska*, S. Kuehn, S. Mnich, eZelleron GmbH, Germany

5:30 PM

(ICACC-S3-027-2014) Extrusion and optimization of carbon resistant tubular IT-SOFCs

A. Azzolini*, V. M. Sglavo, Università di Trento, Italy

S4: Armor Ceramics

Testing and Evaluation / Materials Characterization / Quasi-Static and Dynamic Behavior II

Room: Coquina Salon E

Session Chair: Matthew Bratcher, U.S. Army Research Laboratory

1:20 PM

(ICACC-S4-041-2014) Design of Ballistic Resistance Nano Ceramic-Plastic Composites

N. R. Bose*, D. Sanyal, Central Glass & Ceramic Research Institute, India

1:40 PM

(ICACC-S4-042-2014) Effect of novel geometric designs on the performance of ceramics against projectile impact

P. Karandikar*, M. Aghajanian, B. Givens, A. Liszkiewicz, S. Wong, M Cubed Technologies, Inc., USA

2:00 PM

(ICACC-S4-043-2014) Ceramic Matrix Composite Enhanced Armor Structures

A. Fortini, J. Stiglich*, Ultramet, USA

2:20 PM

(ICACC-S4-044-2014) Testing method for ceramic armor and bare ceramic tiles

E. Carton*, G. Roebroeks, TNO, Netherlands

2:40 PM

(ICACC-S4-045-2014) Flash X-ray cinematography analysis of the interaction of small caliber projectiles with different types of SiC ceramics

E. Strassburger*, S. Bauer, Fraunhofer EMI, Germany; S. Weber, DLR Institute of Structures and Design, Germany

3:00 PM

Break

3:20 PM

(ICACC-S4-046-2014) Surface constraint effects on ceramic ballistic performance

J. McDonald, S. Satapathy*, U.S. Army Research Lab, USA

3:40 PM

(ICACC-S4-047-2014) Properties and Performance of Cubic-Boron Nitride

J. Swab*, E. Wilson, L. Vargas, E. Warner, Army Research Laboratory, USA

4:00 PM

(ICACC-S4-048-2014) Influence of the Crystal Structure on the Performance of Single Crystalline Transparent Armor

A. Krell*, Fraunhofer IKTS, Germany; E. Strassburger, Fraunhofer EMI, Germany

4:20 PM

(ICACC-S4-049-2014) Analysis of the Fragmentation of AlON and Three MgAl2O4 Spinels under Ballistic Impact

E. Strassburger, M. Hunzinger, U.S. Army Research Laboratory, USA; P. Patel, Fraunhofer Institute for High-Speed Dynamics, Germany; J. W. McCauley*, U.S. Army Research Laboratory, USA

4:40 PM

(ICACC-S4-050-2014) Ballistic damage of alumina ceramics – learning from fragments

H. Wu*, S. Ghosh, Loughborough University, United Kingdom; C. Dancer, University of Warwick, United Kingdom; R. Todd, University of Oxford, United Kingdom

5:00 PM

(ICACC-S4-051-2014) Evaluating the Rock Strike Resistance of Transparent Armor Materials

B. S. Aldinger*, Ibis Tek, LLC, USA

S7: 8th International Symposium on Nanostructured Materials and Nanocomposites

Nanodevices and Application of Nanomaterials

Room: Coquina Salon B

Session Chair: Hidehiro Kamiya, Tokyo University of Agriculture and Technology

1:30 PM

(ICACC-S7-040-2014) Sol-Gel and Transfer Technique for Preparing Ceramic Thin Films on Plastics (Invited)

H. Kozuka*, T. Fukui, M. Takahashi, H. Uchiyama, S. Tuboi, Kansai University, Japan

2:00 PM

(ICACC-S7-041-2014) Chemical Processing of Barium Titanate Thin Films by Hybrid-Integration (Invited)

H. Suzuki*, N. Sakamoto, N. Wakiya, Shizuoka University, Japan; T. Ohno, T. Matsuda, Kitami Institute of Technology, Japan

2:30 PM

(ICACC-S7-042-2014) Processing of nanostructured zirconia based ceramics: The art of the possible

K. Annapoorani*, S. Saremi, S. Huang, B. Vaidhyanathan, J. Binner, Loughborough University, United Kingdom

2:50 PM

(ICACC-S7-043-2014) Dependence of NiO Dissolution in Yttria-Stabilized Zirconia on Particle Growth During Calcination

A. Morrissey*, J. Tong, B. P. Gorman, I. E. Reimanis, Colorado School of Mines, USA

3:10 PM

Break

Synthesis and Application of Nanomaterials

Room: Coquina Salon B

Session Chairs: Johan ten Elshof, University of Twente; Xavier Obradors, ICMAB - CSIC

3:20 PM

(ICACC-S7-044-2014) Langmuir-Blodgett Films of 2D Oxide Nanosheets as Seed Layer for Oriented Growth of Functional Oxides on Si (Invited)

J. E. ten Elshof*, University of Twente, Netherlands

3:50 PM

(ICACC-S7-045-2014) Chemical solution based synthesis and deposition of nano metal oxides (Invited)

A. Hardy*, M. Van Bael, Hasselt University, Institute for Materials Research, Inorganic and Physical Chemistry, Belgium

4:20 PM

(ICACC-S7-046-2014) Optimization of Aerogels for Use at High Temperatures

F. Hurwitz*, NASA Glenn Research Center, USA

4:40 PM

(ICACC-S7-047-2014) BMT, a UHT Oxide Ceramic for Hypersonic Applications

S. Venugopal*, S. Hammouche, B. Vaidhyanathan, J. Binner, Loughborough university, United Kingdom

5:00 PM

(ICACC-S7-048-2014) Synthesis, characterization and catalytic effect of zinc oxide nanoparticles
M. Öner*, B. Akin, Yildiz Technical University, Turkey

S8: 8th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT8) In Honor of Prof. Stuart Hampshire

Novel Sintering & Forming II; Additive Manufacturing, etc

Room: Coquina Salon A
Session Chairs: M. Singh, OAI/NASA GRC; Hai-Doo Kim, KIMS

1:30 PM

(ICACC-S8-036-2014) Additive Manufacturing of Ceramic Matrix Composites: Technical Challenges and Opportunities (Invited)
M. Singh*, Ohio Aerospace Institute, USA; M. Halbig, NASA Glenn Research Center, USA

2:00 PM

(ICACC-S8-037-2014) Manufacture of Functional Ceramic Nanopowders by Thermal Decomposition of Metal-Alginate Gel Structures (Invited)
G. M. Kale*, Z. Wang, M. Ghadiri, University of Leeds, United Kingdom

2:30 PM

(ICACC-S8-038-2014) Fabrication of Bioceramics Implants by Stereolithography of Three Dimensional Printing
S. Kirihara*, Osaka University, Japan

2:50 PM

Break

3:10 PM

(ICACC-S8-039-2014) Additive Manufacturing: Interaction of Laser Light with Ceramic Powders
T. Muehler*, J. Günster, J. G. Heinrich, TU Clausthal, Germany

3:30 PM

(ICACC-S8-040-2014) A Novel Additive Manufacturing Technology for High-Performance Ceramics
J. Homa*, M. Schwentenwein, Lithoz GmbH, Austria

3:50 PM

(ICACC-S8-041-2014) Powder bed stabilization for powder-based additive manufacturing
A. Zocca*, C. M. Gomes, J. Guenster, BAM, Federal Institute for Materials Research and Testing, Germany

4:10 PM

(ICACC-S8-042-2014) Characterization of defects in 3D Inkjet Printed ceramic structures by high-resolution X-ray tomography
Y. Liu*, T. Wang, R. Bradley, B. Derby, University of Manchester, United Kingdom

4:30 PM

(ICACC-S8-043-2014) Implementing spiral architectures in TiB_2-SiC ceramics for the evaluation of mechanical properties
A. Els*, J. Watts, G. Hilmas, W. Fahrenholtz, Missouri University of Science & Technology, USA

S9: Porous Ceramics: Novel Developments and Applications

Processing Methods for Porous Ceramics I

Room: Coquina Salon C
Session Chair: Paolo Colombo

1:30 PM

(ICACC-S9-001-2014) Ice templating porous materials: parameters multiplication goes (Invited)
S. Deville*, CNRS, France

2:00 PM

(ICACC-S9-002-2014) Directionally Aligned Porous SiOC by Freeze-Casting of Polysiloxane
M. Naviroj*, Northwestern University, USA; P. Colombo, Università di Padova, Italy; K. Faber, Northwestern University, USA

2:20 PM

(ICACC-S9-003-2014) Fabrication of highly porous ceramic thermal insulators via novel gelation freezing route
M. Fukushima*, T. Ohji, Y. Yoshizawa, National Institute of Advanced Industrial Science and Technology (AIST), Japan

2:40 PM

(ICACC-S9-004-2014) Mechanical Properties of Directionally Porous Ceramics
A. Lichtner*, University of Washington, USA; D. Roussel, D. Jauffrès, M. Christophe, SIMAP/GPM2, France; B. Rajendra, University of Washington, USA

3:00 PM

Break

Membranes and High SSA Ceramics

Room: Coquina Salon C
Session Chair: Sylvain Deville, CNRS

3:20 PM

(ICACC-S9-005-2014) Development of Silica-based Membranes for Application to Energy Carrier Systems (Invited)
T. Tsuru*, Hiroshima University, Japan

3:50 PM

(ICACC-S9-006-2014) Silver Nanoparticle-doped Ceramic Capillary Membranes for Enhanced Bacterial Filtration
S. Kroll*, J. Wehling, J. Köser, University of Bremen, Germany; P. Lindner, C. Lüder, S. Beutel, Leibniz University of Hanover, Germany; K. Rezwan, University of Bremen, Germany

4:10 PM

(ICACC-S9-007-2014) New nanostructured SiOC aerogels for gas sensing applications
A. Karakuscu*, A. Ponzoni, Sensor lab, CNR-IDASC and University of Brescia, Italy; A. Parakkulam R., Deutsches Zentrum fur Luft- und Raumfahrt (DLR), Germany; G. Sberveglieri, Sensor lab, CNR-IDASC and University of Brescia, Italy; G. Soraru, D. Ayana, University of Trento, Italy; G. Faglia, Sensor lab, CNR-IDASC and University of Brescia, Italy

4:30 PM

(ICACC-S9-008-2014) Proton conductivity of mesoporous silicas functionalized with sulfonic acid groups
M. Wark*, C. F. Seidler, Carl-von-Ossietzky University Oldenburg, Germany; R. Marschall, Justus-Liebig-University Giessen, Germany

4:50 PM

(ICACC-S9-009-2014) Synthesis and Characterization of Aerogel Glass Materials for Window Glazing Applications
T. Gao*, Norwegian University of Science and Technology (NTNU), Norway; B. Jelle, Department of Materials and Structures, SINTEF Building and Infrastructure / Department of Civil and Transport Engineering, Norwegian University of Science and Technology (NTNU), Norway; A. Gustavsen, Norwegian University of Science and Technology (NTNU), Norway

S11: Advanced Materials and Innovative Processing Ideas for the Industrial Root Technology

Low Friction Coating I

Room: Ponce De Leon

Session Chairs: Sangmok Lee, Korea Institute of Industrial Technology; Ali Erdemir, Argonne National Lab

1:30 PM

(ICACC-S11-001-2014) Ultra-fast Synthesis and Tribological Characterization of Hard Boride Layers on Metals and Alloys (Invited)
A. Erdemir*, Argonne Anational Laboratory, USA

2:00 PM

(ICACC-S11-002-2014) Customized Surface Technology - A modern Design Element to Increase Energy Efficiency by Friction Reduction (Invited)
T. Hosenfeldt*, Y. Musayev, E. Schulz, Schaeffler Technologies AG & Co., Germany

2:30 PM

(ICACC-S11-003-2014) Plasma Technologies: Functional Coatings for Automotive Applications (Invited)
W. Diehl*, Fraunhofer Institute, Germany

3:00 PM

Break

Low Friction Coating II

Room: Ponce De Leon

Session Chairs: Tim Hosenfeldt, Schaeffler Technologies AG & Co.; Wolfgang Diehl, Fraunhofer Institute

3:20 PM

(ICACC-S11-004-2014) Innovative approach to the design and production of new functional hard coatings with low friction and corrosion protection
S. Shin*, J. Sun, C. Lee, S. Noh, K. Moon, KITECH, Republic of Korea

3:40 PM

(ICACC-S11-005-2014) Carbon based PVD/PECVD coatings for high volume components production (Invited)
R. Tietema*, R. Jacobs, D. Doerwald, T. Krug, IHI Hauzer Techno Coating B.V., Netherlands

4:00 PM

(ICACC-S11-006-2014) Wear and High Temperature Oxidation Behavior of Electroless Ni-P, Ni-B and Ni-W-B Coatings
S. Eraslan*, M. Urgen, Istanbul Technical University, Turkey

Energy Solution

Room: Ponce De Leon

Session Chairs: Tadachika Nakayama, Nagaoka University of Technology; Taejin Hwang, Korea Institute of Industrial Technology

4:20 PM

(ICACC-S11-007-2014) Luminescence Properties of Red Phosphors (Gd1-x, Mx)WO3 : Eu3+ (M = Ca, Al) Synthesized by Solution Chemistry Process
B. Kim*, Korea Institute of Industrial Technology (KITECH), Republic of Korea; G. Lee, J. Kim, Incheon University, Republic of Korea; T. Kim, Korea Institute of Industrial Technology (KITECH), Republic of Korea

4:40 PM

(ICACC-S11-008-2014) Exfoliation and Functionalization of BN nanosheets for the Enhancement of Thermal Conducting Properties of Polymer-nanocomposites
H. Cho*, T. Nakayama, H. Suematsu, T. Suzuki, W. Jiang, K. Niihara, Nagaoka University of Technology, Japan

5:00 PM

(ICACC-S11-009-2014) Reusing and recycling hazardous Sulfur byproduct waste for outdoor tiles
M. Binhussain*, M. El-Tonsy, KACST, Saudi Arabia

5:20 PM

(ICACC-S11-010-2014) Production ROOT Technologies for Materials with Advanced Dye-Sensitized Solar Cell Properties
H. Kim*, T. Hwang, KITECH, Republic of Korea

S12: Materials for Extreme Environments: Ultrahigh Temperature Ceramics (UHTCs) and Nanolaminated Ternary Carbides and Nitrides (MAX Phases)

Novel Joining & Processing

Room: Coquina Salon F

Session Chair: Luke Walker, The University of Arizona

1:30 PM

(ICACC-S12-044-2014) Rapid joining of UHTCs, carbides, and nitrides by spark plasma joining (Invited)
W. Pinc*, L. S. Walker, E. L. Corral, University of Arizona, USA

2:00 PM

(ICACC-S12-045-2014) Thermal Properties of Zirconium Diboride With Transition Metal Boride Additions
D. McClane*, W. G. Fahrenholtz, G. E. Hilmas, Missouri University of Science and Technology, USA

2:20 PM

(ICACC-S12-046-2014) Reaction Spark Plasma Sintering of Ti_2AlC from Ti, Al and TiC powders
H. Gao*, M. O'Neil, M. Radovic, Texas A&M, USA; M. Radovic, Texas A&M University, USA

2:40 PM

(ICACC-S12-047-2014) Effect of Processing Route on the Mechanical Properties of Ti_2AlC
R. Benitez*, H. Gao, I. Karaman, M. Radovic, Texas A&M University, USA

3:00 PM

Break

New Composition / Composites

Room: Coquina Salon F

Session Chair: Thierry Ouisse, Grenoble INP

3:20 PM

(ICACC-S12-048-2014) $(Cr_xV_{1-x})_{n+1}AlC_n$ MAX phases solid solutions
T. Basyuk, P. Chartier, T. Prikhna, T. Cabioch*, University of Poitiers, France

3:40 PM

(ICACC-S12-049-2014) Shape Memory Alloy (SMA)/MAX Phase Composites: High-Temperature Thermal and Mechanical Properties
L. Hu*, A. Kothalkar, R. Benitez, Texas A&M University, USA; E. Hoffman, Savannah River National Laboratory, USA; I. Karaman, M. Radovic, Texas A&M University, USA

4:00 PM

(ICACC-S12-050-2014) Tribology of Novel MAX-Al Composites
R. Johnson*, T. Hammann, M. F. Riyad, S. Gupta, University of North Dakota, USA

4:20 PM

(ICACC-S12-051-2014) Clicked-polymer-derived ceramics (cPDC): an efficient way to synthesize multielement composites SiC/ZrC
F. Bouzat*, R. Lucas, S. Foucaud, Y. Leconte, A. Maitre, SPCTS - CNRS UMR 7315, France

4:40 PM

(ICACC-S12-052-2014) Synthesis of Boron-Containing Ceramic Precursors

C. Xu*, Institute of Chemistry, Chinese Academy of Sciences, China

S13: Advanced Ceramics and Composites for Sustainable Nuclear Energy and Fusion Energy

Materials Science and Technologies for Advanced Reactors II

Room: Oceanview

Session Chairs: Kurt Terrani, Oak Ridge National Laboratory; Theodore Besmann, Oak Ridge National Laboratory; Yutai Katoh, Oak Ridge National Laboratory

1:30 PM

(ICACC-S13-010-2014) Accident Tolerant Nuclear Fuel: Processing and Irradiation Behavior of UN TRISO Particles

T. M. Besmann*, Oak Ridge National Laboratory, USA; C. Silva, University of Tennessee, USA; T. B. Lindemer, Harbach Engineering and Solutions, USA; R. D. Hunt, S. L. Voit, H. Lin, M. K. Ferber, Oak Ridge National Laboratory, USA

1:50 PM

(ICACC-S13-011-2014) Irradiation creep of silicon carbide beyond the initial transient

Y. Katoh*, T. Koyanagi, C. Shih, Oak Ridge National Laboratory, USA; T. Hinoki, Kyoto University, Japan; L. L. Snead, Oak Ridge National Laboratory, USA

2:10 PM

(ICACC-S13-012-2014) Microstructural Stability of Neutron Irradiated Nano-Powder-Derived SiC

L. L. Snead*, Y. Katoh, K. Terrani, A. Perez-Bergquest, K. Leonard, Oak Ridge National Laboratory, USA

2:30 PM

(ICACC-S13-013-2014) Hot water corrosion at ion-irradiated surface of SiC

S. Kondo*, M. Lee, T. Hinoki, Kyoto University, Japan

2:50 PM

(ICACC-S13-014-2014) Effect of Helium Irradiation on Ti3AlC2 at 500 °C

M. K. Patel, University of Tennessee, USA; D. Tallman*, J. A. Valdez, J. Aguiar, M. Tang, J. Griggs, E. Fu, Y. Wang, M. W. Barsoum, Drexel University, USA

3:10 PM

Break

3:30 PM

(ICACC-S13-015-2014) Application of Advanced XRD techniques to the Study of Irradiation Effects in Ceramics (Invited)

A. Debelle*, Univ. Paris-Sud, France; A. Boulle, J. Channagiri, CNRS, France; T. Nguyen, Univ. Paris-Sud, France; S. Pellegrino, CEA-INSTN, France; F. Garrido, L. Thomé, Univ. Paris-Sud, France

4:00 PM

(ICACC-S13-016-2014) Ceramic Matrix Composites in Ti-B-Cr and Ti-B-Nb Systems Fabricated "in situ" by Self-propagating High-temperature Synthesis

M. Ziemnicka-Sylwester*, Hokkaido University, Japan

4:20 PM

(ICACC-S13-018-2014) Processing of High Thermal Conductivity UO2-Composites using Spark Plasma Sintering (SPS)

G. Subhash*, University of Florida, USA

Posters

Poster Session B

Room: Ocean Center Arena

5:00 PM

(ICACC-S2-P084-2014) Nanostructure of Ba (1-x)Co(x)TiO3 Thin Films Synthesized via Sol-Gel Method for Patch Antenna Application

H. Abdullah*, N. Abdullah, M. Zulfakar, W. Wan Jalal, Universiti Kebangsaan Malaysia, Malaysia

(ICACC-S2-P085-2014) Microstructure and high-strength glass-ceramic coatings

M. Gajek*, J. Lis, J. Partyka, AGH – University of Science and Technology, Poland

(ICACC-S2-P086-2014) Low Thermal Conductivity Yttria Stabilized Zirconia Thermal Barrier Coatings with Enhanced CMAS Resistance

C. Jiang*, E. H. Jordan, M. Gell, J. Roth, University of Connecticut, USA

(ICACC-S2-P087-2014) Hot Corrosion of La2Zr2O7 Plasma Sprayed Coatings by Volcanic ash

W. Lee, Korea University, Republic of Korea; B. Jang*, H. Araki, S. Kuroda, National Institute for Materials Science (NIMS), Japan; S. Kim, Y. Oh, H. Kim, Korea Institute of Ceramic Engineering and Technology, Republic of Korea

(ICACC-S2-P088-2014) Investigation on the Failure Mechanisms of Thermal Barrier Coatings

Y. Chen*, University of Manchester, United Kingdom; X. Zhao, Shanghai Jiao Tong University, China; P. Xiao, University of Manchester, United Kingdom; Z. Xu, Beijing Institute of Aeronautical Materials, China; L. He, Beijing Institute of Aeronautical Materials, China

(ICACC-S2-P089-2014) Direct observation and strain measurement during cyclic heating/cooling process in oxide environmental barrier coatings on SiC/SiC substrate

T. Kuribara*, H. Kakisawa, Y. Kagawa, The University of Tokyo, Japan

(ICACC-S2-P090-2014) Damage recovery behavior of Abalone shell: effects of mechanical states

J. Takehira*, H. Kakisawa, Y. Kagawa, The University of Tokyo, Japan

(ICACC-S2-P091-2014) Environmental and Mechanical Stability of Environmental Barrier coated SA Tyrannohex SiC Composites under Simulated Turbine Engine Environments

D. Zhu*, M. Halbig, M. Singh, NASA Glenn Research Center, USA

(ICACC-S2-P092-2014) Calcium-Magnesium-Aluminosilicate (CMAS) Infiltration and Cyclic Degradations of Thermal and Environmental Barrier Coatings in Thermal Gradients

D. Zhu*, B. Harder, J. L. Smialek, R. A. Miller, NASA Glenn Research Center, USA

(ICACC-S5-P093-2014) Alpha-tricalcium phosphate-calcium sulfate hybrid bone cement blend:Hydration kinetics and mechanical properties

G. Alkan*, C. Durucan, METU, Turkey

(ICACC-S5-P094-2014) Grade-1 titanium soaked in a DMEM solution at 37 C

A. Tas*, University of Illinois, USA

(ICACC-S5-P095-2014) The Effect of Mycobacterium Species and Mutation on Silver Nanoparticle Resistance in the Planktonic and Biofilm State

C. Larimer, M. S. Islam, A. Ojha, I. Nettleship*, University of Pittsburgh, USA

(ICACC-S5-P096-2014) In Vitro and In Vivo Evaluation of Scaffolds Composed of a Mixture of Silicate (13-93) and Borate (13-93B3) Bioactive Glass

M. N. Rahaman*, Y. Gu, W. Huang, Missouri University of Science and Technology, USA

(ICACC-S5-P097-2014) Animal study of Ti-7.5 Mo alloy co-implanted with calcium-based bone substitute as implant-bone gap filler

J. C. Lin*, J. Lee, Y. Lee, C. Chen, C. Ju, National Cheng-Kung University, Taiwan

(ICACC-S5-P098-2014) Tribological behavior of biomedical friction couples: bioceramics Al2O3/100C6 and titanium /100C6

F. Mamoun*, L. Mohammed, Surface Engineering and Tribology Group, Laboratory of Metallurgy and Engineering Materials, Algeria

(ICACC-S5-P099-2014) Improving Pore Size and Porosity of Electrospun Nanofibrous Scaffolds for Enhancing Cell Infiltration
Q. Zhao, M. Wang*, The University of Hong Kong, Hong Kong

(ICACC-S5-P100-2014) Processing of Biomimetic TiO_2 Scaffolds for Bone Regeneration in Alveolar Defects
B. Müller*, H. Tiainen, H. Haugen, S. Lyngstadaas, University of Oslo, Norway

(ICACC-S5-P101-2014) Effect of Anodization Voltage on the Surface Characteristic of Titanium Oxide/porcine Bone-derived Hydroxyapatite Composite
M. L. Dela Cruz*, K. Lagrama, D. Restauro, E. Magdaluyo, University of the Philippines, Philippines

(ICACC-S5-P102-2014) Influence of Magnetic Field on Fe3+-doped HAP Fabricated by Hydrothermal Method
K. Zuo*, Shanghai Institute of Ceramics, China

(ICACC-S5-P103-2014) The influence on heat treatment on the phase development of titania and its ability to nucleate apatite
C. Lindahl, W. Xia, H. Engqvist*, Uppsala University, Sweden

(ICACC-S5-P104-2014) Processing and Characterization of Alumina Flake Reinforced Bioinspired Nacre-Like Bulk Lamellar Composites
S. N. Gurbuz, A. F. Dericioglu*, Middle East Technical University, Turkey

(ICACC-S5-P105-2014) Synthesis, Densification and Characterization of α-Al2O3-Hydroxyapatite Composites
H. Balmori-Ramirez*, L. Flores, L. Tellez-Jurado, National Polytechnic Institute, Mexico

(ICACC-S7-P106-2014) The Functional Properties of ZnO Nanoparticles Composited Bamboo Pulp Fabric
G. Zhang*, H. Morikawa, shinshu university, Japan; Y. Chen, soochow university, China

(ICACC-S7-P107-2014) Influence of Ti4+ on the energetics and microstructure of SnO2 nanoparticles
J. Miagava*, D. Gouvea, Universidade de Sao Paulo, Brazil; A. Navrotsky, R. Castro, University of California at Davis, USA

(ICACC-S7-P108-2014) Preparation and spectroscopic assessment of copper nanocomposite glasses obtained via CuO and SnO co-doping
J. A. Jimenez*, University of North Florida, USA

(ICACC-S7-P109-2014) Nano ceramic Ba1-xSrxZrO3 ($0 \le x \le 1$) developed by Citrate Precursor route, Structural Characterization and Dielectric properties
M. Ubaidullah*, T. Ahmad, Jamia Millia Islamia, India

(ICACC-S7-P110-2014) Effect of TiO2 and K2O additions toward nano-crystalline Cr4+:MgSiO4 in silica for broadband applications
J. Wang*, K. Chen, National Sun Yat-sen University, Taiwan

(ICACC-S7-P111-2014) Facile Synthesis of Undoped and Non-metals Doped TiO2 for Visible Light Induced Destruction of Microcystin-LR
S. M. El-Sheikh*, H. M. El-Hosainy, Central Metallurgical Research and Development Institute, Egypt; G. Zhang, University of Cincinnati, USA; A. A. Ismail, Central Metallurgical Research and Development Institute, Egypt; D. D. Dionysiou, University of Cincinnati, USA

(ICACC-S7-P112-2014) Annealing treatment effect on the structure and photovoltaic properties of ZnO-CNTs nanocomposite thin film
A. Omar, H. Abdullah*, M. Yarmo, M. Razali, S. Shaari, Universiti Kebangsaan Malaysia, Malaysia

(ICACC-S7-P113-2014) Structural and Morphology of Zn1-XCuxS films as anti-reflecting coating (ARC) affected the cell performance
H. Abdullah*, I. Salwani, Universiti Kebangsaan Malaysia, Malaysia; S. Shaari, Institute of Microengineering and Nanoelectronics, Malaysia

(ICACC-S7-P114-2014) Effects of Mg contents on ZnAl2O4 thin films by sol gel method and its application
W. Wan Jalal, H. Abdullah*, M. Zulfakar, Universiti Kebangsaan Malaysia, Malaysia; S. Shaari, Universiti Kebangsaan Malaysia,, Malaysia; T. Mohammad, Universiti Kebangsaan Malaysia,, Malaysia; B. Bais, Universiti Kebangsaan Malaysia, Malaysia

(ICACC-S7-P115-2014) Investigation of magnetic properties of $NiCo_{2-x}Fe_xO_4$ ($0 \le x \le 1.5$) spinel oxides
A. P. Peres*, A. Lima, J. Araújo, D. Melo, Federal University of Rio Grande do Norte, Brazil

(ICACC-S7-P116-2014) Investigation of Multilayer Superhard Ti-Hf-Si-N/NbN/Al2O3 Coatings for High Performance Protection
A. D. Pogrebnjak*, A. S. Kaverina, Sumy State University, Ukraine; V. M. Beresnev, Kharkov National University, Ukraine; Y. Takeda, K. Oyoshi, H. Murakami, National Institute for Material Science, Japan; A. P. Shypylenko, Sumy State University, Ukraine; M. G. Kovaleva, M. S. Prozorova, Belgorod State University, Russian Federation; O. V. Kolisnichenko, B. Zholybekov, Paton Welding Institute, NAS of Ukraine, Ukraine; D. A. Kolesnikov, Belgorod State University, Russian Federation

(ICACC-S7-P117-2014) Influence of deposition parameters on structure, elemental distribution, physical and mechanical properties of (Ti-Zr-Hf-V-Nb)N nitride high entropy alloys
A. D. Pogrebnjak*, I. V. Yakuschenko, Sumy State University, Ukraine; V. M. Beresnev, Kharkov National University, Ukraine; G. Abadias, P. Chaitier, Universite de Poitiers, France; A. Bagdasaryan, M. Bilokur, M. A. Lisovenko, Sumy State University, Ukraine; O. V. Sobol, National Technical University "KhPI", Ukraine; Y. Takeda, National Institute for Material Science, Japan

(ICACC-S7-P118-2014) Influence of sintering conditions on the electrical properties of sub-micrometric TiO2 ceramics
R. Alvarez*, E. R. Leite, UFSCar, Brazil

(ICACC-S7-P119-2014) Wood derived carbon as a scaffold for metal oxide deposition in hybrid energy storage materials
A. Gutierrez-Pardo, R. Fiz*, University of Cologne, Germany; J. Ramírez-Rico, J. Martínez-Fernández, University of Seville, Spain; S. Mathur, University of Cologne, Germany

(ICACC-S7-P120-2014) Copper modified layered cesium titanates for photocatalytic hydrogen production
M. Wark*, M. Pilarski, Carl-von-Ossietzky University Oldenburg, Germany; R. Marschall, Justus-Liebig-University Giessen, Germany

(ICACC-S7-P121-2014) Photocatalytic activity of TiO2 nanoparticles prepared from dye wastewater treated sludge by using TiCl4
H. Kaai*, T. Nakagawa, Tokyo University of Agriculture and Technology, Japan; M. Iijima, Yokohama National University, Japan; H. Kamiya, Tokyo University of Agriculture and Technology, Japan

(ICACC-S7-P122-2014) Vertically Aligned Carbon Nanotube Based Ceramic Nanocomposites with Anisotropic
J. Mckee*, H. Yang, J. Gou, University of Central Florida, USA

(ICACC-S7-P123-2014) Ablative Properties of Nanoparticle-Enhanced Carbon Phenolic Composites upon Oxyacetylene Torch Exposure
D. Lui*, J. Mckee, H. Yang, J. Gou, University of Central Florida, USA

(ICACC-S8-P124-2014) ANN Modeling of WEDM Process Using Aluminum Oxide Based Ceramics
R. S. Jadoun*, G B Pant University of Agriculture & Technology, Pantnagar, India

(ICACC-S8-P125-2014) Comparison of Microwave Processed and Conventionally Processed YSZ Electrolyte
K. Singh, A. Singh*, A. Kumar, S. S. Shekhon, Punjab Technical University, India

(ICACC-S8-P126-2014) Transparent Polycrystalline ZnAl2O4 ceramics fabricated by Spark Plasma Sintering
P. Fu, W. Lu*, Huazhong University of Science and Technology, China

(ICACC-S8-P127-2014) Elaboration of sol-gel derived TiC-CNTs composites
I. Hussainova*, Tallinn University of Technology, Estonia; M. Umalas, L. Ants, University of Tartu, Estonia; V. Nikolai, Tallinn University of Technology, Estonia

(ICACC-S8-P128-2014) Ultrahigh aspect ratio alumina nanofibers as reinforcements
I. Hussainova*, Tallinn University of Technology, Estonia; M. Gasik, AALTO University Foundation, Finland; M. Aghajan, Tallinn University of Technology, Estonia

(ICACC-S8-P129-2014) Novel alumina–nanocarbon hybrids
I. Hussainova*, Tallinn University of Technology, Estonia; I. Anoshkin, Aalto University Foundation, Finland; R. Ivanov, J. Kubarsepp, Tallinn University of Technology, Estonia

(ICACC-S8-P130-2014) Measurements of Biaxial Flexural Strength of Ceramic Substrates for Power Modules
H. Miyazaki*, Y. Yoshizawa, K. Hirao, T. Ohji, National Institute of Advanced Industrial Science and Technology, Japan

(ICACC-S7-P131-2014) Kevlar Fabric Supported PVDF Microfiltration membranes
N. Iqbal*, S. Sagar, National University of Sciences and Technology (NUST), Pakistan

(ICACC-S8-P132-2014) Advanced Measurements of Indentation Fracture Resistance of Alumina by the Powerful Optical Microscopy for Small Ceramic Products
H. Miyazaki*, Y. Yoshizawa, National Institute of Advanced Industrial Science and Technology, Japan

(ICACC-S8-P133-2014) Morphology Control of YAG Phosphor Powders by Alumina Seed Application
S. Lee*, J. Ryu, Mokpo National University, Republic of Korea

(ICACC-S8-P134-2014) The Microstructure and Dielectric Properties of Sm2O3 Doped Ba0.6Sr0.4TiO3-MgO Compound for Phase Shifters
X. Wang*, M. Wang, W. Lu, Huazhong University of Science and Technology, China

(ICACC-S8-P135-2014) Fabrication of reaction bonded silicon carbide using gel-casted preform
N. Kondo*, M. Hotta, T. Ohji, National Institute of Advanced Industrial Science and Technology (AIST), Japan

(ICACC-S8-P136-2014) Fabrication of high-porosity mullite ceramic membrane supports with addition of vanadium pentoxide and aluminum fluoride
J. Cao, Institute of Urban Environment (IUE), Chinese Academy of Sciences, China; X. Dong, South China University of Technology, China; Y. Dong*, Institute of Urban Environment (IUE), Chinese Academy of Sciences, China

(ICACC-S8-P137-2014) Effect of Molten Salt Synthesis Parameters on the Formation Kinetics, Morphology and Magnetic Properties of Barium Hexaferrite Ceramics
S. Kaya*, E. Aydogan, A. F. Dericioglu, Middle East Technical University, Turkey

(ICACC-S8-P138-2014) Porous mullite ceramic membrane supports prepared from coal gangue waste
Q. Lv, Institute of Urban Environment (IUE), Chinese Academy of Sciences, China; X. Dong, South China University of Technology, China; Y. Dong*, Institute of Urban Environment (IUE), Chinese Academy of Sciences, China

(ICACC-S8-P139-2014) Ferroelectric Properties of Rare earth Doped $BaTiO_3$ Ceramics
V. Mitic*, V. V. Paunovioc, M. Miljkovic, Faculty of Electronic Engineering, University of Nis, Serbia

(ICACC-S9-P140-2014) Geopolymer Foams by Gelcasting
P. Colombo*, M. Strozi Cilla, M. R. Morelli, University of Padova, Italy

(ICACC-S9-P141-2014) Preparation of Intergranular Phase Replacement Techniques Porous Silicon Nitride Ceramic
X. Zhaoyun*, Y. Jianfeng, Xi'an Jiaotong University, China

(ICACC-S9-P142-2014) Ceramic Filtering Elements Impregnated with Silver Nanoparticles for the Inactivation of Escherichia coli
G. V. Cabala*, Federal Institute of Education, Science and Technology - Bahia, Brazil; W. Acchar, Federal University os Rio Grande do Norte, Brazil

(ICACC-S9-P143-2014) Effects of sintering temperature on microstructure and properties of porous anorthite ceramics
C. Li*, Y. Han, Beijing Jiaotong University, China; K. Chen, North China Electric Power University, China; C. Wang, Tsinghua University, China

(ICACC-S9-P144-2014) ZrB2-SiC foams from direct foaming methods
E. Guzi de Moraes*, P. Colombo, University of Padova, Italy; A. Ortona, University of Applied Sciences and Arts of Southern Switzerland, Switzerland

(ICACC-S9-P145-2014) Processing and Properties of Low-Cost Ceramic Microfiltration Membranes
J. Eom, Y. Kim*, H. Yeom, The UNiversity of Seoul, Republic of Korea; I. Song, Korea Institute of Materials Science, Republic of Korea

(ICACC-S9-P146-2014) Cellular Ceramic Structures: Design, Optimization and Applications
S. Gianella*, EngiCer SA, Switzerland

(ICACC-S9-P147-2014) Development of Ceramic Water Filter (CWF) for Point-of-Use Household Water Filtration Systems
S. B. Tiu*, Batangas State University, Philippines; M. Pascual Dalida, University of the Philippines, Philippines

(ICACC-S11-P148-2014) Optimum Selective Dissolution Process of Porous Metallic Glass Granules
B. Guem, Yonsei University, Republic of Korea; H. Murayama, Nagaoka University of Technology, Japan; S. Kim, Korea Institute of Industrial Technology (KITECH), Republic of Korea; D. Kim, Yonsei University, Republic of Korea; T. Nakayama, Nagaoka University of Technology, Japan; M. Lee, T. Kim, B. Kim*, Korea Institute of Industrial Technology (KITECH), Republic of Korea

(ICACC-S11-P149-2014) Different in pyrocarbon matrices made by FB-CVI with vegetable precursors
I. Regiani*, R. L. Novais, J. S. Santos, Instituto Tecnológico da Aeronáutica, Brazil

(ICACC-S11-P150-2014) Nono-sized quartz for glass-ceramic coatings – influence on coating structure and chemical resistance
J. Partyka*, J. Lis, M. Gajek, AGH University of Science and Technology, Poland

(ICACC-S11-P151-2014) Low-temperature synthesis of BaTiO3 electroceramics through electric field-assisted sintering: microstructures and dielectric properties
J. M'Peko*, J. Francis, R. Raj, University of Colorado at Boulder, USA

(ICACC-S11-P152-2014) Surface oxidation behavior of porous Ni-based amorphous alloy under hydrothermal condition
M. Lee*, KITECH, Republic of Korea

(ICACC-S11-P153-2014) Effect of interlayer thickness on the structure and properties of TiAlN/CrN multi-layer coating
Y. Kim*, J. Kim, Hanbat National Univ., Republic of Korea; K. Moon, Korea Institute of Industrial Technology, Republic of Korea

(ICACC-S11-P154-2014) Thermal stability of SiOxCy(-H) thin films deposited by atmospheric pressure dielectric barrier discharge
Y. Kim*, Y. Lee, Hanbat National Univ., Republic of Korea

(ICACC-S11-P155-2014) The synthesis of WC-Co alloy sintered by planetary ball-milling and spark plasma sintering process
H. Lee*, K. Moon, C. Byun, KITECH, Republic of Korea

(ICACC-S11-P156-2014) The properties of nanocomposite TiAlBN coating synthesized by magnetron sputtering process with single composite target
D. Jung*, K. Moon, KITECH, Republic of Korea; N. Lee, Hanyang University, Republic of Korea

(ICACC-S11-P157-2014) Improved Corrosion Resistance of Stainless Steels by Atomic Layer Deposited Films
S. Jang*, Z. Wan, D. Kim, S. Kwon, KITECH, Republic of Korea

(ICACC-S11-P158-2014) A study on the mechanical properties with Cu amount on thin films prepared by magnetron sputtering with Mo-Cu single alloying target
H. Lee*, P. Shin, K. Moon, KITECH, Republic of Korea

(ICACC-S11-P159-2014) Microstructure and thermal shock resistance of (silica-based ceramic + steel) composites coated on plain carbon steel by a bottom pouring casting
H. Kim, Sejong University, Republic of Korea; K. J. Oh, N. K. Yi, S. K. Kim, S.M Metal, Republic of Korea; K. Park*, Sejong University, Republic of Korea

(ICACC-S11-P160-2014) The new trend of DLC coatings
J. Moon*, K. Yeo, E. Shin, J. Yoo, J&L Tech Co., LTD., Republic of Korea

(ICACC-S11-P161-2014) Mechanical properties of ZrAlCu(M) nitride films synthesized by ion beam assist sputtering
K. Yeo*, N. Kim, J. Hong, S. Ahn, J&L Tech Co., LTD., Republic of Korea

(ICACC-S13-P162-2014) Graphite foil-incorporated carbon-carbon composite used in molten fluoride salt environment
C. Ju*, H. Lin, National Cheng-Kung University, Taiwan; K. Lee, I-Shou University, Taiwan; J. C. Lin, National Cheng-Kung University, Taiwan

(ICACC-S13-P163-2014) Microwaves ignited combustion synthesis as a rapid and pressure-less joining technique for SiC ceramics
R. Rosa, P. Veronesi, University of Modena, Italy; V. Casalegno, M. Salvo, Politecnico di Torino, Italy; C. Leonelli, University of Modena, Italy; M. Ferraris*, Politecnico di Torino, Italy

(ICACC-S13-P164-2014) Advanced Characterization of High Burn-up Oxide Fuel
M. Teague*, Idaho National Lab, USA; B. Gorman, Colorado School of Mines, USA; B. Miller, Idaho National Lab, USA

(ICACC-FS1-P165-2014) Design of wool-geopolymer pots
E. Papa*, A. Natali Murri, V. Medri, E. Landi, CNR-ISTEC, Italy

(ICACC-FS1-P166-2014) Rice Husk Ash as a Silica Source in Geopolymer Formulation
U. Heo, W. M. Kriven*, University of Illinois at Urbana-Champaign, USA

(ICACC-S7-P167-2014) Self-sustained UV/visible-light photodetector based on hybrid heterostructures
A. A. Gad*, T. Fischer, S. Mathur, Inorganic and Materials Chemistry, Germany

(ICACC-S7-P169-2014) Core-shell and segmented metal oxide-metal composite nanowires for photocatalytic hydrogen formation
W. Maijenburg, J. E. ten Elshof*, University of Twente, Netherlands

(ICACC-S7-P170-2014) Conformal Nanocoatings for Surface Engineering of Particles by Thermal and Plasma-Enhanced Atomic Layer Deposition using a Rotary Reactor
G. Rampelberg*, D. Longrie, D. Deduytsche, J. Haemers, Ghent University, Belgium; K. Driesen, Umicore, Belgium; C. Detavernier, Ghent University, Belgium

(ICACC-S7-P171-2014) Surface interaction control and characterization of microcapsule and biological molecules for pharmaceutical application
H. Kamiya*, Tokyo University of Agriculture and Technology, Japan; M. Iijima, Yokohama National University, Japan; H. Ichikawa, Y. Fukumori, Kobe Gakuin University, Japan; H. Takeuchi, Gifu Pharmaceutical University, Japan

Thursday, January 30, 2014

S1: Mechanical Behavior and Performance of Ceramics & Composites

Processing I

Room: Coquina Salon D

Session Chairs: Yiquan Wu, Alfred University; Emmanuel Boakye, UES Inc.

8:00 AM

(ICACC-S1-043-2014) New Concepts for Tailoring Mechanical Properties of Multilayer Ceramic Systems Designed With Compressive Residual Stresses
Y. Chang, G. L. Messing*, Penn State University, USA; R. Danzer, Almatis, Inc., Germany; R. Bermejo, Penn State University, USA

8:20 AM

(ICACC-S1-044-2014) Thermo-mechanical properties of SOFC components investigated by a combined method
F. Teocoli*, V. Esposito, S. Ramousse, R. Kiebach, Technical University of Denmark - DTU, Denmark

8:40 AM

(ICACC-S1-045-2014) Microstructural control of spark plasma sintered silicon nitride powder blends with low concentration magnesium nitride sintering additives
A. Ellis*, W. Pinc, L. S. Walker, E. L. Corral, University of Arizona, USA

9:00 AM

(ICACC-S1-046-2014) Spark Plasma Sintering of Ceramic Matrix Composites with self healing matrix
J. Magnant, L. Maillé*, R. Pailler, A. Guette, Laboratoire des Composites Thermostructuraux, France

9:20 AM

(ICACC-S1-047-2014) Spark Plasma Sintering of Transparent Li4Ti5O12
Y. Wu*, Y. Yang, Alfred University, USA

9:40 AM

Break

10:00 AM

(ICACC-S1-048-2014) Mechanical Performance of Honeycomb-like Biomorphic Graphite/Copper Composites
A. Childers*, K. Faber, Northwestern University, USA

10:20 AM

(ICACC-S1-049-2014) Anisotropic creep behavior of a unidirectional all-oxide CMC
K. Artzt*, S. Hackemann, F. Flucht, M. Bartsch, DLR, Germany

10:40 AM

(ICACC-S1-050-2014) Advanced ceramic composite using self-healing and fiber-reinforcement
W. Nakao*, D. Maruoka, Yokohama National University, Japan; M. Nanko, Nagaoka University of Technology, Japan; S. Ozaki, Yokohama National University, Japan; T. Osada, National Institute of Materials Science, Japan

11:00 AM

(ICACC-S1-051-2014) Directional Crystallization of Columnar-Grained Monoclinic Y2O3 under Pressure
J. Al-Sharab*, NYU-Poly, USA; S. Deutsch, B. H. Kear, S. D. Tse, Rutgers University, USA

11:20 AM

(ICACC-S1-052-2014) Resin System Prepared via Ethanol Additions to Polyvinylsilazane
G. Richards*, J. Reutenauer, T. Coons, S. Frueh, S. Suib, University of Connecticut, USA; M. Kmetz, Pratt and Whitney, USA

S2: Advanced Ceramic Coatings for Structural, Environmental, and Functional Applications

Advanced Thermal and Environmental Barrier Coatings

Room: Coquina Salon G

Session Chair: Marie-Helene Vidal-Setif, ONERA; Kang N. Lee, Rolls-Royce Corporation

8:00 AM

(ICACC-S2-021-2014) Hot gas corrosion and EBC development for ceramic materials (Invited)
H. Klemm*, W. Kunz, A. Michaelis, FhG IKTS Dresden, Germany

8:30 AM

(ICACC-S2-022-2014) The structure design for the impact resistance of environmental barrier coatings (Invited)
Y. Wang*, J. Liu, Northwestern Polytechnical University, China

9:00 AM

(ICACC-S2-023-2014) Effect of periodical stress/strain distribution on fracture behavior of EBCs coated on woven continuous fiber-ceramic matrix composites
Y. Motoyama*, H. Kakisawa, Y. Kagawa, The University of Tokyo, Japan

9:20 AM

(ICACC-S2-024-2014) Stress Relaxation in an Air Plasma Sprayed Silicate Coating
J. Wan*, E. Gamble, D. Lipkin, C. Johnson, GE Global Research, USA

9:40 AM

Break

10:00 AM

(ICACC-S2-025-2014) Oxygen and water vapor permeability of $Y_2Ti_2O_7$ at high temperatures
M. Tanaka*, T. Matsudaira, Japan Fine Ceramics Center, Japan; H. Mukai, T. Sassa, Gifu University, Japan; S. Kitaoka, Japan Fine Ceramics Center, Japan; M. Yoshida, O. Sakurada, Gifu University, Japan

10:20 AM

(ICACC-S2-026-2014) APS Y_2O_3 Environmental Barrier Coatings with high CMAS-Resistance

P. Mechnich*, W. Braue, German Aerospace Center (DLR), Germany

10:40 AM

(ICACC-S2-027-2014) Deposition parameter-microstructure study of ytterbium silicate based EBCs deposited via APS

B. T. Richards*, H. Zhao, H. Wadley, University of Virginia, USA

11:00 AM

(ICACC-S2-028-2014) High Temperature Multilayer Environmental Barrier Coatings Deposited Via Plasma Spray–Physical Vapor Deposition

B. Harder*, D. Zhu, NASA Glenn Research Center, USA; M. P. Schmitt, D. E. Wolfe, Pennsylvania State University, USA

11:20 AM

(ICACC-S2-029-2014) Characterization of Desert Sand and Glass

N. Bansal*, NASA Glenn Research Center, USA; S. R. Choi, Naval Air Systems Command, USA

11:40 AM

(ICACC-S2-030-2014) Interactions of Desert Sand Glass with Advanced $Y_2Si_2O_7$ and $HfSiO_4$ Environmental Barrier Coatings

V. L. Wiesner*, B. J. Harder, N. P. Bansal, NASA Glenn Research Center, USA

12:00 PM

(ICACC-S2-031-2014) The Influence of Ca-Mg-Al Silicates on Stresses, Phase Transformations, and Damage Evolution in Yb-Silicate Environmental Barrier Coatings

F. Stolzenburg*, Northwestern University, USA; P. Kenesei, J. Almer, Argonne National Lab, USA; K. N. Lee, Rolls-Royce Corporation,, USA; K. T. Faber, Northwestern University, USA

S3: 11th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Air Electrode

Room: Coquina Salon H

Session Chairs: Peter Hendriksen, Technical University of Denmark; Nguyen Minh, University of California, San Diego

8:00 AM

(ICACC-S3-028-2014) Synthesis of SmBa0.5Sr0.5Co2O5+δ powder and its application as composite cathode for intermediate temperature solid oxide fuel cell

T. Lin*, The Institute of Nuclear Energy Research, Taiwan; M. Lee, The Institute of Nuclear Energy Research, Taiwan; R. Lee, The Institute of Nuclear Energy Research, Taiwan

8:20 AM

(ICACC-S3-029-2014) Defect Equilibria of (Pr0.6Sr0.4)(Co0.2Fe0.8) O3-δ

C. S. Barclay*, L. Zhao, S. Bishop, Kyushu University, Japan; K. Duncan, University of the West Indies,Mona Campus, Jamaica

8:40 AM

(ICACC-S3-030-2014) Increasing the oxygen exchange rate of CeO2 based materials for SOFC electrodes

L. Zhao*, N. Perry, T. Diao, K. Sasaki, S. Bishop, Kyushu university, Japan

9:00 AM

(ICACC-S3-031-2014) Mechanism for Enhancement of Electrochemical Performance on LaNi0.6Fe0.4O3-δ – Ce0.9Gd0.1O1.95 Composite Electrode

R. A. Budiman*, S. Hashimoto, Tohoku University, Japan; K. Yashiro, K. Amezawa, Tohoku University, Japan; T. Kawada, Tohoku University, Japan

9:20 AM

(ICACC-S3-032-2014) High performance and highly durable infiltrated cathodes using Pr-modified Ce0.9Gd0.1O1.95 backbone

A. Samson*, M. Søgaard, N. Bonanos, C. Chatzichristodoulou, P. Hendriksen, Technical University of Denmark, Denmark

9:40 AM

Break

Air Electrode / Interfacial Reactions

Room: Coquina Salon H

Session Chair: Ji-Won Son, Korea Institute of Science and Technology (KIST)

10:00 AM

(ICACC-S3-033-2014) Donor Doping of a P-Type SOFC Cathode: Influence of La on $Sr(Ti,Fe)O_{3-\delta}$ Defect Chemistry and Performance

N. H. Perry*, J. W. Druce, Kyushu University, Japan; D. Pergolesi, Paul Scherrer Institut, Switzerland; J. A. Kilner, Imperial College, United Kingdom; S. R. Bishop, Kyushu University, Japan; H. L. Tuller, Massachusetts Institute of Technology, USA

10:20 AM

(ICACC-S3-034-2014) Effects of Sr Doping on the Conductivity and ORR Kinetics of La2NiO4

X. Liu, B. Guan*, H. Zhang, West Virginia University, USA

10:40 AM

(ICACC-S3-035-2014) Effect of dopants on the lattice structure, electrical and electrochemical properties of La2NiO4+δ

Y. Shen, H. Zhao*, J. Xu, C. Yang, University of Science and Technology Beijing, China

11:00 AM

(ICACC-S3-036-2014) Infiltrated lanthanum nickelate cathodes on protonic ceramic fuel cells utilizing thin $BaCe_{0.2}Zr_{0.7}Y_{0.1}O_{3-\delta}$ electrolytes

S. M. Babiniec*, S. Ricote, N. P. Sullivan, Colorado School of Mines, USA; A. Manerbino, CoorsTek, Inc., USA

11:20 AM

(ICACC-S3-037-2014) Investigating Humidity Effects on LSM/YSZ Cathodes of Anode-Supported SOFCs using In-Operando X-ray Diffraction

J. S. Hardy*, J. W. Templeton, J. W. Stevenson, Pacific Northwest National Laboratory, USA

11:40 AM

(ICACC-S3-038-2014) A study of cathode contact strength of solid oxide fuel cells: effect of particle size and sealing temperature

Y. Chou*, F. Spadoni, E. Riel, J. Choi, J. W. Stevenson, Pacific Northwest National Lab, USA

S5: Next Generation Bioceramics and Biocomposites

Bioceramics I

Room: Coquina Salon E

Session Chairs: Min Wang, The University of Hong Kong; Akiyoshi Osaka, Okayama University

8:00 AM

(ICACC-S5-001-2014) Multifunctional Hybrid Scaffolds for Bone Tissue Engineering (Invited)

M. Wang*, C. Wang, The University of Hong Kong, Hong Kong

8:20 AM

(ICACC-S5-002-2014) Freeze-Cast Methods to Make Porous Ceramics (Invited)

M. White*, R. Chen, Dalhousie University, Canada

8:40 AM

(ICACC-S5-003-2014) Open porous ceramic TiO_2 foams for bone regeneration

H. Tiainen*, D. Wiedmer, J. C. Wohlfahrt, S. P. Lyngstadaas, H. J. Haugen, University of Oslo, Norway

9:00 AM

(ICACC-S5-012-2014) Osteoconductive and Osteoinductive Implants Composed of Hollow Hydroxyapatite Microspheres (Invited)

M. N. Rahaman*, W. Xiao, Missouri University of Science and Technology, USA

9:20 AM

(ICACC-S5-005-2014) Porous TiO_2 bone grafts promote healing in rabbit peri-implant cortical defect model

H. J. Haugen*, S. P. Lyngstadaas, University of Oslo, Norway; M. Monjo, M. Rubert, University of Balearic Islands, Spain; J. E. Ellingsen, J. C. Wohlfahrt, University of Oslo, Norway

9:40 AM

(ICACC-S5-006-2014) Intelligent Bio-Materials for Tissue Engineering and Nanomedicine (Invited)

A. Tampieri*, S. Sprio, M. Sandri, M. Iafisco, S. Panseri, CNR - Institute of Science and Technology for Ceramics, Italy

10:00 AM

(ICACC-S5-007-2014) Electrospinning Preparation of PVA-Ceramic Nano-Particle Composite Fiber Mats for Tissue-Engineering Applications (Invited)

Y. Shirosaki, Kyushu Institute of Technology, Japan; H. Yoshihara, S. Hayakawa, Y. Nakamura, Okayama University, Japan; A. Stamboulis, University of Birmingham, United Kingdom; A. Osaka*, Okayama University, Japan

10:20 AM

(ICACC-S5-008-2014) Bioactive and Resorbable Composite As Drug Delivery System for Bone Substitution and Repair (Invited)

C. Combes*, S. Jacquart, INPT - CIRIMAT, France; S. Girod-Fullana, UPS - CIRIMAT, France; C. Roques, UPS - LGC, France; R. Bareille, Inserm U1026, France; F. Anagnostou, Université Denis-Diderot Paris 7, Laboratoire de Bioingénierie et Biomécanique Ostéo-articulaire, France; F. Brouillet, UPS - CIRIMAT, France; C. Rey, INPT - CIRIMAT, France

10:40 AM

(ICACC-S5-009-2014) The Utility of Calcium Phosphate Bioreactor Cores in Culturing Primary Human Liver Cells

I. Nettleship*, A. Finoli, E. Schmelzer, J. Gerlach, University of Pittsburgh, USA

11:00 AM

(ICACC-S5-010-2014) Mimicking the Formation of Bones, Stones, and Teeth through Biomimetic Processing (Invited)

L. Gower*, University of Florida, USA

11:20 AM

(ICACC-S5-011-2014) Polymorphic phase transitions in nanocrystalline binary metal oxides (Invited)

S. Sood, P. Gouma*, State University of New York, Stony Brook, USA

11:40 AM

(ICACC-S5-004-2014) Highly porous wollastonite-diopside and wollastonite-apatite ceramic foams from low temperature foaming and reactive ceramization of silicone-based mixtures (Invited)

E. Bernardo*, L. Fiocco, P. Colombo, University of Padova, Italy

S7: 8th International Symposium on Nanostructured Materials and Nanocomposites

Nanocomposites

Room: Coquina Salon B

Session Chairs: Franz Faupel, Christian-Albrechts University at Kiel; Makio Naito, Osaka University

8:00 AM

(ICACC-S7-049-2014) Formation and Characterization of Nanoparticle based Sub-micron Structures (Invited)

K. Lu*, Virginia Tech, USA

8:30 AM

(ICACC-S7-050-2014) Hybrid Processing of Nanostructured Materials for Energy Applications (Invited)

B. Vaidhyanathan*, S. Saremi, K. Annapoorani, J. Binner, V. Venkatachalam, Loughborough University, United Kingdom

8:30 AM

(ICACC-S7-051-2014) Functional nanocomposites prepared by vapor phase deposition (Invited)

F. Faupel*, Christian-Albrechts University at Kiel, Germany

9:00 AM

(ICACC-S7-064-2014) Fabrication of CNT/Alumina composites compatible with high strength and high electrical conductivity by control of dispersing and networking of CNTs

J. Tatami*, M. Matsuoka, Yokohama National University, Japan

9:20 AM

Break

Thin Film Technology

Room: Coquina Salon B

Session Chairs: Thomas Fischer, University of Cologne; Junichi Tatami, Yokohama National University

10:00 AM

(ICACC-S7-053-2014) Atomic Layer Deposition: a 3D surface engineering technique for nanomaterials (Invited)

C. Detavernier, G. Rampelberg*, J. Dendooven, D. Deduytsche, Ghent University, Belgium

10:30 AM

(ICACC-S7-054-2014) The effect of Ti addition on the properties of DLC films (Invited)

K. Moon*, D. Jung, N. Lee, KITECH, Republic of Korea

11:00 AM

(ICACC-S7-055-2014) *In-situ* investigations during CVD growth of nanostructured metal oxide thin-films and nanowires (Invited)

T. Fischer*, S. Mathur, University of Cologne, Germany

11:20 AM

(ICACC-S7-056-2014) Plasma Deposition and Modification of Semiconducting Thin Films for Photoelectrochemical Hydrogen Production

A. Mettenbörger*, S. Mathur, University of Cologne, Germany

11:40 AM

(ICACC-S7-022-2014) Fine-tuning Thermophysical Properties of Graphitic Nanofluids with Surface Treatment and Particle Morphology for Advanced Heat Transfer (Invited)

E. V. Timofeeva*, D. Singh, W. Yu, K. Velvadapu, M. J. Nawrocki, J. E. Graviria, Argonne National Laboratory, USA

S8: 8th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT8) In Honor of Prof. Stuart Hampshire

Novel Sintering & Forming III

Room: Coquina Salon A

Session Chairs: Soshu Kirihara, Osaka University; Vojislav Mitic, University Nis and ITN SASA Belgrade

8:20 AM

(ICACC-S8-044-2014) A New Aqueous-Organic Tape Casting System for Fabrication of Transparent Ceramics (Invited)
Y. Yang, Y. Wu*, Alfred University, USA

8:40 AM

(ICACC-S8-045-2014) Mechanical Behavior of Green Ceramic Tapes Used in A Viscoelastic Shaping Process
M. Pan*, S. Wimmer, V. DeGiorgi, US Naval Research Laboratory, USA

9:00 AM

(ICACC-S8-046-2014) Stress Estimation for Multiphase Ceramics Laminates during Sintering
K. Yasuda*, Tokyo Institute of Technology, Japan; T. Nakayama, S. Tanaka, Nagaoka University of Technology, Japan

9:20 AM

(ICACC-S8-047-2014) The Effects of Na_2O, SiO_2 and MgO on the Sintering Behavior and Microstructure Evolution of Bayer Processed Alumina
I. O. Ozer, E. R. Kupp*, Penn State University, USA; C. Compson, Almatis, Inc., USA; M. Spreij, Almatis, Inc., Germany; G. L. Messing, Penn State University, USA

9:40 AM

Break

Advanced Integration & Joining

Room: Coquina Salon A

Session Chair: Vojislav Mitic, University Nis and ITN SASA Belgrade

10:00 AM

(ICACC-S8-048-2014) Thermal Diffusion Processing for the Hard Boride-Based Coatings for Wear- and Corrosion-Resistant Applications (Invited)
E. Medvedovski*, F. A. Chinski, J. Stewart, Endurance Technologies Inc., Canada

10:20 AM

(ICACC-S8-049-2014) Diffusion Bonding and Interfacial Characterization of Sintered Fiber Bonded Silicon Carbide Ceramics Using Boron-Molybdenum Interlayers
H. Tsuda*, S. Mori, Osaka Prefecture University, Japan; M. C. Halbig, NASA Glenn Research Center, USA; M. Singh, Ohio Aerospace Institute, NASA Glenn Research Center, USA; R. Asthana, University of Wisconsin-Stout, USA

10:40 AM

(ICACC-S8-050-2014) High Temperature Approaches for Joining of SiC-Based Ceramic Composites
M. Halbig*, NASA Glenn Research Center, USA; M. Singh, C. E. Smith, Ohio Aerospace Institute, USA

11:00 AM

(ICACC-S8-051-2014) Characterization of Reactive Air Brazed Ceramic-Metal-Joints with Unadapted Thermal Expansion Behavior
K. Bobzin, M. Öte, S. Wiesner*, surface engineering institute, Germany

11:20 AM

(ICACC-S8-052-2014) Effect of annealing on Microstructure and mechanical strength of reactive air brazed BSCF-steel-joints
A. Kaletsch*, A. Bezold, E. M. Pfaff, C. Broeckmann, RWTH-Aachen, Germany

11:40 AM

(ICACC-S8-053-2014) Phase field simulations of the microstructure evolution in Ag-Cu brazing fillers during reactive air brazing
R. Berger*, B. Böttger, M. Apel, ACCESS Materials and Processes, Germany

S9: Porous Ceramics: Novel Developments and Applications

Processing Methods for Porous Ceramics II

Room: Coquina Salon C

Session Chair: Manabu Fukushima, National Institute of Advanced Industrial Science and Technology (AIST)

8:00 AM

(ICACC-S9-010-2014) Fabrication and Properties of Ultra-High-Porous Ceramics for Energy Saving Insulator (Invited)
K. Sekine*, Y. Tanaka, A. Tsujino, Mino Ceramic Co.,Ltd., Japan

8:30 AM

(ICACC-S9-011-2014) Mechanical Response of Graphene-based Complex Porous Networks
N. Ni*, S. Barg, F. M. Perez, E. Saiz, Imperial College London, United Kingdom

8:50 AM

(ICACC-S9-012-2014) Ice templating of ZrB2-based ceramics
V. Medri*, D. Sciti, CNR-ISTEC, Italy; E. Sani, CNR-INO, Italy; E. Landi, CNR-ISTEC, Italy

9:10 AM

(ICACC-S9-013-2014) Processing and Testing of Ultrahigh Temperature Structural Ceramic Foams
J. J. Stiglich*, B. E. Williams, Ultramet, USA

9:30 AM

(ICACC-S9-014-2014) Cellular glass-ceramics from self-foaming mixtures of recycled glass and inorganic waste
E. Bernardo*, M. Mauro, I. Ponsot, P. Colombo, University of Padova, Italy

9:50 AM

Break

Processing Methods for Porous Ceramics III

Room: Coquina Salon C

Session Chair: Alberto Ortona, SUPSI

10:10 AM

(ICACC-S9-015-2014) Functionalizing Cellular Ceramics by Coating (Invited)
J. Adler*, D. Boettge, U. Petasch, Fraunhofer Institute for Ceramic Technologies and Systems, Germany

10:40 AM

(ICACC-S9-016-2014) Open-interconnected–network structures by Electrospinning of Preceramic Polymers
A. Guo, M. Roso, M. Modesti, P. Colombo*, University of Padova, Italy

11:00 AM

(ICACC-S9-017-2014) Synthesis and 3d-printing of silicate bioceramics from preceramic polymers and fillers
A. Zocca*, BAM, Federal Institute for Materials Research and Testing, Germany; H. Elsayed, University of Padova, Italy; C. Gomes, BAM, Federal Institute for Materials Research and Testing, Germany; E. Bernardo, University of Padova, Italy; J. Guenster, BAM, Federal Institute for Materials Research and Testing, Germany; P. Colombo, University of Padova, Italy

11:20 AM

(ICACC-S9-018-2014) Robocasting of porous inorganic hollow fibers for membrane applications
B. Michielsen*, M. Mertens, M. Jacobs, V. Middelkoop, S. Mullens, F. Snijkers, Flemish Institute for Technological Research, Belgium

11:40 AM

(ICACC-S9-019-2014) From Advanced Ceramics To Engineered Ceramics: Optimization of Cellular Structures
S. Gianella*, EngiCer SA, Switzerland

S11: Advanced Materials and Innovative Processing Ideas for the Industrial Root Technology

Next Generation I

Room: Ponce De Leon

Session Chairs: Jindrich Musil, University of West Bohemia; Trilok Singh, Institute of Inorganic and Materials Chemistry

8:20 AM

(ICACC-S11-011-2014) Advanced hard nanocomposite coatings: Flexible and functional nanocomposites (Invited)
J. Musil*, University of West Bohemia, Czech Republic

8:50 AM

(ICACC-S11-012-2014) Plasma-enhanced CVD and Atomic Layer Deposition of Metal Oxide Nanostructures for Functional Applications (Invited)
T. Singh*, A. P. Singh, T. Fischer, N. Tosun, A. Mettenbörger, S. Mathur, University of Cologne, Germany

9:20 AM

(ICACC-S11-013-2014) Encapsulation of polyaniline in hollow silica nanospheres by using an in-situ synthesis in Water-in-Oil (W/O) microemulsion
M. Pyeon*, G. Kim, T. Hwang, KITECH, Republic of Korea

9:40 AM

Break

Next Generation II

Room: Ponce De Leon

Session Chair: Jung-Pyung Choi, Pacific Northwest National Lab

10:00 AM

(ICACC-S11-014-2014) Knowledge based material design approaches for industrial applications based on property predictions by quantum mechanics and verification by combinatorial materials science (Invited)
J. Schneider*, RWTH Aachen University, Germany

10:30 AM

(ICACC-S11-015-2014) Reactive Air Aluminization Process for Planar SOFC Stacks (Invited)
J. Choi*, J. W. Stevenson, M. Chou, Pacific Northwest National Lab, USA

11:00 AM

(ICACC-S11-016-2014) Corrosion and electrical properties of the metallic glass thin films for bipolar plate in proton exchange membrane fuel cell
J. Sun*, J. Choi, K. Moon, S. Shin, KITECH, Republic of Korea

11:20 AM

(ICACC-S11-017-2014) Polarization properties of self-supported bismuth sodium titanate thick films prepared by using AD method
M. Suzuki*, J. Akedo, National Institute of Advanced Industrial Science and Technology, Japan

11:40 AM

(ICACC-S11-018-2014) Development and Integration of Innovative Glass Fibre Sensors into Advanced Composites for Applications in Hostile Environments
B. Milsom*, D. Milanese, Politecnico Di Torino, Italy; M. Roseman, S. Giannis, R. Martin, Element, United Kingdom; M. Salvo, Politecnico Di Torino, Italy

S12: Materials for Extreme Environments: Ultrahigh Temperature Ceramics (UHTCs) and Nanolaminated Ternary Carbides and Nitrides (MAX Phases)

Novel Processing III

Room: Coquina Salon F

Session Chair: William Pinc, University of Arizona

8:00 AM

(ICACC-S12-053-2014) High temperature solution growth of Cr2AlC MAX-phase single crystals (Invited)
T. Ouisse*, E. Sarigiannidou, O. Chaix-Pluchery, H. Roussel, B. Doisneau, D. Chaussende, Grenoble INP, France

8:20 AM

(ICACC-S12-054-2014) Layer-by-layer growth of Ti3SiC2 thin films
V. Vishnyakov*, J. Colligon, MMU, United Kingdom

8:40 AM

(ICACC-S12-055-2014) Melt Infiltration based on Spark Plasma Sintering Technique: a Novel, Versatile Route for Producing Interpenetrating Ceramic-Metal Composites
L. Hu*, A. Kothalkar, M. O'Neil, I. Karaman, M. Radovic, Texas A&M University, USA

9:00 AM

(ICACC-S12-056-2014) On the Development of Novel MAX-Al Composites
T. Hammann*, R. Johnson, M. F. Riyad, S. Gupta, University of North Dakota, USA

9:20 AM

(ICACC-S12-057-2014) Synthesis and properties of novel UHTC composites matrixes
J. Hu*, M. Tao, Y. Zhou, Science and Technology of Advanced Functional Composite Laboratory, China

9:40 AM

Break

Structure-Property Relationships III

Room: Coquina Salon F

Session Chair: Laura Pienti, CNR

10:00 AM

(ICACC-S12-058-2014) Synthesis and characterization of bulk $(Cr_{1-x}Mn_x)_2AlC$ (0<x<0.2)
H. Gao*, Texas A&M, USA; A. Bandyopadhyay, I. Karaman, Texas A&M University, USA; M. Radovic, Texas A&M, USA; M. Radovic, Texas A&M University, USA

10:20 AM

(ICACC-S12-059-2014) Determination of Thermal Expansion Coefficients of $(Cr_{0.25}, V_{0.75})_3AlC_2$ and $(Cr_{0.25},V_{0.75})_4AlC_3$
J. Halim*, Drexel University, USA; E. N. Caspi, Nuclear Research Center, Israel; T. Cabioch, CNRS-Université de Poitiers-ENSMA, France; P. Eklund, Linköping University, Sweden; M. W. Barsoum, Drexel University, USA

10:40 AM

(ICACC-S12-060-2014) Constitutive Behavior and Fracture Toughness of Ti2AlC under Dynamic Thermo-mechanical Loading
P. Naik Parrikar*, S. Abotula, University of Rhode Island, USA; H. Gao, R. Benitez, M. Radovic, M. Radovic, Texas A&M University, USA; A. Shukla, University of Rhode Island, USA

11:00 AM

(ICACC-S12-061-2014) Interfaces between Shape Memory Alloy (SMA) and MAX Phases: A Comparison Study of Interpenetrating and Bilayer Composites

L. Hu*, A. Kothalkar, Texas A&M University, USA; G. Proust, University of Sydney, Australia; I. Karaman, M. Radovic, Texas A&M University, USA

11:20 AM

(ICACC-S12-062-2014) Effects of concentration modulation on high temperature mechanical properties of silicon carbide/ aluminium nitride ceramics

N. Minhas*, T. Boll, D. H. Anjum, King Abdullah University of Science and Technology, Saudi Arabia; J. Evans, J. Wang, F. Giuliani, Imperial College London, United Kingdom; T. Al-Kassab, King Abdullah University of Science and Technology, Saudi Arabia; L. J. Vandeperre, Imperial College London, United Kingdom

S13: Advanced Ceramics and Composites for Sustainable Nuclear Energy and Fusion Energy

Materials Science and Technologies for Advanced Reactors III

Room: Oceanview

Session Chairs: Lionel Gelebart, CEA; Juergen Knorr, GWT-TUD GmbH

8:00 AM

(ICACC-S13-019-2014) Experimental study and modeling of the mechanical behavior of SiC/SiC composite tubes (Invited)

L. Gelebart*, F. Bernachy, CEA DEN, DMN, SRMA, France; M. Bornert, Université Paris Est, Laboratoire Navier, Ecole des Ponts ParisTech, France; J. Crépin, Mines ParisTech, Centre des Matériaux, UMR CNRS 7633, France

8:30 AM

(ICACC-S13-020-2014) Ceramic nuclear fuel cladding with SiC hollow bodies

J. Knorr*, GWT-TUD GmbH, Germany; A. Kerber, SiCeram GmbH, Germany

8:50 AM

(ICACC-S13-021-2014) A new model explaining silver migration through SiC coatings in TRISO particle fuel

X. Geng*, N. Rohbeck, F. Yang, P. Xiao, University of Manchester, United Kingdom

9:10 AM

(ICACC-S13-022-2014) Extending the Application and Functional Range of SiC Irradiation Temperature Monitors

L. L. Snead*, Y. Katoh, W. Porter, M. A. Fechter, Oak Ridge National Laboratory, USA

9:30 AM

Break

9:50 AM

(ICACC-S13-023-2014) Porous Silicon Carbide Composites Development by Various Fabrication Methods

T. Hinoki*, S. Maeta, M. Lee, K. Shimoda, Kyoto University, Japan

10:10 AM

(ICACC-S13-024-2014) Single-Source-Precursor Synthesis and Processing of Dense Metal-Modified Silicon Carbide Monoliths and Their Behavior in Ultraharsh Environments

E. Ionescu*, S. Kaur, Q. Wen, R. Riedel, Technische Universitaet Darmstadt, Germany

10:30 AM

(ICACC-S13-025-2014) Development of porous SiCf/SiCm composite for industrial use

S. Maeta*, T. Hinoki, Kyoto University, Japan

10:50 AM

(ICACC-S13-026-2014) High temperature water vapor oxidation behavior of various SiC ceramics for nuclear fuel cladding materials

M. Lee*, S. Kondo, T. Hinoki, Kyoto University, Japan

11:10 AM

(ICACC-S13-027-2014) Neutron irradiation effects on textured AlN prepared by slip casting in strong magnetic field

T. S. Suzuki*, National Institute for Materials Science, Japan; K. Yoshida, A. Rueanngoen, Tokyo Institute of Technology, Japan; T. Uchikoshi, National Institute for Materials Science, Japan; T. Yano, Tokyo Institute of Technology, Japan; Y. Sakka, National Institute for Materials Science, Japan

11:30 AM

(ICACC-S13-028-2014) A Unified Predictive Tool for Thermal Conductivity and Mechanical Properties of SiC/SiC Composites

B. Nguyen*, C. H. Henager, Jr., R. J. Kurtz, Pacific Northwest National Laboratory, USA

FS1: Geopolymers, Chemically Bonded Ceramics, Eco-friendly and Sustainable Materials

Synthesis, Processing and Microstructure

Room: Coquina Salon F

Session Chair: Waltraud Kriven, University of Illinois at Urbana-Champaign

1:30 PM

(ICACC-FS1-001-2014) Evidence of a fractal percolating network during geopolymerisation (Invited)

J. Rouyer, P. Steins, T. Piallat, CEA Marcoule, France; O. Diat, ICSM, France; F. Frizon, A. Poulesquen*, CEA Marcoule, France

2:00 PM

(ICACC-FS1-002-2014) Effect of aging and alkali activator on the porous structure of geopolymer (Invited)

P. Steins*, A. Poulesquen, F. Frizon, CEA, France; S. Rossignol, GemH, France

2:30 PM

(ICACC-FS1-003-2014) ^{29}SI NMR Study of the Si/K Molar Ratio Influence on the Geopolymerization Mechanisms (Invited)

A. Autef*, CEC-ENSCI-GEMH, France; E. Joussein, GRESE, France; G. Gasgnier, Imerys Ceramic Centre, France; J. Sanz, I. Sobrados, Instituto de Ciencia de Materiales de Madrid, CSIC, Spain; S. Rossignol, CEC-ENSCI-GEMH, France

3:00 PM

Break

Composites

Room: Coquina Salon F

Session Chair: Hubert Rahier, Vrije Universiteit Brussel

3:20 PM

(ICACC-FS1-004-2014) Influence of fly ash reactivity on geopolymerization behavior: An isothermal conduction calorimetric study

S. K. Nath*, CSIR-National Metallurgical Laboratory, India; S. Mukherjee, Jadavpur University, India; S. Maitra, Govt. College of Engineering & Ceramic Technolog, India; S. Kumar, CSIR-National Metallurgical Laboratory, India

3:40 PM

(ICACC-FS1-005-2014) Production of in situ silicon nitride reinforced geopolymer composites, made by carbothermal reduction and nitridation (Invited)

C. Bagci, Hitit University, Turkey; G. P. Kutyla, W. Kriven*, University of Illinois at Urbana-Champaign, USA

4:00 PM

(ICACC-FS1-006-2014) Flexural creep evaluation of polycrystalline Nextel and single-crystal mullite fiber reinforced pollucite composites using the geopolymerization technique (Invited)

S. Musil*, W. M. Kriven, University of Illinois at Urbana-Champaign, USA; S. T. Mileiko, A. A. Kolchin, Solid State Physics Institute of the Russian Academy of Sciences, Russian Federation

4:30 PM

(ICACC-FS1-007-2014) Properties of SiC/SiC composite prepared by polymer infiltration and pyrolysis process (Invited)
M. Lodhe*, IIT Madtas, India; A. Selvam, FRP Institute, India; A. Udayakumar, National Aerospace Laboratories, India; M. Balasubramanian, IIT Madtas, India

5:00 PM

(ICACC-FS1-008-2014) The Potential of Geopolymer Composites as Castable Refractory Materials
G. P. Kutyla*, W. M. Kriven, University of Illinois at Urbana-Champaign, USA

5:20 PM

(ICACC-FS1-009-2014) Synthesis of Hierarchical Zeolites via in situ Alkalinity Control of Geopolymer Resin (Invited)
D. Medpelli*, D. M. Ladd, J. Seo, D. Seo, Arizona State University, USA

5:40 PM

(ICACC-FS1-010-2014) Sodium Geopolymer Reinforced with Jute Weaves or Fique Fibers (Invited)
K. Sankar*, W. M. Kriven, University of Illinois at Urbana-Champaign, USA

6:00 PM

(ICACC-FS1-011-2014) Tailoring of the porosity in geopolymers (Invited)
E. Papa*, E. Landi, ISTEC-CNR, Italy; P. Benito, A. Vaccari, University of Bologna, Italy; V. Medri, ISTEC-CNR, Italy

S1: Mechanical Behavior and Performance of Ceramics & Composites

Processing II

Room: Coquina Salon D

Session Chairs: Dileep Singh, Argonne National Laboratory; Swapan Das, CSIR-Central Glass & Ceramic Research Institute

1:30 PM

(ICACC-S1-053-2014) Enhancement of oxidation resistance of graphite foam by SiC coating for concentrated solar power application
T. Kim*, D. Singh, Argonne National Laboratory, USA; M. Singh, A. Gyekenyesi, Ohio Aerospace Institute, USA

1:50 PM

(ICACC-S1-054-2014) Melt infiltration of HfSi2 into porous C/C composites
T. Aoki*, Japan Aerospace Exprolation Agency, Japan; T. Yano, K. Wada, S. Umezu, Tokai University, Japan; T. Ogasawara, Japan Aerospace Exprolation Agency, Japan; H. Ohmori, RIKEN, Japan

2:10 PM

(ICACC-S1-055-2014) Fabrication of SiCf/SiC composites by low temperature melt infiltration method using Si-Y alloy
Y. Okubo*, Tokyo Institute of Technology, Japan

2:30 PM

(ICACC-S1-056-2014) Dense matrix formation and high temperature mechanical properties of C/SiC composite by multiple melt infiltration
T. Hara*, M. Ishikawa, Y. Kogo, Tokyo University of Science, Japan; T. Aoki, T. Ogasawara, Japan Aerospace Exploration Agency (JAXA), Japan

2:50 PM

(ICACC-S1-057-2014) Enhanced Diffusion of Oxygen in Alumina Exposed to Water Vapor
J. P. Angle*, P. Morgan, M. L. Mecatney, University of California, Irvine, USA

3:10 PM

Break

3:30 PM

(ICACC-S1-058-2014) Development of high performance proppants for gas and oil recovery
J. R. Hellmann*, B. E. Scheetz, Penn State, USA

3:50 PM

(ICACC-S1-059-2014) Microstructural evaluation in a zirconia–spinel processed by a current-activated pressure-assisted densification method
M. Shirooyeh*, University of Southern California, USA; J. E. Garay, University of California, USA; T. G. Langdon, University of Southern California, USA

4:10 PM

(ICACC-S1-060-2014) High Thermal Conductivity Aluminium Nitride Polycrystals
D. Kata*, J. Lis, AGH University of Science and Technology, Poland

4:30 PM

(ICACC-S1-061-2014) Mechanical Behavior and Ionic conductivity of Sol-gel Derived Silica-Based Porous Organic-Inorganic Hybrid Materials
W. Wang*, H. Ahmadi, J. Kieffer, University of Michigan, USA

4:50 PM

(ICACC-S1-062-2014) Thermo-chemo-mechanical induced expansion and stress in non-stoichiometric oxides
S. Bishop*, Kyushu University, Japan; D. Marrocchelli, Trinity College Dublin, Ireland

5:10 PM

(ICACC-S1-063-2014) Highly Efficient Dye-Sensitized Solar Cells (Invited)
L. Han*, National Institute for Materials Science, Japan

S2: Advanced Ceramic Coatings for Structural, Environmental, and Functional Applications

Advanced Multifunctional Coatings: Processing and Characterization I

Room: Coquina Salon G

Session Chair: Eric Jordan, University of Connecticut; Federico Cernusch, RSE

1:30 PM

(ICACC-S2-032-2014) Design of High Emissivity Coatings for Hypersonic Applications using Plasma Spray (Invited)
R. Trice*, W. Tan, Purdue, USA; C. Petorak, Praxair Surface Technology, USA

2:00 PM

(ICACC-S2-033-2014) High Velocity Flame Spraying of Nano-structured Materials and Related Industrial Applications (Invited)
R. Gadow*, A. Killinger, University of Stuttgart, Germany

2:30 PM

(ICACC-S2-034-2014) Tribological Studies of the Boride-Based Thermal Diffusion Coatings
E. Medvedovski*, J. Jiang, Endurance Technologies Inc., Canada; M. Robertson, NRC - EME, Canada

2:50 PM

(ICACC-S2-035-2014) Effect of microstructure and thickness on the friction and wear behavior of CrSiCN coatings
O. Ajayi*, C. Lorenzo-Martin, S. Torrel, A. Erdemir, Argonne Nat Lab, USA; R. Wei, Southwest Research Institute, USA

3:10 PM

Break

Advanced Thermal Barrier Coatings II: New Compositions, Processing, Testing Development

Room: Coquina Salon G

Session Chair: Peter Mechnich, German Aerospace Center (DLR); Bryan Harder, NASA Glenn Research Center

3:30 PM

(ICACC-S2-036-2014) Structure and Thermal Conductivity of (La1-xGdx)2Zr2O7 TBCs Fabricated by Suspension Plasma Spray
S. Kim*, C. Kwon, Y. Oh, S. Lee, H. Kim, Korea Institute of Ceramic Engineering and Technology, Republic of Korea; B. Jang, National Institute of Materials Science, Japan

3:50 PM

(ICACC-S2-037-2014) La2Zr2O7 (LZ) coating by liquid feedstocks plasma spraying: Role of precursor
W. Duarte*, S. Rossignol, ENSCI-GEMH, France; M. Vardelle, SPCTS, France

4:10 PM

(ICACC-S2-038-2014) Interface chemistry of rare-earth added YSZ films for TBC prepared by EB PVD
Y. Oh*, C. Park, S. Kim, S. Lee, H. Kim, KICET, Republic of Korea; D. Lim, Korea University, Republic of Korea; B. Jang, NIMS, Japan

4:30 PM

(ICACC-S2-039-2014) Non-line-of-sight vapor deposition of thermal barrier coatings
T. M. Rodgers*, H. Zhao, H. Wadley, University of Virginia, USA

4:50 PM

(ICACC-S2-040-2014) Engineered multi-layered thermal barrier coatings for enhanced durability
V. Viswanathan, G. Dwivedi*, M. Flynn, M. Miller, S. Sampath, Stony Brook University, USA

5:10 PM

(ICACC-S2-041-2014) Measuring thermal barrier coating's thermal conductivity on as-manufactured and ex-service components
G. Witz*, M. Esquerre, H. Bossmann, Alstom (Switzerland) ltd, Switzerland

5:30 PM

(ICACC-S2-042-2014) Study on hot corrosion behavior of YSZ-Ta2O5 thermal barrier coating in turbine simulated environment
H. Habibi*, S. Guo, Louisiana State University, USA

S3: 11th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Interfacial Reactions / Fuel Electrode

Room: Coquina Salon H

Session Chairs: Victor Orera, C.S.I.C.; Denis Klemm, sunfire GmbH; Sean Bishop, I2CNER Kyushu University

1:30 PM

(ICACC-S3-039-2014) Solid Oxide Fuel Cell Interface Dynamics and Associated Electrochemical Performance Degradation
C. Zhang, D. R. Mumm*, University of California, Irvine, USA

1:50 PM

(ICACC-S3-040-2014) Process Specific Degradation Analysis of SOFCs
J. Hjelm*, C. Graves, P. Hjalmarsson, Technical University of Denmark, Denmark

2:10 PM

(ICACC-S3-041-2014) Fuel distribution in SOFC stacks derived from the gas conversion impedance
R. R. Mosbæk*, J. Hjelm, DTU Energy Conversion, Denmark; R. Barfod, Haldor Topsøe A/S, Denmark; P. V. Hendriksen, DTU Energy Conversion, Denmark

2:30 PM

(ICACC-S3-042-2014) Interaction of perowskite type lanthanum-calcium-chromites-titanates La1-xCaxCr1-yTiyO3-δ with solid electrolyte materials
C. Belda, E. Dietzen, M. Kusnezoff*, N. Trofimenko, Fraunhofer IKTS, Germany; U. Vasook, Kurt-Schwabe-Institut für Mess- und Sensortechnik e.V., Germany; A. Michaelis, Fraunhofer IKTS, Germany; U. Guth, Kurt-Schwabe-Institut für Mess- und Sensortechnik e.V., Germany

2:50 PM

Break

3:10 PM

(ICACC-S3-043-2014) Nanostructured Electrodes for Solid Oxide Fuel Cells (Invited)
F. Dogan*, A. Buyukaksoy, A. Sarikaya, V. Petrovsky, Missouri University of Science and Technology, USA

3:40 PM

(ICACC-S3-044-2014) Titanate perovskites designed to exsolve Cu-based alloy nanoparticles for SOFC applications
S. M. Bukhari*, D. Neagu, J. Irvine, University of St Andrews, United Kingdom

4:00 PM

(ICACC-S3-045-2014) Ordered Mesoporous cermets as anodes for intermediate temperatures Solid Oxide Fuel Cells
L. Almar, M. Torrell, A. Morata, IREC, Spain; L. Yedra, LENS-MIND-IN2UB, UB, Spain; S. Estradé, TEM-MAT, Scientific and Technological Centers, (CCiT), UB, Spain; B. Colldeforns, IREC, Spain; F. Peiró, LENS-MIND-IN2UB, UB, Spain; T. Andreu, A. Tarancón*, IREC, Spain

4:20 PM

(ICACC-S3-046-2014) Method for Calculating Effective conductivity of SOFC electrodes from 3D tomography images
D. Roussel*, C. L. Martin, D. Jauffrès, University of Washington, USA; A. Lichtner, R. Bordia, Grenoble INP, France

4:40 PM

(ICACC-S3-047-2014) Structure characterization and transport properties of Mn-CeO2 and Fe-CeO2
L. Zhao*, Kyushu university, Japan; J. Hyodo, T. Ishihara, Kyushu University, Japan; K. Sasaki, Kyushu university, Japan; S. Bishop, Kyushu University, Japan

5:00 PM

(ICACC-S3-048-2014) Characterization of Doped Yttrium Chromites as Electrode for Solid Oxide Fuel Cell by Impedance
X. Liu, W. Li*, M. Gong, West Virginia University, USA

5:20 PM

(ICACC-S3-049-2014) Electrocatalysis for Solid Oxide Fuel Cells with Proton-Conducting Oxides in the Anodes
Z. Cheng*, Florida International University, USA

S5: Next Generation Bioceramics and Biocomposites

Bioceramics II

Room: Coquina Salon E

Session Chairs: Christian Bonhomme, UPMC; Florence Babonneau, UPMC/CNRS/Collège de France

1:30 PM

(ICACC-S5-013-2014) Physicochemical description of synthetic and natural biomaterials (Invited)
C. Bonhomme*, UPMC, France

2:00 PM

(ICACC-S5-014-2014) Fractographic Analysis of Broken Ceramic Dental Restorations
G. D. Quinn*, American Dental Association Foundation, USA

2:20 PM

(ICACC-S5-015-2014) Multifunctional Glass Microspheres for Medical Applications (Invited)
D. E. Day*, Missouri University of Science and Technology, USA

2:40 PM

(ICACC-S5-016-2014) Enhanced mechanical properties of ATZ for biomaterials applications
S. Soares*, N. Neves, M. Rodrigues, A. L. Lagoa, J. Calado, INNOVNANO – Materiais Avançados, S.A., Portugal

3:00 PM

Break

3:20 PM

(ICACC-S5-017-2014) Diffusion Coating for Increasing the Biocompatibility of Conventional Metal Implant Alloys (Invited)
J. J. Stiglich*, B. E. Williams, ultramet, USA

3:40 PM

(ICACC-S5-018-2014) One-pot synthesis of monodisperse nanospheres of amorphous calcium phosphate in a simple biomineralization medium (Invited)
A. Tas*, University of Illinois, USA

4:00 PM

(ICACC-S5-019-2014) Multi-physic degradation mechanisms of zirconia and alumina-zirconia composites for implants : interactions between fatigue, wear and hydrothermal ageing (Invited)
L. Gremillard*, L. Preiss, L. Martin, INSA, France; R. Kohal, B. Spies, University of Freiburg, Germany; J. Chevalier, INSA, France

4:20 PM

(ICACC-S5-020-2014) Nanostructural Ca-Aluminate Based Biomaterials
L. Hermansson*, J. Lööf, Doxa AB, Sweden

4:40 PM

(ICACC-S5-021-2014) γ -ray imaging enhancement using nanoscience (Invited)
R. L. Leonard*, J. King, J. Johnson, UTSI, USA; S. Schweizer, South Westphalia University of Applied Sciences, Germany

5:00 PM

(ICACC-S5-022-2014) Antimicrobial Effects of Formable Gelatinous Hydroxyapatite-Calcium Silicate Nanocomposites For Biomedical Applications (Invited)
C. Ko*, University of North Carolina-Chapel Hill, USA

5:20 PM

(ICACC-S5-023-2014) Strengths of Solid State NMR to investigate silicate- and carbonate-substituted hydroxyapatites (Invited)
F. Babonneau*, C. Coelho, UPMC/CNRS/Collège de France, France; D. Marchat, Ecole Nationale Supérieure des Mines, France

S7: 8th International Symposium on Nanostructured Materials and Nanocomposites

Synthesis, Functionalization and Assembly of Metal Oxide Nano Materials

Room: Coquina Salon B

Session Chairs: Kathy Lu, Virginia Tech; Mauro Epifani, CNR-IMM

1:30 PM

(ICACC-S7-058-2014) Developement of microstructure-controlled nanocomposites by use of nano-integrated composite particle (Invited)
H. Muto*, Toyohashi University of Technology, Japan

2:00 PM

(ICACC-S7-007-2014) Enhanced Molecular Adsorption and Photocatalytic Properties of Tinania Nanotubes by Cation Doping (Invited)
T. Sekino*, H. Tsukamoto, Tohoku University, Japan; T. Kim, S. Lee, Sun Moon University, Republic of Korea; S. Tanaka, Tohoku University, Japan

2:30 PM

(ICACC-S7-060-2014) Synthesis and processing of nanostructured YAG ceramics
P. Ramanujam*, B. Vaidhyanthan, J. Binner, Loughborough University, United Kingdom

2:50 PM

(ICACC-S7-061-2014) Growth and Characterization of Eco-friendly Lead-Free Ferroelectric ZnSnO3 Nanostructures
C. Kons*, A. Datta, University of South Florida, USA

3:10 PM

Break

Nanostructured Carbon, CNT and Graphene Composites: Synthesis, Characterization and Application

Room: Coquina Salon B

Session Chairs: Masahiro Yoshimura, National Cheng Kung University; Anuja Datta, University of South Florida

3:20 PM

(ICACC-S7-062-2014) Hydrothermal Carbons: Synthesis and Reaction of Various Carbon Materials under Hydrothermal Conditions (Invited)
M. Yoshimura*, National Cheng Kung University, Taiwan

3:50 PM

(ICACC-S7-063-2014) The use of XAFS to study the internal structure of iron-molybdenum loaded PS-b-P2VP micelles during bimetallic nanoparticle synthesis
A. Riskin*, Hasselt University, Belgium; A. M. Beale, Utrecht University, Netherlands; H. Boyen, Imecvzw, Belgium; A. Vantomme, KULeuven, Belgium; A. Hardy, M. K. Van Bael, Hasselt University, Belgium

4:10 PM

(ICACC-S7-052-2014) Development of Al_2O_3/SiC nanocomposites through a polymer precursor method: processing variables vs. microstructure
Y. Zhu*, J. Binner, H. Wu, B. Vaidhyanathan, Loughborough University, United Kingdom

4:30 PM

(ICACC-S7-065-2014) Pull-out of Rough Multiwall Carbon Nanotubes: a Parametric Study
E. M. Byrne*, M. A. McCarthy, University of Limerick, Ireland; W. A. Curtin, Ecole Polytechnique Federale de Lausanne, Switzerland

4:50 PM

(ICACC-S7-066-2014) Processing and properties of ceramic matrix composites with nano- and micro- reinforcements (Invited)
H. Mei*, L. Cheng, School of Materials Science and Engineering, China

5:20 PM

(ICACC-S7-067-2014) Mechanistic Studies of Graphene-Gold Nanocrystal Hybrids
S. Kodepelly*, H. Cho, J. Wu, J. Ting, National Cheng Kung University, Taiwan; Y. Gogotsi, Drexel University, USA; M. Yoshimura, National Cheng Kung University, Taiwan

5:40 PM

(ICACC-S7-068-2014) Bulk Mechanical Properties of Graphene-Silicon Nitride Ceramic Nanocomposites Densified by Spark Plasma Sintering
K. Schnittker*, L. S. Walker, E. L. Corral, The University of Arizona, USA

6:00 PM

(ICACC-S7-069-2014) Synthesis and Characteristics of Heteroatom-doping Carbon Nanotubes

Q. Zhen*, S. Dong, Y. Kan, Shanghai Institute of Ceramics, Chinese Academy of Sciences, China; Y. Leng, Shanghai Institute of Ceramics, Chineses Academy of Sciences, China

S8: 8th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT8) In Honor of Prof. Stuart Hampshire

Advanced Micro & Composite Processing I

Room: Coquina Salon A

Session Chairs: Michael Halbig, NASA Glenn Research Center; José Ferreira, University of Aveiro

1:30 PM

(ICACC-S8-054-2014) Nanoceramics Processing: Revolutionizing Medicine (Invited)

T. Webster*, Northeastern University, USA

2:00 PM

(ICACC-S8-055-2014) Microfabrication of functional ceramic devices from aqueous suspensions (Invited)

J. M. Ferreira*, S. M. Olhero, A. Kaushal, University of Aveiro, Portugal

2:30 PM

(ICACC-S8-056-2014) Biocompatible TiC/ hydroxyapatite implant materials

K. Balazsi*, MTA Research Centre for Natural Sciences MFA, Hungary; C. Balazsi, Bay Zoltan Nonprofit Ltd for Applied Research ATI, Hungary

2:50 PM

Break

3:10 PM

(ICACC-S8-057-2014) BaTiO3 -ceramics electronic thermal capacity within the fractal and Brownian motion structure analysis relations (Invited)

V. Mitic*, V. V. Paunovioc, L. Kocic, Faculty of Electronic Engineering, University of Nis, Serbia; V. Pavlovic, Institute of Technical Sciences of SASA, Serbia

3:30 PM

(ICACC-S8-058-2014) Mechanical behavior of foamed insulating ceramics

V. R. Salvini*, D. Spinelli, University of Sao Paulo, Brazil; V. C. Pandolfelli, Federal University of São Carlos, Brazil

3:50 PM

(ICACC-S8-059-2014) Electrically Conductive Y-TZP/TiN Ceramic Composites with Reduced Amount of Conductive Phase

K. Krnel*, A. Lazar, T. Kosmac, Jozef Stefan Institute, Slovenia

4:10 PM

(ICACC-S8-060-2014) Electromagnetic properties of silicon nitride based ceramics (Invited)

X. Yin*, L. Zhang, L. Cheng, Northwestern Polytechnical University, China

4:30 PM

(ICACC-S8-061-2014) Sintering, Microstructure and Piezoelectric Properties of Laser-fused K0.5Na0.5NbO3 Glass Microspheres

F. Hmood*, J. Heinrich, Clausthal University of Technology, Germany

S9: Porous Ceramics: Novel Developments and Applications

Processing Methods for Porous Ceramics IV

Room: Coquina Salon C

Session Chair: Joerg Adler, Fraunhofer Institute for Ceramic Technologies and Systems

1:30 PM

(ICACC-S9-020-2014) The manufacture of porous 3D ceramic structures using a modified weaving technique

S. O. Matthews*, J. Matthews, SCF Processing Ltd, Ireland

1:50 PM

(ICACC-S9-021-2014) Novel Cold-set Ceramics for CO2 Capture

H. Sarma*, S. Ogunwumi, Corning Incorporated, USA

2:10 PM

(ICACC-S9-022-2014) Innovations and novel techniques used to manufacture low cost environmentally friendly porous ceramics

J. E. Lancien*, E. E. Branigan, S. Clarke, S. O. Matthews, SCF Processing Ltd, Ireland

2:30 PM

(ICACC-S9-023-2014) Novel Processing Methods for Developing Porous Oxides and Carbide Ceramics

M. F. Riyad*, R. Johnson, T. Hammann, S. Gupta, University of North Dakota, USA

2:50 PM

(ICACC-S9-024-2014) Effects of SiC Particle Size and Sintering Temperature on Microstructure of Porous SiC Ceramics Based on In–Situ Grain Growth

K. Yoshida*, C. See, S. Yokoyama, T. Yano, Tokyo Institute of Technology, Japan

3:10 PM

Break

Modeling and Properties of Porous Ceramics

Room: Coquina Salon C

Session Chair: Randall Stafford, Cummins Inc

3:30 PM

(ICACC-S9-026-2014) Characterization of Porous Ceramics via Micro X-Ray Tomography (Invited)

S. Nickerson*, Corning, Inc., USA; R. Fertig, University of Wyoming, USA; C. Koenke, Bauhaus University, Germany

4:00 PM

(ICACC-S9-027-2014) Reticulated ceramics under bending: the non-linear regime before their catastrophic failure

E. Rezaei, A. Ortona*, SUPSI, Switzerland; S. Gianella, Erbicol, Switzerland

4:20 PM

(ICACC-S9-029-2014) Control of the microstructure of porous oxide materials – Characterization of the thermal properties

C. S. Peyratout*, A. De Marcos, B. Nait Ali, C. Pagnoux, ENSCI, France

4:40 PM

(ICACC-S9-031-2014) Effect of humidity on the thermal conductivity of porous ceramics

B. Nait-Ali*, D. S. Smith, H. Goure-Doubi, J. Tounzi, G. L. Lecomte, S. Rossignol, S. Nichenko, A. Smith, GEMH - ENSCI, France

5:00 PM

(ICACC-S9-033-2014) The stress analysis of porous ceramic support tube in module of ceramic separation membranes

S. Honda*, S. Hashimoto, Y. Daiko, Nagoya Institute of Technology, Japan; T. Eda, H. Watanabe, K. Miyajima, Noritake Corporation Limited, Japan; Y. Iwamoto, Nagoya Institute of Technology, Japan

5:20 PM

(ICACC-S9-035-2014) Preparation and properties of reticulated porous γ-Y2Si2O7 ceramic with high porosity and relatively high strength

Z. Wu*, J. Wang, Institute of Metal Research, Chinese Academy of Sciences, China

S11: Advanced Materials and Innovative Processing Ideas for the Industrial Root Technology

Beyond Critical Technology I

Room: Ponce De Leon

Session Chairs: Taejin Hwang, Korea Institute of Industrial Technology; Kyoung Il Moon, KITECH

1:30 PM

(ICACC-S11-019-2014) Influence of the Field and Current Limit on Flash Sintering at Isothermal Furnace Temperatures (Invited)

J. Francis*, R. Raj, University of Colorado Boulder, USA

2:00 PM

(ICACC-S11-020-2014) Fast infiltration process for in-line continous siliconization

M. Chiodi*, M. Valle, Petroceramics SpA, Italy

2:20 PM

(ICACC-S11-021-2014) Effect of bimodal porous structure on the gas adsorbability of copper oxide fabricated by powder metallurgy process

M. Lee*, Korea Institute of Industrial Technology, Republic of Korea

2:40 PM

(ICACC-S11-022-2014) Flash sintering Remediates Constrained sintering

S. K. Jha*, R. Raj, University of Colorado, USA

3:00 PM

Break

Beyond Critical Technology II

Room: Ponce De Leon

Session Chairs: Wulf Pfeiffer, Fraunhofer IWM; Kouichi Yasuda, Tokyo Institute of Technology

3:20 PM

(ICACC-S11-023-2014) Peen Forming of Ceramics – A New Chipless Shaping Technique (Invited)

W. Pfeiffer*, H. Höpfel, Fraunhofer IWM, Germany

3:50 PM

(ICACC-S11-024-2014) Preparation of CrN-Ni composites by hot press sintering

T. Fukushima*, Extreme Energy-Density Research Institute, Japan

4:10 PM

(ICACC-S11-025-2014) Fabrication and Electrical Properties of Cup-stacked Carbon Nanotubes/polymer Nanocomposite Films as an Electrode Sensor for Brain-wave Detection

M. T. Huynh*, H. Cho, T. Nakayama, S. Nguyen, H. Suematsu, T. Suzuki, W. Jiang, K. Niihara, Nagaoka University of Technology, Japan

4:30 PM

(ICACC-S11-026-2014) Conventional DC magnetron sputtering of Mo/Cu seed layer on high aspect ratio vias by tilting

Y. Song*, T. Yim, KITECH, Republic of Korea; J. Lee, Hongik University, Republic of Korea; J. Kim, Hanyang University, Republic of Korea

4:50 PM

(ICACC-S11-027-2014) Optimization of the industrial synthesis of Silicon Carbide-Reaction Bonded Silicon Nitride (SiC-RBSN)

M. Rosa, Petroceramics SpA, Italy; F. Casaril, Università degli Studi di Milano, Italy; M. Valle*, Petroceramics SpA, Italy; S. Poli, Università degli Studi di Milano, Italy

5:20 PM

Forum on ACE Industrial Root Technology: Industrial Issues and Demands of Novel Materials and its Application

S13: Advanced Ceramics and Composites for Sustainable Nuclear Energy and Fusion Energy

Codes, Standards and Design Methodology

Room: Oceanview

Session Chair: Michael Jenkins, Bothell Engineering and Science Technologies

1:30 PM

(ICACC-S13-029-2014) Developing Codes and Specifications for Ceramic Composites in Nuclear Reactors within the ASME BPV Framework (Invited)

S. T. Gonczy*, Gateway Materials Technology, USA; Y. Katoh, Oak Ridge National Laboratory, USA; M. Mitchell, Eon Consulting, South Africa

2:00 PM

(ICACC-S13-030-2014) Hoop Tensile Strength of Composite Tubes for LWRS Applcations Using Elastomeric Inserts: Draft ASTM Test Method (Invited)

M. G. Jenkins*, Bothell Engineering and Science Technologies, USA; J. A. Salem, NASA Glenn Research Center, USA

2:30 PM

(ICACC-S13-031-2014) Flexural Strength of Composite Tubes for SMR Applications Using Pure Bending: Draft ASTM Test Method

M. G. Jenkins*, Bothell Engineering and Science Technologies, USA; T. L. Nguyen, Levitas Consultants, USA; J. E. Gallego, Bothell Engineering and Science Technologies, USA

2:50 PM

Break

Fuel and Cladding Evolution and Performance Modeling

Room: Oceanview

Session Chair: Veena Tikare, Sandia National Laboratory

3:10 PM

(ICACC-S13-032-2014) Modeling Structural Loading of Used Nuclear Fuel under Conditions of Normal Transportation (Invited)

K. J. Geelhood*, H. Adkins, Pacific Northwest National Laboratory, USA; J. Orchard, U.S. Department of Energy, USA

3:40 PM

(ICACC-S13-033-2014) A micromechanical model of hydrided cladding under long-term storage and transport (Invited)

R. Dingreville*, G. Hansen, Sandia National Laboratories, USA

4:10 PM

(ICACC-S13-034-2014) Hybrid Potts-Phase Field model for coupled microstructural-compositional evolution in U-Pu-Zr nuclear fuels (Invited)

E. R. Homer*, J. J. Cox, Brigham Young University, USA; V. Tikare, Sandia National Laboratories, USA

4:40 PM

(ICACC-S13-035-2014) Simulation of Hydride Formation in Zr-Based Claddings during Dry Storage

V. Tikare*, Sandia National Laboratory, USA

Friday, January 31, 2014

FS1: Geopolymers, Chemically Bonded Ceramics, Eco-friendly and Sustainable Materials

Novel Applications

Room: Coquina Salon F

Session Chair: Claus Rüscher, Leibniz Universität Hannover

8:00 AM

(ICACC-FS1-012-2014) Alkali activation of basalt (Invited)

H. Rahier*, M. Esaifan, J. Wastiels, Vrije Universiteit Brussel, Belgium; H. Khoury, University of jordan, Jordan

8:30 AM

(ICACC-FS1-013-2014) NaBH4-geopolymer composites (Invited)

L. Schomborg, C. H. Rüscher*, J. C. Buhl, Leibniz Universität Hannover, Germany

9:00 AM

(ICACC-FS1-014-2014) Nanoporous Geopolymers and Composites for Environmental Remediation and Catalysis (Invited)

D. Seo*, D. Medpelli, K. Hristovski, R. Sandoval, Arizona State University, USA; C. Wang, D. Ladd, Nanovoltaics, USA

9:20 AM

(ICACC-FS1-015-2014) Microstructural evolution study of geopolymers obtained with feldespars

H. Balmori-Ramirez*, D. Gonzalez-Garcia, L. Tellez-Jurado, National Polytechnic Institute, Mexico

9:40 AM

Break

Alternative Chemistries and Construction Materials

Room: Coquina Salon F

Session Chair: Henry Colorado, Universidad de Antioquia

10:00 AM

(ICACC-FS1-016-2014) Immobilization of Simulated Cesium Radionuclide in CFBC Fly ash-based geopolymer (Invited)

Y. Xu*, Q. Li, H. Cui, Y. Deng, Z. Sun, H. An, J. Zhai, Nanjing University, China

10:30 AM

(ICACC-FS1-017-2014) Alumina-based Phosphate Cement (Invited)

H. A. Colorado*, Universidad de Antioquia, Colombia; J. Yang, University of California, USA

11:00 AM

(ICACC-FS1-018-2014) Alternative Sustainable Materials for use in Portland Cement Concrete (Invited)

J. M. Paris*, C. C. Ferraro, T. G. Townsend, University of Florida, USA; H. D. Deford, Florida Department of Transportation, USA

11:30 AM

(ICACC-FS1-019-2014) Investigation of ettringite binder hydration at early age for Glass Fiber Reinforced Concrete application (Invited)

E. Prud'homme*, J. Georgin, M. Michel, J. Ambroise, LGCIE - INSA Lyon, France

FS4: Ion-Transport Membranes

Ion-Transport Membranes

Room: Coquina Salon B

Session Chairs: Charles Lewinsohn, Ceramatec, Inc.; Neal Sullivan, Colorado School of Mines

8:00 AM

(ICACC-FS4-001-2014) Mixed conducting membranes for oxygen separation (Invited)

H. J. Bouwmeester*, University of Twente, Netherlands

8:30 AM

(ICACC-FS4-002-2014) Oxygen Transport Membranes: Prospects and Challenges (Invited)

M. Søgaard*, A. Kaiser, P. V. Hendriksen, Technical University of Denmark, Denmark

9:00 AM

(ICACC-FS4-003-2014) Composite ceramic membranes for hydrogen separation

N. P. Sullivan*, Colorado School of Mines, USA; P. Chitta, S. Elangovan, Ceramatec, Inc., USA; W. A. Rosensteel, Colorado School of Mines, USA; S. Dierickx, Karlsruhe Institute of Technology, Germany; S. Ricote, S. Babiniec, Colorado School of Mines, USA; A. Manerbino, W. Coors, CoorsTek, Inc., USA

9:20 AM

(ICACC-FS4-004-2014) Thermo-mechanical Characterization of Ba0.5Sr0.5(Co0.8Fe0.2)1-xZrxO3-δ and La5.4WO12-δ Membrane Materials for Carbon Capture Processes

V. K. Stournari*, J. Malzbender, T. Beck, L. Singheiser, Forschungszentrum Jülich GmbH, Germany

9:40 AM

Break

10:00 AM

(ICACC-FS4-005-2014) Advances in Ion Transport Membrane Technology for Syngas Production (Invited)

J. C. Chen*, Ceramatec, Inc., USA; C. F. Miller, M. F. Carolan, T. Foster, Air Products and Chemicals, Inc., USA

10:30 AM

(ICACC-FS4-006-2014) Oxygen permeability and structural stability of BaCo(Fe)O3-δ-based ceramic membranes (Invited)

H. Zhao*, Y. Cheng, N. Xu, Y. Li, X. Liu, Y. Lu, J. Zhang, University of Science and Technology Beijing, China

11:00 AM

(ICACC-FS4-007-2014) Reliability Assessment of Ceramic Membranes for Oxygen Separation

M. K. Ferber*, MTIC, USA; C. Lewinsohn, Ceramatec, Inc., USA

11:20 AM

(ICACC-FS4-008-2014) Manufacturing and Performance of supported BSCF-Membranes for oxygen separation

P. Niehoff*, F. Schulze-Kueppers, S. Baumann, R. Vassen, H. Buchkremer, W. Meulenberg, Forschungszentrum Juelich, Germany

11:40 AM

(ICACC-FS4-009-2014) High Oxygen Permeance ITM from Plasma Sprayed LaSrCoFeO on Porous Metallic Supports

M. Jarligo, R. Vassen*, M. Bram, IEK-1, Forschungszentrum Jülich GmbH, Germany; J. M. Serra, J. Garcia-Fayos, Instituto de Tecnología Química, Universidad Politécnica de Valencia, Spain

12:00 PM

(ICACC-FS4-010-2014) Contribution of Surface Exchange Kinetics on the Mixed Ionic/Electronic Conduction of Fluorite-Perovskite Composite Membranes

J. Joo, Korea Institute of Energy Research, Republic of Korea; M. Shin, University of Science and Technology, Republic of Korea; G. Park, Chungnam National University, Republic of Korea; C. Yoo, J. Yu*, Korea Institute of Energy Research, Republic of Korea

S1: Mechanical Behavior and Performance of Ceramics & Composites

Tribology and Materials

Room: Coquina Salon D

Session Chairs: Vojislav Mitic, University of Nis and ITN SASA Belgrade; Lalit Sharma, Central Glass & Ceramic Research Institute

8:00 AM

(ICACC-S1-064-2014) Practical Aspects of Using Hertzian Ring Crack Initiation to Measure Surface Flaw Densities in Glasses: Influence of Humidity, Friction, and Searched Areas

R. Tandon*, Sandia National Lab, USA; B. Paliwal, George W. Woodruff School of Mechanical Engineering, Georgia Institute of Technology, Atlanta, GA 30332-0405, USA and Unite Mixte Internationale Georgia Tech Lorraine/CNRS, UMI-2958, 57070, France; C. Gibson, Sandia National Lab, USA

8:20 AM

(ICACC-S1-065-2014) Friction induced plastic deformation and cracking of silicon carbide

G. Bian, Loughborough University, United Kingdom; E. Claffey, BENTLEY MOTORS LIMITED, United Kingdom; A. Smith, Alcon components Limited, United Kingdom; H. Wu*, Loughborough University, United Kingdom

8:40 AM

(ICACC-S1-066-2014) Tribological background for the use of Niobium Carbide (NbC) as cutting tools and for wear resistant tribosystems

M. Woydt*, BAM Federal Institute for Materials Research and Testing, Germany

9:00 AM

(ICACC-S1-067-2014) Cavitation erosion behavior of siliconized graphite composite in Water

C. Long*, X. Hong, W. Li, R. Tang, H. Liu, Nuclear Power Institute of China, China

9:20 AM

(ICACC-S1-068-2014) Plasticity Mechanisms in Tantalum and Hafnium Carbides

N. De Leon*, X. Yu, B. Wang, The University of Alabama, USA; C. R. Weinberger, Sandia National Laboratory, USA; G. B. Thompson, The University of Alabama, USA

9:40 AM

Break

10:00 AM

(ICACC-S1-069-2014) The Mechanical Properties of Sandwich Structures based on a Metal Ceramic Core and Fiber Metal Laminates Skin Material

P. Cortes, M. Curl, K. Myers*, Youngstown State University, USA; W. Whitman, B. Hetzel, K. Peters, Fireline, Inc., USA

10:20 AM

(ICACC-S1-070-2014) Superior fracture toughness and flexural strength for Zirconia-TZP nanoceramics

S. Soares, N. Neves*, M. Rodrigues, A. L. Lagoa, J. Calado, INNOVNANO – Materiais Avançados, S.A., Portugal

10:40 AM

(ICACC-S1-071-2014) Study of bulk TiC/C produced via a pressure-less DC focus plasma arc technique (Invited)

R. Mahmoodian*, R. Yahya, M. Hassan, M. Hamdi, University of Malaya, Malaysia

11:00 AM

(ICACC-S1-072-2014) Alkali Treatment of Sugarcane Bagasse to Improve Properties of Sugarcane Bagasse Fibers-Polypropylene Composites

J. Anggono*, N. R. Habibi, S. Sugondo, Petra Christian University, Indonesia

11:20 AM

(ICACC-S1-073-2014) Development of electrical porcelain insulators from ceramic minerals in Uganda

P. W. Olupot*, Makerere University, Uganda; S. Jonsson, Royal Institute of Technology, Sweden; J. K. Byaruhanga, Makerere University, Uganda

S2: Advanced Ceramic Coatings for Structural, Environmental, and Functional Applications

Advanced Multifunctional Coatings II: Processing and Characterization

Room: Coquina Salon G

Session Chair: Doug Wolfe, Pennsylvania State University; Hideki Kakisawa, University of Tokyo

8:00 AM

(ICACC-S2-043-2014) Ceramics Coating by Thermal Nanoparticles Spraying and Filler Rods Feeding

S. Kirihara*, Osaka University, Japan

8:30 AM

(ICACC-S2-044-2014) A Chemical Solution Approach for Thin Films' Growth

G. Zou*, Soochow University, China

8:50 AM

(ICACC-S2-045-2014) Effect of annealing atmosphere on structure, composition and optoelectronic properties of sputtered Cu-Al-O thin films

L. Feng*, Northwestern Polytechnical University, China

9:10 AM

(ICACC-S2-046-2014) Air Plasma sprayed catalytic coatings for DeNOX applications

F. Cernuschi, M. Notaro, RSE, Italy; A. Moscatelli*, Flame Spray, Italy; S. Capelli, RSE, Italy; P. Mor, Flame Spray, Italy

S3: 11th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Interconnects / Coatings

Room: Coquina Salon H

Session Chairs: Federico Smeacetto, Politecnico di Torino; Chien-Kuo Liu, Institute of Nuclear Energy Research

8:00 AM

(ICACC-S3-050-2014) Reactive Air Aluminization with Dip coating process for Planar SOFC Stacks (Invited)

J. Choi*, J. W. Stevenson, J. F. Bonnett, M. Chou, Pacific Northwest National Lab, USA

8:30 AM

(ICACC-S3-051-2014) Interplay Among Chemistry, Microstructure and Functional Properties of Plasma Sprayed Lanthanum Strontium Manganite

S. Han*, Y. Chen, R. J. Gambino, S. Sampath, Stony Brook University, USA

8:50 AM

(ICACC-S3-052-2014) Development of materials systems for SOFC interconnector application

Y. Chen*, A. Yeh, National Tsing Hua University, Taiwan; W. Shong, C. Liu, Institute of Nuclear Energy Research, Taiwan

9:10 AM

(ICACC-S3-053-2014) NTN Composite Interconnect for SOFC

A. Malakhov*, Solid Cell Inc, USA; S. Ghosh, RocCera LLC, USA

9:30 AM

(ICACC-S3-054-2014) Mn1.5 Co1.5 O4 coatings on Crofer22APU obtained by Electrophoretic Deposition (EPD) for application in Solid Oxide Fuel Cells (SOFCs)

A. De Miranda*, Politecnico di Torino, Italy; S. Cabanas-Polo, University of Erlangen-Nuremberg, Germany; F. Smeacetto, M. Salvo, Politecnico di Torino, Italy; A. Boccaccini, University of Erlangen-Nuremberg, Germany; M. Ferraris, Politecnico di Torino, Italy

9:50 AM
Break

Electrolytes and Membranes

Room: Coquina Salon H

Session Chairs: Mihails Kusnezoff, Fraunhofer IKTS; Albert Tarancón, IREC

10:10 AM
(ICACC-S3-055-2014) Oxygen Ion Conductors with Enhanced Properties for SOFC Applications (Invited)
K. Fung*, S. Tsai, C. Ni, C. Liu, National Cheng Kung University, Taiwan

10:40 AM
(ICACC-S3-056-2014) Rational Approach for Designing Cathode Materials for Proton Conducting Electrolytes Operating at 600°C (Invited)
E. Traversa*, King Abdullah University of Science and Technology, Saudi Arabia

11:10 AM
(ICACC-S3-058-2014) Effect of manganese dioxide addition to cubic phase stability, densification and electrical conductivity of scandia-stabilized zirconia
R. Muccillo*, E. Z. Santos, IPEN, Brazil

11:30 AM
(ICACC-S3-057-2014) Enhanced mass diffusion phenomena in highly defective doped ceria
V. Esposito*, D. Ni, Z. He, W. Zhang, J. Glasscock, C. Chatzichristodoulou, S. Ramousse, A. Kaiser, Technical University of Denmark, Denmark

11:50 AM
(ICACC-S3-059-2014) Electro-chemo-mechanical properties of the non-stoichiometric oxide Pr doped ceria
S. Bishop*, Kyushu University, Japan; D. Marrocchelli, Trinity College Dublin, Ireland; D. Chen, J. Kim, H. L. Tuller, Massachusetts Institute of Technology, USA

S5: Next Generation Bioceramics and Biocomposites

Bioceramics III

Room: Coquina Salon E

Session Chairs: Leena Hupa, Åbo Akademi University; Gianluca Malavasi, University of Modena and Reggio Emilia; Thierry Azaïs, Paris 6 University

8:00 AM
(ICACC-S5-025-2014) The role of Cerium oxidation state in bioactive glasses used as biomaterial with antioxidant properties
G. Malavasi*, F. Pincelli, S. Pierini, L. Menabue, University of Modena and Reggio Emilia, Italy; P. Luches, Istituto Nanoscienze, S3, Italy; F. Benedetti, S. Valeri, Università di Modena e Reggio Emilia, Italy

8:20 AM
(ICACC-S5-026-2014) Characterization of bone mineral surface layer (Invited)
T. Azaïs*, S. Von Euw, Y. Wang, G. Laurent, F. Babonneau, N. Nassif, Paris 6 University, France

8:40 AM
(ICACC-S5-027-2014) Improved tetragonal stabilized zirconia for bioceramic applications
S. Soares, N. Neves*, M. Rodrigues, A. L. Lagoa, J. Calado, INNOVNANO – Materiais Avançados, S.A., Portugal

9:00 AM
(ICACC-S5-028-2014) Ultrastructral investigations into the hard and tough shell of a bioluminescent gastropod
C. L. Salinas*, S. Herrera, Univeristy California Riverside, USA; R. Shimada, D. Deheyn, University of California San Diego, USA; D. Kisailus, Univeristy California Riverside, USA

9:20 AM
(ICACC-S5-029-2014) Effects of surface modification of 45S5 bioactive glass on mechanical and in vivo remodeling properties of polymeric biocomposites
A. Harmata*, K. Zienkiewicz, S. Uppuganti, Vanderbilt University, USA; D. Shimko, K. Kalpakci, Medtronic, Inc, USA; J. Nyman, S. Guelcher, Vanderbilt University, USA

9:40 AM
Break

10:00 AM
(ICACC-S5-030-2014) Bioactive Glasses – Composition Matters (Invited)
L. Hupa*, Åbo Akademi University, Finland

10:20 AM
(ICACC-S5-031-2014) Mg incorporation into beta tricalciumphosphate (β*TCP) powder for high temperature phase stability*
R. Sasidharan Pillai*, S. Dirè, V. M. Sglavo, University of Trento, Italy

10:40 AM
(ICACC-S5-032-2014) Evaluation Of Antibacterial Activity Of Metal Oxide Nanoparticles For Water Disinfection Applications
A. Jurewicz*, O. Arslan, S. Mathur, Institute of Inorganic Chemistry, Germany

11:00 AM
(ICACC-S5-033-2014) Formation of alumina layer on Ti-6Al-4V alloy for artificial hip joint application
R. Khanna*, T. Matsushita, T. Kokubo, H. Takadama, Chubu University, Japan

11:20 AM
(ICACC-S5-034-2014) Assessment of hydraulic reactivity and mechanical properties of alpha-tricalcium phosphate:polycaprolactone composite bone cements
G. Alkan*, C. Durucan, METU, Turkey

S8: 8th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT8) In Honor of Prof. Stuart Hampshire

Advanced Micro & Composite Processing II

Room: Coquina Salon A

Session Chairs: Tatsuki Ohji, National Institute of Advanced Industrial Science and Technology (AIST); Yiquan Wu, Alfred University

8:30 AM
(ICACC-S8-062-2014) Carbon Hybrids with Polymer-Derived Ceramics (Invited)
Y. Blum*, SRI International, USA; D. Hourlier, IEMN UMR, France; G. Soraru, Università di Trento, Italy

9:00 AM
(ICACC-S8-063-2014) Thermodynamic Control of Phase Composition and Crystallization of Metal-Containing SiOC Ceramic Nanocomposites
E. Ionescu*, Technische Universitaet Darmstadt, Germany; A. Navrotsky, UC Davis, USA; R. Riedel, Technische Universitaet Darmstadt, Germany

9:20 AM
(ICACC-S8-064-2014) Particle Size Reduction of Ceramic Powders: Wet Grinding
S. D. McManus*, Hockmeyer Equipment, USA

9:40 AM
Break

10:00 AM

(ICACC-S8-065-2014) Colloidal processing of yttria powders: effects of powder dissolution on suspension stability

X. Li*, J. He, J. Li, S. Liu, X. Sun, Northeastern University, China

10:20 AM

(ICACC-S8-066-2014) Isothermal kinetic laws of TiSi2 nitridation

J. Roger*, L. Maillé, M. Dourges, Université Bordeaux 1, Laboratoire des Composites ThermoStructuraux, UMR 5801, France

10:40 AM

(ICACC-S8-067-2014) Glass fiber relaxation at temperatures close and below Tg

Y. Vulfson*, Hollingsworth & Vose, USA

11:00 AM

(ICACC-S8-068-2014) Novel Green Manufacturing Technologies

S. Gupta*, M. F. Riyad, T. Hammann, R. Johnson, University of North Dakota, USA

11:20 AM

(ICACC-S8-069-2014) Potential of ceramics for thermal energy storage using the mixed chloride salt

K. Kita*, T. Nagaoka, T. Ohji, N. Kondo, AIST, National Institute of Advanced Industrial Science and Technology, Japan

S9: Porous Ceramics: Novel Developments and Applications

Processing Methods for Porous Ceramics V

Room: Coquina Salon C

Session Chair: Siobhan Matthews, SCF Processing Ltd

8:00 AM

(ICACC-S9-025-2014) Silicon Nitride Foams Sintered by Pressure-less Spark Plasma

E. Guzi de Moraes*, University of Padova, Italy; D. Li, Stockholm University, Sweden; P. Colombo, University of Padova, Italy; Z. Shen, Stockholm University, Sweden

8:20 AM

(ICACC-S9-028-2014) Highly porous reaction bonded silicon nitride foams; foam strength and reaction bonding parameters

A. Alem*, M. Pugh, R. Drew, Concordia University, Canada

8:40 AM

(ICACC-S9-030-2014) Porous Si3N4 ceramics prepared via nitridation of Si powder

Y. Zeng*, Shanghai Institute of Ceramics, China

9:00 AM

(ICACC-S9-032-2014) Fabrication of Porous Silicon Nitride Ceramics with High Porosity and Mechanical Properties

Z. Xu, J. Yang*, W. Jing, B. Liu, Xi'an Jiaotong University, China

9:20 AM

(ICACC-S9-034-2014) Template sacrificed fabrication of porous SiBCN ceramic foam

F. Zeng, Y. Li, Y. Luo, C. Xu*, Institute of chemistry, Chinese Academy of Sciences, China

9:40 AM

Break

Mechanical Properties of Porous Ceramics

Room: Coquina Salon C

Session Chair: James Zimmermann, Corning Incorporated

10:00 AM

(ICACC-S9-036-2014) Thermal Fatigue Analysis of Active Catalytic Diesel Particulate Filter Regeneration (Invited)

C. Su, Y. Yuan, R. Stafford*, Cummins Inc, USA

10:30 AM

(ICACC-S9-037-2014) The uniaxial tensile response of β-eucryptite with varying levels of microcracking: experiments and modeling

M. Wheeler, A. Pandey, Oak Ridge National Laboratory, USA; G. Bruno, Federal Institute for Materials Research and Testing (BAM), Germany; A. Shyam*, Oak Ridge National Laboratory, USA

10:50 AM

(ICACC-S9-038-2014) Mechanical Modeling of Microcracked Porous Ceramics (Invited)

R. S. Fertig*, University of Wyoming, USA; S. Nickerson, Corning Incorporated, USA

11:20 AM

(ICACC-S9-039-2014) Determination of Elastic Moduli for Porous Ceramic Films Using Nanoindentation and FEM

Z. Chen*, X. Wang, F. Giuliani, A. Atkinson, Imperial College London, United Kingdom

S11: Advanced Materials and Innovative Processing Ideas for the Industrial Root Technology

New Concept & Emerging Technology I

Room: Ponce De Leon

Session Chairs: Changwoo Lee, KITECH; Hong Joo Rhee, Missouri University of Science and Technology

8:20 AM

(ICACC-S11-028-2014) Study of Mechanical Properties of CNT composite Solder Ball

C. Lee*, Y. Ko, J. Bang, KITECH, Republic of Korea

8:40 AM

(ICACC-S11-030-2014) Kinetics of IMC growth induced by Electromigration for Sn-0.7Cu/Cu solder

M. Heo*, Pusan National University, Republic of Korea; K. Cheong, SAMSUNG Electro-Mechanics, Republic of Korea; N. Kang, Pusan National University, Republic of Korea

9:00 AM

(ICACC-S11-031-2014) Joint Property of Sn-Cu-Cr(Ca) High Temperature Solder for High Reliability of Automobile ECU

J. Bang*, KITECH, Republic of Korea

9:20 AM

Break

New Concept & Emerging Technology II

Room: Ponce De Leon

Session Chairs: Derek King, Missouri University of Science and Technology; Inki Min, KITECH

10:00 AM

(ICACC-S11-032-2014) Mechanical Properties of Fusion Welded ZrB_2 containing 20 vol.% ZrC (Invited)

D. King*, G. Hilmas, W. Fahrenholtz, Missouri University of Science and Technology, USA

10:30 AM

(ICACC-S11-033-2014) High Strain Rate Material Testing and Internal State Variable / Damage Model Development on the Eco-Friendly Processed Lightweight Alloys

H. Rhee*, KITECH, Republic of Korea; W. Whittington, M. Horstemeyer, MSU, USA; S. Lee, K. Lee, J. Lee, J. Song, KITECH, Republic of Korea

10:50 AM

(ICACC-S11-034-2014) Development of Glass Fiber Reinforced Polymeric Worm Wheel for Automobile MDPS by Injection Molding Process

G. Kim*, J. Park, G. Yoon, J. Lee, KITECH, Republic of Korea

11:10 AM

(ICACC-S11-035-2014) A Study on the Optimization of Optical and Dimensional Properties Using Hybrid Injection Molding Process for 7 Inch LGP

I. Min*, DanKook University, Republic of Korea; S. Hong, J. Kang, KITECH, Republic of Korea; K. Yoon, DanKook University, Republic of Korea

11:30 AM

(ICACC-S11-036-2014) Observation of the pore size and 3D distribution of the ZrO2 sintered ceramics (Invited)

H. Murayama*, T. Nakayama, Nagaoka University of Technology, Japan; B. Kim, T. Kim, Korea Institute of Industrial Technology, Republic of Korea; H. Suematsu, T. Suzuki, K. Niihara, Nagaoka University of Technology, Japan

12:00 PM

Closing Comments by Sang Mok Lee

S13: Advanced Ceramics and Composites for Sustainable Nuclear Energy and Fusion Energy

Joining and Coating for Reactor Components

Room: Oceanview

Session Chairs: Monica Ferraris, Politecnico di Torino; Stephen Gonczy, Gateway Materials Technology

8:00 AM

(ICACC-S13-036-2014) Joining of SiC Ceramics Using a Laser Beam-Aided Interlayer Forming

Y. Jung*, H. Kim, J. Park, W. Kim, Korea Atomic Energy Research Institute, Republic of Korea

8:20 AM

(ICACC-S13-037-2014) Pressure-less joining materials for silicon carbide based components

M. Ferraris*, M. Salvo, V. Casalegno, S. Rizzo, Politecnico di Torino, Italy; A. Czyrska-Filemonowicz, T. Moskalewicz, AGH-University of Science and Technology, International Centre of Electron Microscopy for Materials Science and Faculty of Metals Engineering and Industrial Computer Science, Poland; M. Reece, Queen Mary, University of London and Nanoforce Technology, United Kingdom; S. Grasso, Queen Mary, University of London and Nanoforce Technology, United Kingdom; D. Blagoeva, P. van den Idsert, NRG, Netherlands

8:40 AM

(ICACC-S13-038-2014) Processing and characterization of diffusion-bonded SiC for nuclear application

T. Koyanagi*, J. O. Kiggans, C. Shih, Y. Katoh, Oak Ridge National Laboratory, USA

9:00 AM

(ICACC-S13-039-2014) Comparison of shear strength of ceramic joints determined by various test methods with small specimens

C. Shih*, J. O. Kiggans, Oak Ridge National Laboratory, USA; H. E. Khalifa, C. A. Back, General Atomics, USA; T. Koyanagi, Y. Katoh, Oak Ridge National Laboratory, USA; M. Ferraris, Politecnico di Torino, Italy

9:20 AM

(ICACC-S13-040-2014) Development of an ASTM C28 Test Standard for the Torsional Shear Strength of Adhesive Bonds for Advanced Ceramics

S. T. Gonczy*, Gateway Materials Technology, USA; Y. Katoh, Oak Ridge National Laboratory, USA; M. Ferraris, Politechnico di Torino, Italy

9:40 AM

Break

Fundamental Science of Microstructural Evolution under Irradiation

Room: Oceanview

Session Chair: Takaaki Koyanagi, Oak Ridge National Laboratory

10:00 AM

(ICACC-S13-041-2014) Understanding Radiation Damage in Zirconium Carbide

C. Ulmer*, A. Motta, Pennsylvania State University, USA; M. Zheng, I. Szlufarska, D. Morgan, University of Wisconsin-Madison, USA

10:20 AM

(ICACC-S13-042-2014) Nanocrystalline ZrN behaviors under intensive radiation conditions

F. Lu, J. Lian*, RPI, USA

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Continuous Silicon Carbide Ceramic Fiber

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Developed using our unique technology, Tyranno Fiber® is a continuous ceramic fiber comprising of Si, Ti or Zr, C and O. Advanced composites reinforced by Tyranno Fiber are expected to play an important role in future environmental fields such as ultra high speed transportation, energy efficiency, CO_2 and NO_x reduction, and purification of exhaust fumes.
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- Metal Matrix Composites (MMC), Ceramic Matrix Composites (CMC)
- Tyranno Fiber Bonded Ceramics (Tyrannohex®)

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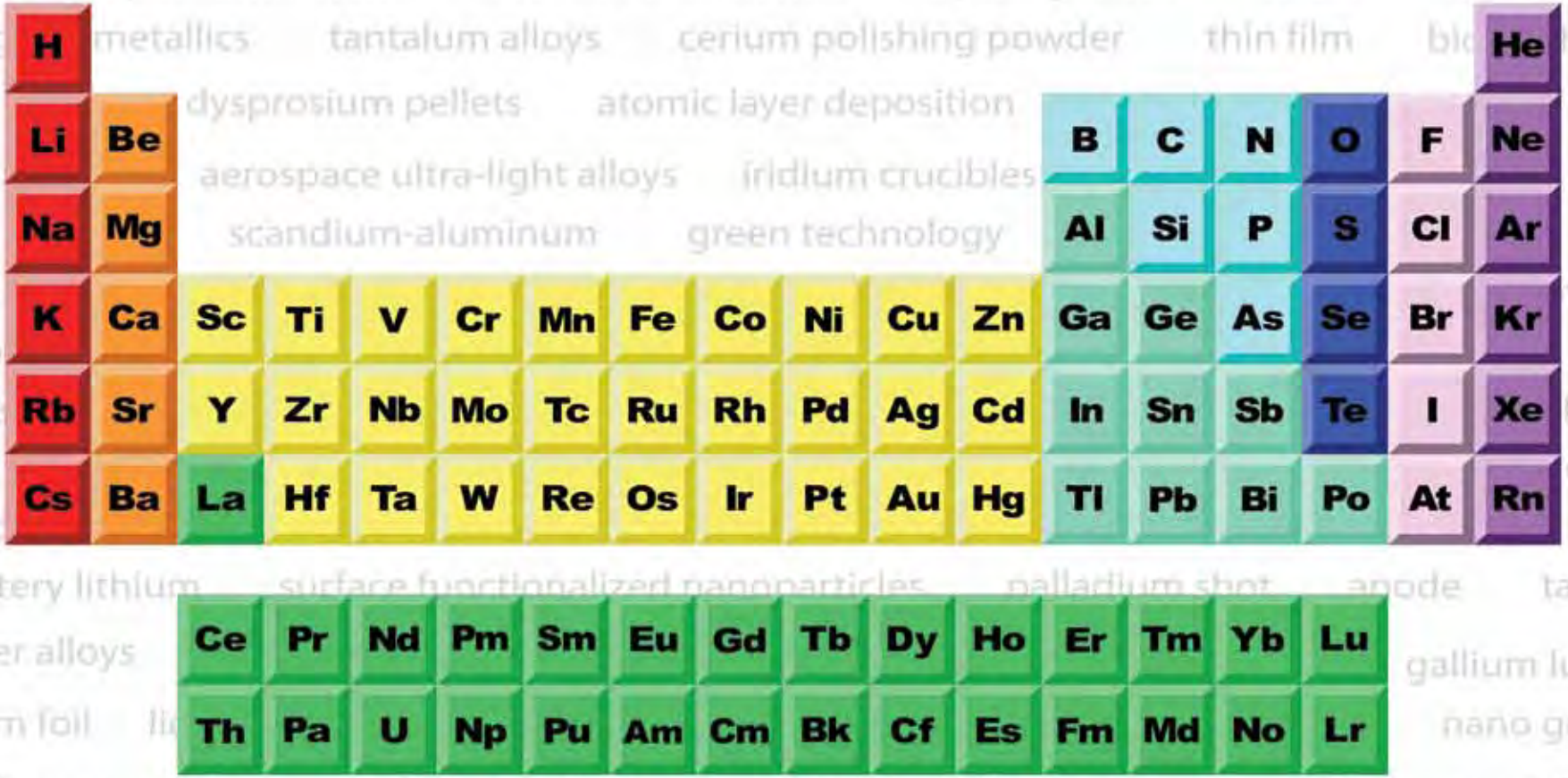

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