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CONFERENCE PROGRAM

Jubilee Celebration!

40TH

INTERNATIONAL CONFERENCE AND EXPOSITION ON

ADVANCED CERAMICS AND COMPOSITES

Hilton Daytona Beach Resort and Ocean Center | Daytona Beach, Florida, USA

January 24–29, 2016



Organized by the Engineering Ceramics Division of The American Ceramic Society

ceramics.org/icacc2016

Visit the Wiley Booth at the 40th ICACC conference!

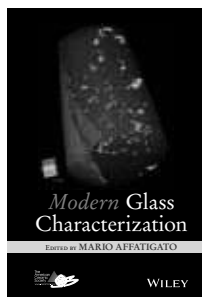
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Come join us right next to the registration area as we celebrate the 40th Annual International Conference & Expo on Advanced Ceramics and Composites

You can also pick up FREE sample copies of the society journals, including a Special Issue of the International Journal of Applied Ceramic Technology to highlight and honor ICACC and its history

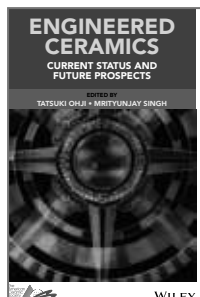
Stop by to check out these new and top books:

Modern Glass Characterization



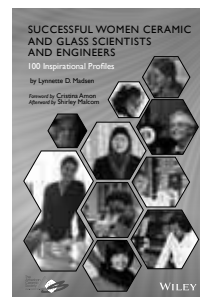
By: *Mario Affatigato*
October 2015
Regular price: \$175.00
ACerS Member Price: \$113.75

Engineered Ceramics: Current Status and Future Prospects



By: *Tatsuki Ohji, Mrityunjay Singh*
January 2016
Regular price: \$175.00
ACerS Member Price: \$113.75

Successful Women Ceramic and Glass Scientists and Engineers: 100 Inspirational Profiles



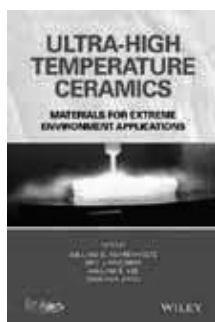
By: *Lynnette Madsen*
January 2016
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Ceramic Matrix Composites: Materials, Modeling and Technology



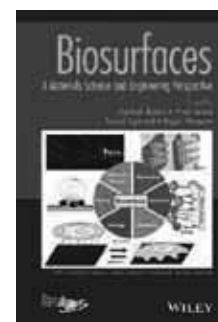
By: *Narottam P. Bansal, Jacques Lamon*
Regular Price: \$199.95
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Ultra High Temperature Ceramics: Materials for Extreme Environment Applications



By: *William G. Fahrenholtz, Eric J. Wuchina, William E. Lee, Yanchun Zhou*
Regular Price: \$179.95
ACerS Member Price: \$116.97

Biosurfaces: A Materials Science and Engineering Perspective



By: *Kantesh Balani, Vivek Verma, Arvind Agarwal, Roger Narayan*
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Na	Mg											Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
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WELCOME

On behalf of the Engineering Ceramics Division and the American Ceramic Society, I warmly welcome you to the 40th International Conference & Exposition on Advanced Ceramics & Composites (ICACC). ICACC continues its strong tradition as the leading international meeting on advanced structural and functional ceramics, composites, and other emerging ceramic materials and technologies.

Since its inception in 1977, this prestigious conference has been organized by The American Ceramic Society (ACerS) and the Society's Engineering Ceramics Division (ECD). Over the years, the conference has experienced tremendous growth in interest and participation from ceramic researchers and developers from national, regional, and global technical communities. This year's meeting continues the tradition and adds a few grand celebrations to mark this, its 40th year.

As a celebration of the 40th anniversary and to recognize the ongoing success of the conference, a special Jubilee Symposium will feature previous ECD Mueller and Bridge Building Award winners, past and current ECD officers, and past ICACC plenary speakers. The presentations will focus on current status and future prospects of the many technical topics related to advanced ceramics and composites as well as the 40-year journey of ceramics and composites from Cocoa Beach to Daytona Beach. On Monday, the Daytona Beach Convention and Visitors Bureau hosts a special "Thank You" reception at Sloppy Joe's located next door in the Ocean Walk Shoppes (wear your name tag for admittance). A special 40th Jubilee Commemorative Book entitled "Engineered Ceramics: Current Status and Future Prospects" will be available. See pages 10-11 for a complete run down of Jubilee Celebratory Events and a history of ICACC.

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 the ICACC 2015 consists of thirteen Symposia and six 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 & Nanotechnology, Advanced Processing & Manufacturing Technologies (APMT), Advanced Materials and Technologies for Thermal Energy Conversion and Rechargeable Energy Storage, and Porous Ceramics. In addition, two key symposia titled Materials for Extreme Environments and Advanced Materials for Sustainable Nuclear Fission and Fusion Energy are back for their sixth year and will continue to build upon past success. The Nuclear Energy symposium is co-sponsored by the ACerS Nuclear and Environmental Technology Division. In addition, Virtual Materials Design and Ceramic Genome and Industrial Root Technologies for Ceramics and Composites will again be part of the strong technical program.

The ICACC 2016 will include six Focused Sessions on emerging technologies: Geopolymers and Advanced Ceramic Materials and Processing for Photonics and Energy are back for 2016. Additional focused sessions returning this year include Additive Manufacturing and 3D Printing Technologies, Crystalline Materials for Electrical, Optical and Medical Applications, as well as Field Assisted Sintering and Related Phenomena at High Temperatures. Two new sessions this year include Hybrid Materials and Processing Technologies and Carbon Nanostructures and 2-D Materials and Composites, with each building upon the successful interactions and excitement generated in previous years. The 5th Global Young Investigator Forum (GYIF) will again be organized and facilitated by a group of our young, up and coming researchers.

Our special thanks go to our sponsors including Wiley, Battelle, GE Global Research Center, Daytona Beach Convention and Visitors Bureau, Foshan NanhaiJingang New Materials Co., Ltd, U.S. Army Research Office, Rauschert Industries, Inc., Fraunhofer IKTS, Hysitron, Tamura Corp., International Journal of Applied Ceramic Technology, Applied Research Center, Saint-Gobain, and American Elements 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.

2016 Program Chair



Andrew Gyekenyesi
Ohio Aerospace Institute/
NASA Glenn Research Center

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Engineering Ceramics Division Leadership

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Chair: Soshu Kirihaara, Osaka University

Chair-Elect: Andrew Gyekenyesi, Ohio Aerospace Institute/NASA Glenn Research Center

Vice Chair/Treasurer: Jingyang Wang, Institute of Metal Research, Chinese Academy of Sciences

Secretary: Manabu Fukushima, National Institute of Advanced Industrial Science & Technology



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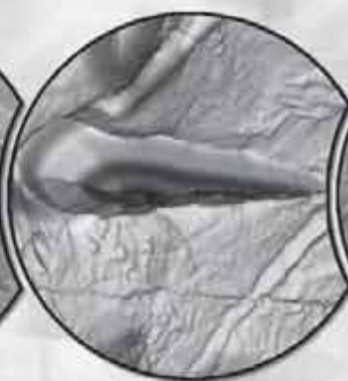
NANOMECHANICAL TEST INSTRUMENTS

QUANTITATIVE MEASUREMENT AT THE NANOSCALE

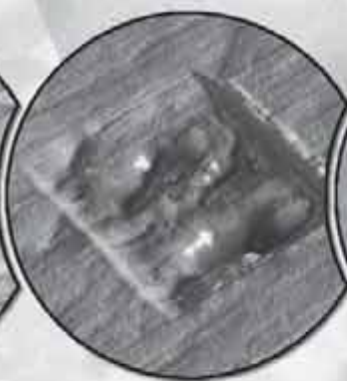
Advancing ceramics research & development through innovative nanomechanical and nanotribological testing technologies



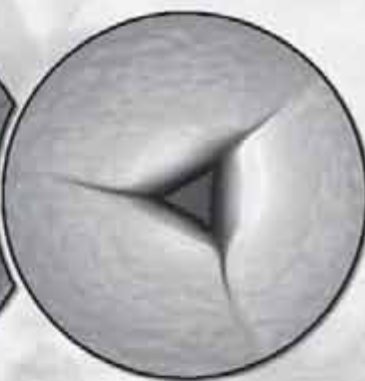
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Schedule At A Glance

	Time	Room
<i>Sunday, January 24, 2016</i>		
Kennedy Space Center Tour (Ticketed Event)	8:00 a.m. – 4:30 p.m.	Hilton – departs from north tower
Conference registration	2:00 p.m. – 7:00 p.m.	Hilton – Coquina Foyer
Member and Publication Center	2:00 p.m. – 7:00 p.m.	Hilton – Coquina Foyer
Speaker ready room	2:00 p.m. – 7:00 p.m.	Hilton – Manatee
Welcome reception	5:30 p.m. – 7:00 p.m.	Hilton – Coquina Foyer
<i>Monday, January 25, 2016</i>		
Conference registration	7:00 a.m. – 6:00 p.m.	Hilton – Coquina Foyer
Member and Publication Center	7:00 a.m. – 6:00 p.m.	Hilton – Coquina Foyer
Speaker ready room	8:00 a.m. – 4:00 p.m.	Hilton – Manatee
Opening awards ceremony & plenary session	8:30 a.m. – 12:00 p.m.	Hilton – D & E
Companion Coffee	9:00 a.m. – 10:30 a.m.	Hilton – Oceanview
Coffee break	10:20 a.m. – 10:40 a.m.	Hilton
Lunch on own	12:00 p.m. – 1:20 p.m.	
Concurrent technical sessions	1:30 p.m. – 5:30 p.m.	Hilton
Coffee break	3:00 p.m. – 3:20 p.m.	Hilton
Special “Thank You” Reception sponsored by Daytona Beach CVB	6:00 p.m. – 7:00 p.m.	Ocean Walk Shoppes – Sloppy Joe’s
Young Professional Network, GGRN, Student Mixer	7:30 p.m. – 9:00 p.m.	Hilton – Oceanview
<i>Tuesday, January 26, 2016</i>		
Conference registration	7:30 a.m. – 6:00 p.m.	Hilton – Coquina Foyer
Member and Publication Center	7:30 a.m. – 6:00 p.m.	Hilton – Coquina Foyer
Speaker ready room	8:00 a.m. – 4:00 p.m.	Hilton – Manatee
Concurrent technical sessions	8:30 a.m. – 12:00 p.m.	Hilton
Coffee break	10:20 a.m. – 10:40 a.m.	Hilton
Exhibitor set-up	12:00 p.m. – 4:00 p.m.	Ocean Center
Lunch on own	12:00 p.m. – 1:20 p.m.	
Concurrent technical sessions	1:30 p.m. – 6:00 p.m.	Hilton
Coffee break	3:00 p.m. – 3:20 p.m.	Hilton
Poster session A set-up	3:00 p.m. – 4:30 p.m.	Ocean Center
Exhibits & poster session A, including reception	5:00 p.m. – 8:00 p.m.	Ocean Center
<i>Wednesday, January 27, 2016</i>		
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	8:00 a.m. – 4:00 p.m.	Hilton – Manatee
Concurrent technical sessions	8:30 a.m. – 12:00 p.m.	Hilton
Coffee break	10:20 a.m. – 10:40 a.m.	Hilton
Lunch on own	12:00 p.m. – 1:20 p.m.	
Student and Young Professional Talk “Survival Skills for Scientists”	12:00 p.m. – 1:15 p.m.	Hilton – Halifax AB

Schedule At A Glance

Concurrent technical sessions	1:30 p.m. – 5:00 p.m.	Hilton
Coffee break	3:00 p.m. – 3:20 p.m.	Hilton
Poster session B set-up	3:00 p.m. – 4:30 p.m.	Ocean Center
Exhibits & poster session B, including reception	5:00 p.m. – 7:30 p.m.	Ocean Center

Thursday, January 28, 2016

Conference registration	7:30 a.m. – 6:00 p.m.	Hilton – Coquina Foyer
Member and Publication Center	7:30 a.m. – 6:00 p.m.	Hilton – Coquina Foyer
Speaker ready room	8:00 a.m. – 4:00 p.m.	Hilton – Manatee
Concurrent technical sessions	8:30 a.m. – 12:00 p.m.	Hilton
Coffee break	10:20 a.m. – 10:40 a.m.	Hilton
Lunch on own	12:00 p.m. – 1:20 p.m.	
Concurrent technical sessions	1:30 p.m. – 5:00 p.m.	Hilton
Coffee break	3:00 p.m. – 3:20 p.m.	Hilton
40th Jubilee Celebratory Dinner (Ticketed Event)	7:00 p.m. – 9:30 p.m.	Hilton – Coquina D & E

Friday, January 29, 2016

Conference registration	8:00 a.m. – 12:00 p.m.	Hilton – Coquina Foyer
Concurrent technical sessions	8:30 a.m. – 12:00 p.m.	Hilton
Coffee break	10:20 a.m. – 10:40 a.m.	Hilton

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
Jubilee Celebratory Dinner

Ocean Center:

Exhibit & Receptions
Poster Sessions

Sloppy Joe's:

Daytona Beach CVB
Thank You Reception

Award and Plenary Speakers

MONDAY, JANUARY 25 – COQUINA D/E

MUELLER AWARD | 9:00 AM



Wadsworth

Jeffrey Wadsworth, president and chief executive officer, Battelle Memorial Institute

Title: *Challenges and Opportunities for 21st Century Research & Development*

Jeffrey Wadsworth is President and CEO of Battelle Memorial Institute, the world's largest nonprofit R&D organization, headquartered in Columbus, Ohio. Wadsworth worked at Stanford, Lockheed, and Lawrence Livermore National Laboratory, prior to joining Battelle in 2002 as part of the White House Transition Planning Office for the Department of Homeland Security (DHS). He was then director of Oak Ridge National Laboratory, and subsequently headed Battelle's Global Laboratory Operations, directing laboratories for the U.S. Department of Energy, DHS, and others. He became Battelle's 8th President & CEO in 2009. Wadsworth earned bachelor's and doctoral degrees at Sheffield University in England and has published nearly 300 scientific papers, one book, and four U.S. patents. He has six honorary doctorates, Fellowships in three technical societies, is a member of the National Academy of Engineering and the Chinese Academy of Engineering, and is the recipient of numerous prizes and awards. He currently is Chairman of the Trustees of The Ohio State University. Wadsworth is helping to lead national efforts to enhance STEM (science, technology, engineering and math) education through the launching of STEM schools and developing state and national networks of STEM schools.

BRIDGE BUILDING AWARD | 9:40 AM



Kim

Hai-Doo Kim, president, Korean Institute of Materials Science

Title: *From Idea to Product: Sustainable Cycle*

Hai-Doo Kim is the president of Korea Institute of Materials Science (KIMS). He received Dr.-Ing from TH Aachen, Germany in 1987. After joining KIMS, he served as the head of ceramic materials lab and vice president of KIMS. He served as the president of Korean Ceramic Society in 2013 and as the president of Korean Union of Chemical Science & Technology Societies in 2014. He is a fellow of American Ceramic Society since 2010 and the academician of World Academy of Ceramics since 2011.

Kim published 133 peer reviewed papers and 54 patents on novel fabrication process of alumina, zirconia, silicon nitride, silicon carbide, porous ceramics and strong/tough ceramics. He managed some national programs. Through the analysis of the megatrend of semiconductor, display, automotive, precision machinery, ferrous and non-ferrous industries in Korea, Kim initiated and managed the national program for the development of the root technology for ceramic materials to be needed in semiconductor, display, automotive, precision machinery, ferrous and non-ferrous industries during 2007-2011. Since 2011, he initiated a national program to develop Ultra High Purity SiC. This program includes developing ultra-high purity SiC powder (above 7 nine grade), sintered parts, single crystal, and devices. This is 10-year program and the annual budget is \$10 million dollars, funded by Korean government and industries.

Kim is the recipient of academic awards from the Minister of Science and Technology, Korea, Korean Ceramic Society, and Grand Prix in Science and Technology, by Governor of Gyeongnam Province, Korea. He served as the chairperson of the International Symposium on Advanced Silicon Based Ceramics and Composites (ISASC) and the 11th PacRim Conference held at Jeju, Korea 2015.

PLENARY SPEAKERS | 10:40 AM



Maier

Joachim Maier, director, Max Planck Institute for Solid State Research in Stuttgart (Germany); head, department of Physical Chemistry of Solids.

Title: *Function Through Defects: From Ceramics to Electrochemistry*

Joachim Maier studied chemistry in Saarbrücken, Germany, and earned his M.S. and Ph.D. in physical chemistry there. He earned his professorial degree (Habilitation) at the University of Tübingen. From 1988 to 1991 he was responsible for the activities on functional ceramics at the MPI for Metals Research in Stuttgart, and from 1988 to 1996 he taught defect chemistry at the Massachusetts Institute of Technology. In 1991 he was appointed Scientific Member of the Max Planck Society, Director at the MPI for Solid State Research and Honorary Professor at the University of Stuttgart. He is the recipient of various prizes and a member of various national and international academies. Maier is Editor-in-Chief of Solid State Ionics. He is on the board of a number of scientific journals, and has been serving on advisory boards of national and international institutions and as president of the International Society for Solid State Ionics.

Maier's major research fields in which he published 700 refereed and highly cited papers, comprise: physical chemistry of the solid state, thermodynamics and kinetics, defect chemistry and transport in solids, ionic and mixed conductors, interfacial effects and electrochemistry. In this context energy transfer and storage are to the fore, leading to a new scientific field nowadays termed "nano-ionics" the conceptual basis of which relies on the aforementioned contributions.

11:20 AM



Correa

Sanjay M. Correa, vice president, GE Aviation

Title: *SiC-SiC Ceramic Matrix Composites in Jet Engines*

Correa leads GE's Ceramic Matrix Composites Program with applications in aircraft engines and heavy-duty gas turbines. He has been with GE for over 30 years. Prior to his current role, Correa was vice president & managing director of the GE India Technology Center. Earlier he was the general manager for Engineering Technologies at GE Aviation; general manager for the Fan, Compressor & Combustor Center of Excellence in GE Aviation's Supply Chain; and global technology leader for Energy & Propulsion Technologies at GE's Global Research Center, with teams in the US, Bangalore, Shanghai and Munich. Correa holds BS, MS and PhD degrees in aerospace engineering from the University of Michigan. He has 15 US patents and over 100 research papers. He is a member of several professional societies and has been a reviewer for several technical journals. Among other external connections, he serves on the Board of Directors of NGS Advanced Fibers (Toyama, Japan).

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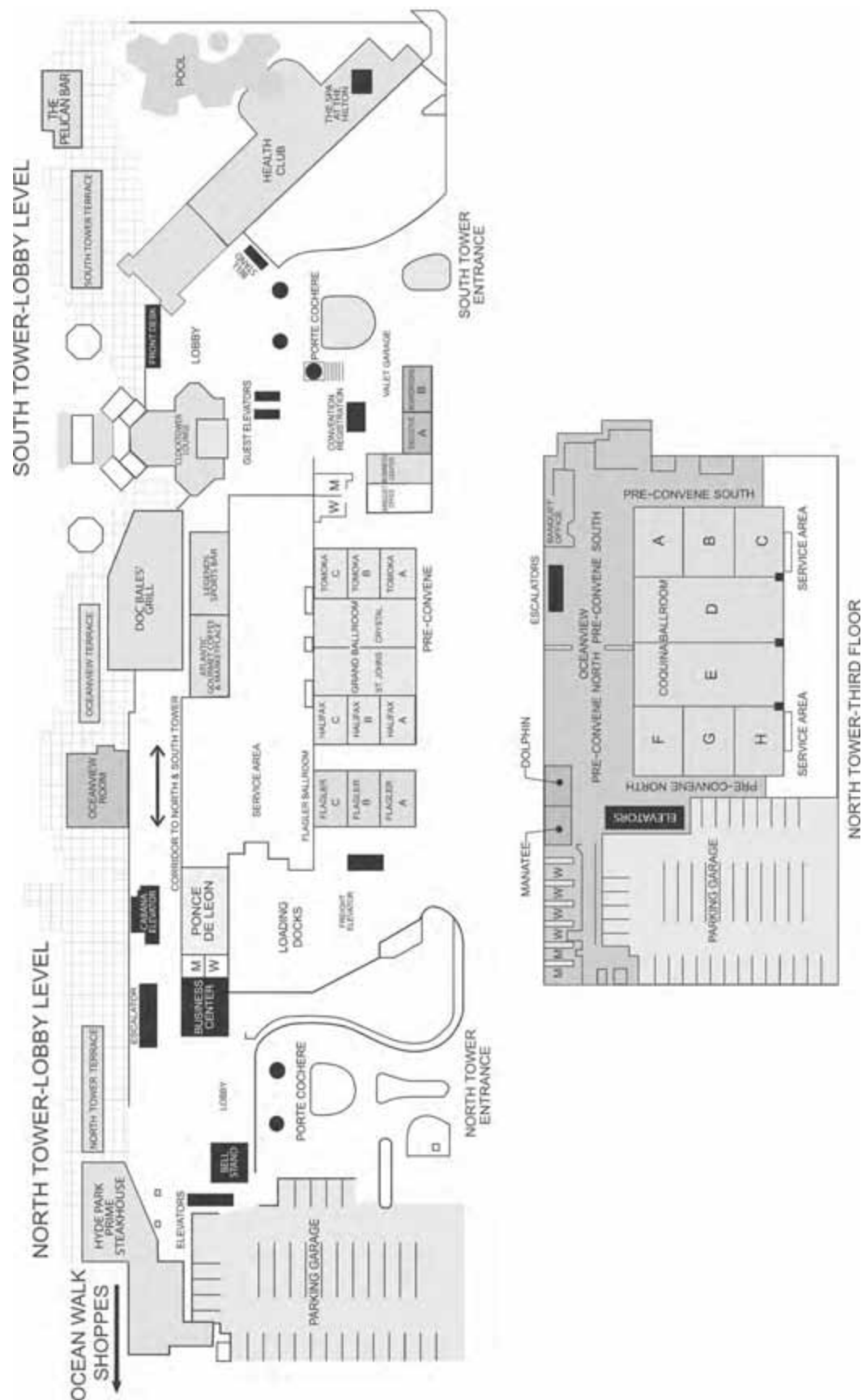
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Hilton Meeting Room Floor Plan



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Special Events

WELCOME RECEPTION

SUNDAY, JANUARY 24 | 5:30 – 7 PM

HILTON – COQUINA FOYER

SPECIAL THANK YOU RECEPTION AT SLOPPY JOE'S

Sponsored by the Daytona Beach Convention and Visitor's Bureau (CVB)

SLOPPY JOE'S IN THE OCEAN WALK SHOPPES



MONDAY, JANUARY 25, 2016

6:00 – 7:00 PM

Your ICACC badge is required for admission.



In the 1930's, Ernest Hemmingway and his circle of literary friends, business leaders and other luminaries gathered regularly at Sloppy Joe's to share ideas and build relationships. This tradition continues as materials scientists, engineers,

researchers and manufacturers from around the world gather over refreshments to share knowledge and state-of-the-art advancements in materials technology, as well as build relationships with colleagues.

The Daytona CVB wants to thank the ACerS Engineering Ceramics Division by hosting ICACC guests in true Florida fashion at the iconic Sloppy Joe's on Monday, January 25, 2016, 6:00p.m.-7:00p.m.

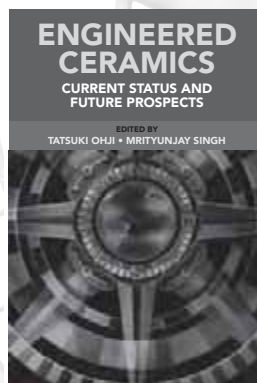
Enjoy complimentary drinks and Florida fare such as conch fritters, Cajun pasta and tropical fruit salad. Stick around the Daytona Beach Ocean Walk afterwards to enjoy dinner on your own.

40TH JUBILEE SYMPOSIUM

MONDAY – WEDNESDAY, JANUARY 25 – 27

HILTON – COQUINA C

A special 40th Jubilee Symposium will feature previous ECD Mueller and Bridge Building Award winners, past and current ECD officers, and past ICACC plenary speakers.



40TH JUBILEE COMMEMORATIVE BOOK

MONDAY – WEDNESDAY,
JANUARY 25 – 27

A special 40th Jubilee Commemorative Book entitled "Engineered Ceramics: Current Status and Future Prospects," chronicles and celebrates the 40-year history of ICACC. All ECD Mueller and Bridge Building Award winners, and past and current ECD Officers were invited to write book chapters. This special edition book will be provided to all full conference registrants. Students, exhibitors and others may purchase at \$87.50 — 50% off list price.

40TH JUBILEE CELEBRATORY DINNER

(TICKETED EVENT)

THURSDAY, JANUARY 28, 2016

7 PM | COQUINA BALLROOM

Celebrate the history and growth of ICACC, from its humble beginnings at Cocoa Beach to present day. Purchase your tickets at the ICACC Registration area by Tuesday, January 26. Be sure to attend this walk through the ages.

EXHIBIT AND POSTER RECEPTIONS

Set aside Tuesday and Wednesday evenings to visit with ceramic companies showcasing products, equipment and services. The Exposition floor also includes two poster sessions and receptions. Hors d'oeuvres and cash bars will be available both days. The Exposition is in the Ocean Center, across the street from the Hilton. See page 12 for a complete list of exhibitors.

THE 5TH GLOBAL YOUNG INVESTIGATOR FORUM

MONDAY – TUESDAY, JANUARY 25 – 26

COQUINA F

The GYIF symposium will help establish global cooperation and networking among young scientists and engineers to approach current and future challenges in ceramic science and technology as well as provide GYIF participants a unique forum at which to showcase their research.

THE ECD GLOBAL YOUNG INVESTIGATOR AWARD

MONDAY, JANUARY 25 | 1:30 PM

COQUINA F



Surojit Gupta, assistant professor, University of North Dakota

Title: *On the Design of Novel Structural Materials for Multifunctional Applications*

Gupta

STUDENT AND YOUNG PROFESSIONALS NETWORKING MIXER

MONDAY, JANUARY 25 | 7:30 – 9 P.M.

OCEANVIEW ROOM

Swap stories with fellow students and young professionals during this relaxed evening event.

STUDENT AND YOUNG PROFESSIONALS LUNCH AND TALK - SURVIVAL SKILLS FOR SCIENTISTS PROF. FEDERICO ROSEI, INRS – EMT, CANADA

WEDNESDAY, JANUARY 27 | NOON – 1:15 P.M.

HALIFAX AB – SPONSORED BY SAINT-GOBAIN



SCHOTT SHOT GLASS CONTEST

TUESDAY, JANUARY 26 | 6:45 – 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!

Exhibit Floor Plan & Booth Information

TUESDAY, JANUARY 26

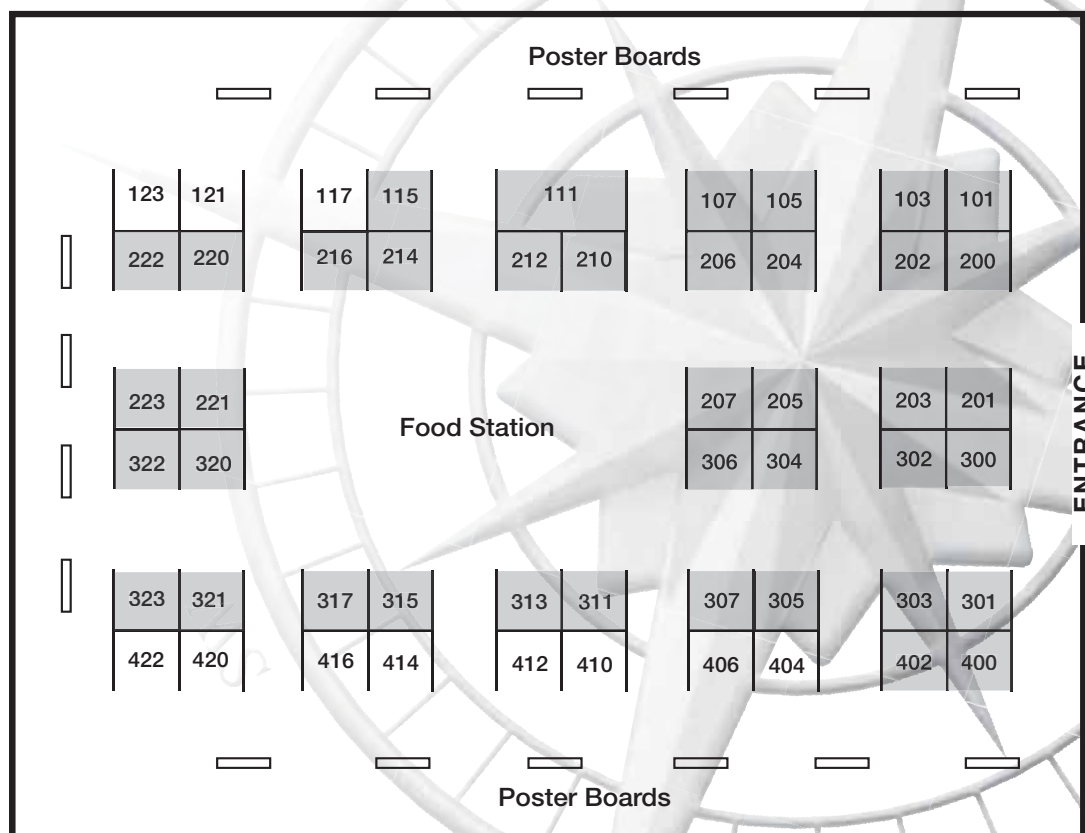
5 – 8 PM

WEDNESDAY, JANUARY 27

5 – 7:30 PM

OCEAN CENTER

(across the street from the Hilton)



Exhibitor

Booth No.

AdValue Technology	322
Alfred University	315
AMERICAN ISOSTATIC PRESSES, INC.	101
AMTECO Incorporated	210
AVS, Inc.	307
C-Therm Technologies Ltd.	220
Centorr Vacuum Industries, Inc.	200
Ceramics Expo	103
CM Furnaces, Inc.	311
Dorst America	301
Element Materials Technology	222
ESL ElectroScience	204
Feel Good, Inc.	402
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Booth No.

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NETZSCH Instruments North America, LLC
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New Tech Ceramics, Inc.
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NGK Spark Plug Co. Ltd.
Niokem Inc
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Superior Technical Ceramics
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TAM Ceramics
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Jubilee CelebrationsTH 40

INTERNATIONAL CONFERENCE AND EXPOSITION ON ADVANCED CERAMICS AND COMPOSITES

Celebrating 40 years of ICACC

JANUARY 17-19, 1977

"Trident C4 first launch". Licensed under Public Domain via Commons



Jim Mueller (middle) was the driving force in the beginning and ongoing success of the Cocoa Beach Conferences. The James I. Mueller Memorial Lecture Award is one of ECD's most prestigious awards and is presented at ICACC.



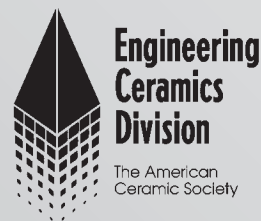
Meeting attendees watching the first Trident missile launch on January 18, 1977, at the NASA Kennedy Space Center.

The Ceramic-Metal Systems Division, led by Jim Mueller, Jerry Persh Jim McCauley, John Buckley, Sy Bortz, and others, initiated the first formal **"Cocoa Beach Conference"** on Composite and Advanced Ceramic Materials in January 1977, where 37 papers (all invited) were presented and ~90 people attended.

JANUARY 21, 1985



Bonnie J. Dunbar, NASA astronaut, Houston, Texas, spoke at the Engineering Ceramics Division banquet in Cocoa Beach, Fla., about her experiences aboard the Space Shuttle D-1 mission, launched last October. After the talk, she presented a Space Shuttle plaque commemorating the flight to the Division.



MAY 8, 1985

Ceramic-Metal Systems division name changed to Engineering Ceramics Division. The first chair of the Engineering Ceramics Division, Frank D. Gac, said the shift in emphasis allowed the division to meet the challenges of advanced material concepts and new engineering systems, including ceramics for energy conversion systems, friction and wear, brittle material design, materials for advanced space transportation, ceramic cutting tools, grinding and abrasives and advanced processing technology.



39th ICACC had more than 14 symposia and several focused sessions with more than 1,000 presentations and 1,100 attendees.

JANUARY, 2016

40th Jubilee commemorative book entitled "*Engineered Ceramics: Current Status and Future Prospects*" is published to chronicle and celebrate the 40-year history of ICACC.

JANUARY, 2015

JANUARY, 2007

Attendance reached 144 – the first year attendance was over 100.

The "Cocoa Beach" meeting moved to its current venue in Daytona Beach. The move was necessary to accommodate the growing number of attendees and exhibitors.

JANUARY, 1990





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knowledge

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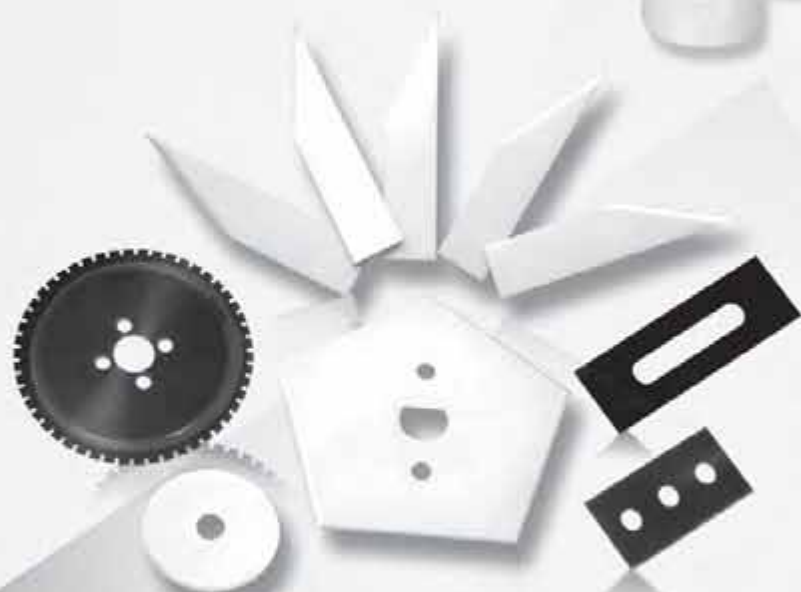
Silicon Nitride Series

Silicon Carbide Series

- Design and manufacture all kinds of precision ceramic valves and pistons for food, pharmaceutical and chemical liquid filling.
- Design and manufacture all kinds of battery moulds and spare parts for porphyzizing powder equipments.
- Design and manufacture all kinds of high precision and ultra thin ceramic cutting tools, which can be used to cut paper, leather, copper sheet and lead sheet, etc.



ADVANCED
CERAMICS



Technical Sessions By Symposium

Session Title	Date	Time	Location
Plenary Session	25-Jan-16	8:30 AM - NOON	Coquina Salon D
40th Jubilee Symposium: Engineered Ceramics: Current Status and Future Prospects			
Engineered Ceramics I	25-Jan-16	1:30 - 5:20 PM	Coquina Salon C
Engineered Ceramics II	26-Jan-16	8:30 - 11:50 AM	Coquina Salon C
Engineered Ceramics III	26-Jan-16	1:30 - 4:50 PM	Coquina Salon C
Engineered Ceramics IV	27-Jan-16	8:30 - 11:50 AM	Coquina Salon C
5th Global Young Investigator Forum			
Nanocomposites and Nanostructured Materials and Energy Generation, Saving and Storage	25-Jan-16	1:30 - 5:30 PM	Coquina Salon F
Applications: Ceramic Sensors and Actuators, Energy Generation and Storage and Processing	26-Jan-16	8:30 - 11:20 AM	Coquina Salon F
Young Researchers' Funding, Mobility and Networks	26-Jan-16	11:20 - 11:40 AM	Coquina Salon F
Advanced Ceramic Materials Prediction, Design and Novel Processing	26-Jan-16	1:30 - 5:40 PM	Coquina Salon F
EMERGING TECHNOLOGIES SYMPOSIUM - Carbon Nanostructures and 2D Materials, and Composites			
Carbon Nanostructures and 2D Materials, and Composites I	28-Jan-16	8:30 AM - NOON	St. John*
Carbon Nanostructures and 2D Materials, and Composites II	28-Jan-16	1:30 - 4:40 PM	Tomoka A*
Focused Session 1: Geopolymers, Chemically Bonded Ceramics, Eco-friendly and Sustainable Materials			
Synthesis, Processing and Microstructure	27-Jan-16	1:30 - 4:00 PM	Coquina Salon E
Mechanical Properties	27-Jan-16	4:00 - 4:50 PM	Coquina Salon E
Sustainable Materials	28-Jan-16	8:30 - 10:40 AM	Coquina Salon E
Composites	28-Jan-16	10:40 AM - 12:20 PM	Coquina Salon E
Novel Applications	28-Jan-16	1:30 - 3:40 PM	Coquina Salon E
Construction Materials	28-Jan-16	3:40 - 4:20 PM	Coquina Salon E
Focused Session 2: Advanced Ceramic Materials and Processing for Photonics and Energy			
Solar Energy I	25-Jan-16	1:30 - 5:20 PM	Coquina Salon G
Solar Energy II	26-Jan-16	8:30 AM - NOON	Coquina Salon G
Multi-functional Materials	26-Jan-16	1:30 - 5:10 PM	Coquina Salon G
Photonics, Electronics, Sensing	27-Jan-16	8:30 - 10:20 AM	Coquina Salon G
Bioimaging and Thermal Sensing	27-Jan-16	10:20 AM - 12:10 PM	Coquina Salon G
Focused Session 4: Additive Manufacturing and 3D Printing Technologies			
Ink Jet Printing	27-Jan-16	1:30 - 3:20 PM	Coquina Salon C
Fused Deposition Modeling	27-Jan-16	3:20 - 4:40 PM	Coquina Salon C
Selective Laser Sintering	28-Jan-16	8:30 - 10:20 AM	Coquina Salon C
Stereolithography	28-Jan-16	10:20 AM - NOON	Coquina Salon C
Emerging Technology	28-Jan-16	1:30 - 4:10 PM	Coquina Salon C
Focused Session 5: Field Assisted Sintering and Related Phenomena at High Temperatures			
Sintering I	28-Jan-16	1:30 - 4:00 PM	Ponce DeLeon
Sintering II	29-Jan-16	8:30 AM - 12:10 PM	Ponce DeLeon
Focused Session 6: Hybrid Materials and Processing Technologies			
Hybrid Materials and Processing Technologies I	28-Jan-16	8:30 - 11:50 AM	Coquina Salon H
Hybrid Materials and Processing Technologies II	28-Jan-16	1:30 - 4:50 PM	Coquina Salon H
Hybrid Materials and Processing Technologies III	29-Jan-16	8:30 - 11:00 AM	Coquina Salon H
SYMPOSIUM 1: Mechanical Behavior and Performance of Ceramics & Composites			
Mechanics and Characterization	25-Jan-16	1:30 - 5:50 PM	Coquina Salon D
Reliability & Life Predictions	26-Jan-16	8:30 AM - 12:10 PM	Coquina Salon D
Processing - Microstructure - Mechanical Properties Correlation I	26-Jan-16	1:30 - 5:10 PM	Coquina Salon D
Processing - Microstructure - Mechanical Properties Correlation II	27-Jan-16	8:30 AM - 12:20 PM	Coquina Salon D
Processing - Microstructure - Mechanical Properties Correlation III	27-Jan-16	1:30 - 4:50 PM	Coquina Salon D
Ceramic Matrix Composites I	28-Jan-16	8:30 AM - NOON	Coquina Salon D
Ceramic Matrix Composites II	28-Jan-16	1:30 - 5:10 PM	Coquina Salon D
Environmental Effects	29-Jan-16	8:30 AM - NOON	Coquina Salon D

* located in Hilton South Tower

Technical Sessions By Symposium

Session Title	Date	Time	Location
<i>SYMPOSIUM 2: Advanced Ceramic Coatings for Structural, Environmental, and Functional Applications</i>			
Thermal Barrier Coatings I	25-Jan-16	1:30 - 5:10 PM	Coquina Salon H
Thermal Barrier Coatings II	26-Jan-16	8:30 - 10:10 AM	Coquina Salon H
CMAS-related TBC Degradation and Mitigation Strategies I	26-Jan-16	10:10 AM - NOON	Coquina Salon H
CMAS-related TBC Degradation and Mitigation Strategies II	26-Jan-16	1:30 - 3:30 PM	Coquina Salon H
Advanced Multifunctional Coatings	26-Jan-16	3:30 - 5:10 PM	Coquina Salon H
Environmental Barrier Coatings	27-Jan-16	8:30 - 11:50 AM	Coquina Salon H
Coatings to Resist Oxidation, Corrosion, and Erosion	27-Jan-16	1:30 - 4:00 PM	Coquina Salon H
<i>SYMPOSIUM 3: 13th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology</i>			
Demonstration / SOFC-Systems	25-Jan-16	1:30 - 5:10 PM	Crystal*
Electrolysis / Interconnects	26-Jan-16	8:30 AM - 12:20 PM	Crystal*
Oxygen Transport / Structure and Conductivity	26-Jan-16	1:30 - 4:40 PM	Crystal*
Electrode Materials / Transport and Reaction Mechanisms	27-Jan-16	8:30 AM - 12:10 PM	Crystal*
Electrode Materials / Sealing Materials	27-Jan-16	1:30 - 5:00 PM	Crystal*
Degradation and Lifetime Prediction / Surface and Interfacial Interactions	28-Jan-16	8:30 AM - 12:10 PM	Crystal*
Thermomechanical Properties / Modeling and Evaluation of Material Properties	28-Jan-16	1:30 - 5:40 PM	Crystal*
Novel Processing and Design	29-Jan-16	8:30 - 11:50 AM	Tomoka C*
<i>SYMPOSIUM 4: Armor Ceramics</i>			
Developments in Transparent and Glass Research	25-Jan-16	1:20 - 3:30 PM	Coquina Salon E
Developments in Synthesis and Processing I	25-Jan-16	3:20 - 6:00 PM	Coquina Salon E
Developments in Synthesis and Processing II	26-Jan-16	8:00 - 11:00 AM	Coquina Salon E
Developments in Materials and Process Modeling I	26-Jan-16	11:00 AM - NOON	Coquina Salon E
Developments in Materials and Process Modeling II	26-Jan-16	1:20 - 1:40 PM	Coquina Salon E
Developments in Materials Characterization, Properties, and Response I	26-Jan-16	1:40 - 5:20 PM	Coquina Salon E
Developments in Materials Characterization, Properties, and Response II	27-Jan-16	8:00 AM - 8:20 AM	Coquina Salon E
Developments in Ballistic Behavior I	27-Jan-16	8:20 - 10:20 AM	Coquina Salon E
Developments in Ballistic Behavior II	27-Jan-16	10:20 AM - NOON	Coquina Salon E
<i>SYMPOSIUM 5: Next Generation Bioceramics and Biocomposites</i>			
Bioceramics I	27-Jan-16	8:30 - 11:40 AM	Coquina Salon F
Bioceramics II	27-Jan-16	1:30 - 4:40 PM	Coquina Salon F
Bioceramics III	28-Jan-16	8:30 - 11:40 AM	Coquina Salon F
Bioceramics IV	28-Jan-16	1:30 - 4:40 PM	Coquina Salon F
Bioceramics V	29-Jan-16	8:30 - 11:40 AM	Coquina Salon F
<i>SYMPOSIUM 6: Advanced Materials and Technologies for Direct Thermal Energy Conversion and Rechargeable Energy Storage</i>			
Sodium Batteries and Thermoelectrics	25-Jan-16	1:30 - 5:30 PM	Tomoka A*
Solid Electrolyte and Solid State Batteries	26-Jan-16	8:30 - 11:30 AM	Tomoka A*
Recent Developments on Lithium Batteries	26-Jan-16	1:30 - 5:10 PM	Tomoka A*
Supercapacitors	27-Jan-16	8:30 - 11:50 AM	Tomoka A*
Direct Thermal Energy Conversion	27-Jan-16	1:30 - 4:40 PM	Tomoka A*
Lithium Batteries and Beyond	28-Jan-16	8:30 - 11:40 AM	Tomoka A*
<i>SYMPOSIUM 7: 10th International Symposium on Nanostructured Materials: Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental and Health Applications</i>			
Nanomaterials for Energy Harvesting Applications I	25-Jan-16	1:30 - 3:20 PM	Coquina Salon A
Nanomaterials for Energy Harvesting Applications II	25-Jan-16	3:20 - 6:00 PM	Coquina Salon A
Nanomaterials for Energy Harvesting Applications III	26-Jan-16	8:30 - 10:30 AM	Coquina Salon A
Nanomaterials for Energy Harvesting Applications IV	26-Jan-16	10:30 AM - 12:20 PM	Coquina Salon A
Advanced Processing and Characterization of Nanomaterials I	26-Jan-16	1:30 - 3:20 PM	Coquina Salon A
Advanced Processing and Characterization of Nanomaterials II	26-Jan-16	3:20 - 6:30 PM	Coquina Salon A
Synthesis, Functionalization & Assembly of Nanostructures I	27-Jan-16	8:30 - 10:30 AM	Coquina Salon A
Synthesis, Functionalization & Assembly of Nanostructures II	27-Jan-16	10:30 AM - 12:30 PM	Coquina Salon A
Synthesis, Functionalization & Assembly of Nanostructures III	27-Jan-16	1:30 - 3:20 PM	Coquina Salon A
Synthesis, Functionalization & Assembly of Nanostructures IV	27-Jan-16	3:20 - 6:10 PM	Coquina Salon A
Nanomaterials for Sensing Applications I	28-Jan-16	8:30 - 10:30 AM	Coquina Salon A

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Technical Sessions By Symposium

Session Title	Date	Time	Location
Nanomaterials for Sensing Applications II	28-Jan-16	10:30 AM - 12:20 PM	Coquina Salon A
Integration & Device Applications of Nanostructures I	28-Jan-16	1:30 - 3:20 PM	Coquina Salon A
Integration & Device Applications of Nanostructures II	28-Jan-16	3:20 - 5:20 PM	Coquina Salon A

SYMPOSIUM 8: 10th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT10)

Functional Ceramics Processing I	25-Jan-16	1:30 - 5:30 PM	Coquina Salon B
Functional Ceramics Processing II	26-Jan-16	8:30 AM - 12:10 PM	Coquina Salon B
Novel Ceramic Processing I	26-Jan-16	1:30 - 5:10 PM	Coquina Salon B
Novel Ceramic Processing II	27-Jan-16	8:30 AM - 12:10 PM	Coquina Salon B
Novel Ceramic Processing III	27-Jan-16	1:30 - 5:10 PM	Coquina Salon B
Novel Ceramic Processing IV	28-Jan-16	8:30 AM - 12:10 PM	Coquina Salon B
Novel Ceramic Processing V	28-Jan-16	1:30 - 4:50 PM	Coquina Salon B

SYMPOSIUM 9: Porous Ceramics: Novel Developments and Applications

Innovative Characterization Methods for Porous Ceramics	27-Jan-16	1:30 - 3:40 PM	Coquina Salon G
Innovations in Processing Methods & Synthesis of Porous Ceramics I	27-Jan-16	3:40 - 4:50 PM	Coquina Salon G
Innovations in Processing Methods & Properties of Porous Ceramics	28-Jan-16	8:30 - 10:10 AM	Coquina Salon G
Membranes and High SSA Ceramics	28-Jan-16	10:10 - 11:50 AM	Coquina Salon G
Membranes and Filters	28-Jan-16	1:30 - 3:20 PM	Coquina Salon G
Innovations in Processing Methods & Synthesis of Porous Ceramics II	28-Jan-16	3:20 - 5:00 PM	Coquina Salon G
Mechanical Properties of Porous Ceramics I	29-Jan-16	8:30 - 10:30 AM	Coquina Salon G
Mechanical Properties of Porous Ceramics II	29-Jan-16	10:30 - 11:30 AM	Coquina Salon G

SYMPOSIUM 10: Virtual Materials (Computational) Design and Ceramic Genome

Novel Computational Methods and Multi-scale Modeling I	25-Jan-16	1:30 - 3:20 PM	Ponce DeLeon
Novel Computational Methods and Multi-scale Modeling II	25-Jan-16	3:20 - 5:30 PM	Ponce DeLeon
Modeling of Innovative Ceramics for Functional Applications I	26-Jan-16	8:30 - 10:20 AM	Ponce DeLeon
Modeling of Innovative Ceramics for Functional Applications II	26-Jan-16	10:20 AM - NOON	Ponce DeLeon
Modeling of Innovative Ceramics for Functional Applications III	26-Jan-16	1:30 - 3:00 PM	Ponce DeLeon
Modeling of Innovative Ceramics for Functional Applications IV	26-Jan-16	3:00 - 4:40 PM	Ponce DeLeon
Modeling of Point Defects, Grain Boundaries and Interfaces I	27-Jan-16	8:30 - 10:20 AM	Ponce DeLeon
Modeling of Point Defects, Grain Boundaries and Interfaces II	27-Jan-16	10:20 AM - NOON	Ponce DeLeon
Modeling of Point Defects, Grain Boundaries and Interfaces III	27-Jan-16	1:30 - 3:20 PM	Ponce DeLeon
Ceramic Genome and Integrated Materials Computational Engineering I	27-Jan-16	3:20 - 5:00 PM	Ponce DeLeon
Ceramic Genome and Integrated Materials Computational Engineering II	28-Jan-16	8:30 - 10:20 AM	Ponce DeLeon
Ceramic Genome and Integrated Materials Computational Engineering III	28-Jan-16	10:20 AM - NOON	Ponce DeLeon

SYMPOSIUM 11: Advanced Materials and Innovative Processing Ideas for the Production Root Technology

New Concept on Root Technology and Surface Technology	28-Jan-16	8:30 - 10:20 AM	Tomoka B*
Shaping Process with Powders	28-Jan-16	10:20 AM - 12:10 PM	Tomoka B*
Coating Process for Low Friction and Energy Solution I	28-Jan-16	1:30 - 3:20 PM	Tomoka B*
Coating Process for Low Friction and Energy Solution II	28-Jan-16	3:20 - 5:20 PM	Tomoka B*
Innovative Process Technology with Enhanced Performance I	29-Jan-16	8:20 - 10:20 AM	Tomoka B*
Innovative Process Technologies with Enhanced Performances II	29-Jan-16	10:20 AM - 12:10 PM	Tomoka B*

SYMPOSIUM 12: Materials for Extreme Environments: Ultrahigh Temperature Ceramics (UHTCs) and Nano-laminated Ternary Carbides and Nitrides (MAX Phases)

Structure-property Relationships of MAX Phases	25-Jan-16	1:30 - 3:20 PM	Tomoka B*
Materials Design, New Composition and Composites I	25-Jan-16	3:20 - 5:20 PM	Tomoka B*
Methods for Improving Damage Tolerance, Oxidation and Thermal Shock Resistance	26-Jan-16	8:30 - 10:20 AM	Tomoka B*
Structure Stability under Extreme Environments I	26-Jan-16	10:20 AM - NOON	Tomoka B*
Novel Processing Methods I	26-Jan-16	1:30 - 3:20 PM	Tomoka B*
New Precursors for Powders, Coatings, and Matrix or Fibers of Composites	26-Jan-16	3:20 - 4:50 PM	Tomoka B*
Novel Characterization Methods and Lifetime Assessment	27-Jan-16	8:30 - 10:20 AM	Tomoka B*
Materials Design, New Composition and Composites II	27-Jan-16	10:20 - 11:50 AM	Tomoka B*
Structure Stability under Extreme Environments II	27-Jan-16	1:30 - 3:20 PM	Tomoka B*
Novel Processing Methods II	27-Jan-16	3:20 - 4:20 PM	Tomoka B*

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Technical Sessions By Symposium

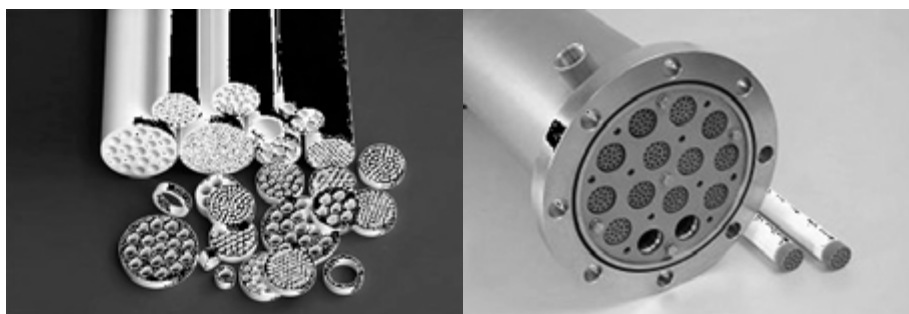
Session Title	Date	Time	Location
<i>SYMPOSIUM 13: Advanced Materials for Sustainable Nuclear Fission and Fusion Energy</i>			
Accident Tolerant Fuels I and Spent Nuclear Fuels	25-Jan-16	1:30 - 5:30 PM	St. John*
Accident Tolerant Fuels II and Fuel Ceramic Science	26-Jan-16	8:30 - 11:50 AM	St. John*
Accident Tolerant Fuels III and Nuclear Graphite	26-Jan-16	1:30 - 4:50 PM	St. John*
Standard, Testing, and Joining	27-Jan-16	8:30 - 11:50 AM	St. John*
Accident Tolerant Fuels IV	27-Jan-16	1:30 - 5:00 PM	St. John*
<i>SYMPOSIUM 14: Crystalline Materials for Electrical, Optical and Medical Applications</i>			
New Direction I	25-Jan-16	1:30 - 3:20 PM	Tomoka C*
Optical Material I	25-Jan-16	3:20 - 5:30 PM	Tomoka C*
Semiconductor I	26-Jan-16	8:30 AM - 12:10 PM	Tomoka C*
Optical Material II	26-Jan-16	1:30 - 3:20 PM	Tomoka C*
New Direction II	26-Jan-16	3:20 - 4:40 PM	Tomoka C*
New Direction III	27-Jan-16	8:30 - 10:20 AM	Tomoka C*
Semiconductor II	27-Jan-16	10:20 AM - 12:10 PM	Tomoka C*
Optical Material III	27-Jan-16	1:30 - 5:00 PM	Tomoka C*
Semiconductor III	28-Jan-16	8:30 - 10:20 AM	Tomoka C*
Piezo/Ferro	28-Jan-16	10:20 AM - 12:10 PM	Tomoka C*
<i>S12: Materials for Extreme Environments: Ultrahigh Temperature Ceramics (UHTCs) and Nano-laminated Ternary Carbides and Nitrides (MAX Phases)</i>			
Materials Design, New Composition and Composite I	26-Jan-15	1:30 - 3:20 PM	Ponce DeLeon
Structural-property Relationships of Existing Systems I	26-Jan-15	3:20 - 5:30 PM	Ponce DeLeon
Structural-property Relationships of Existing Systems II	27-Jan-15	8:30 - 10:20 AM	Ponce DeLeon
Structural Stability under Extreme Environments	27-Jan-15	10:20 AM - 12:10 PM	Ponce DeLeon
Materials Design, New Composition and Composites II	27-Jan-15	1:30 - 3:20 PM	Ponce DeLeon
Methods for Improving Damage Tolerance, Oxidation and Thermal Shock Resistance	27-Jan-15	3:20 - 5:00 PM	Ponce DeLeon
Novel Characterization Methods and Lifetime Assessment	28-Jan-15	8:30 - 10:20 AM	Ponce DeLeon
Novel Processing Methods (Bulk, Coatings and Thin Film)	28-Jan-15	10:20 AM - NOON	Ponce DeLeon
Methods to Improve the Oxidation Resistance and Damage Tolerance	28-Jan-15	1:30 - 3:20 PM	Ponce DeLeon
New Precursors for Powders, Coatings and Matrix or Fibers of Composites	28-Jan-15	3:20 - 5:00 PM	Ponce DeLeon
Structural-property Relationships of Existing Systems III	29-Jan-15	8:30 - 10:20 AM	Ponce DeLeon
Novel Processing Methods	29-Jan-15	10:20 AM - NOON	Ponce DeLeon
<i>S13: International Symposium on Advanced Ceramics and Composites for Sustainable Nuclear Energy and Fusion Energy</i>			
Ceramics and Composites Technology for Accident-tolerant LWR Fuels I	26-Jan-15	1:30 - 5:30 PM	Tomoka B*
Ceramics for Advanced Fission Concepts	27-Jan-15	8:30 - 10:20 AM	Tomoka B*
Joining Technology for Nuclear Ceramics I	27-Jan-15	10:20 AM - NOON	Tomoka B*
Joining Technology for Nuclear Ceramics II	27-Jan-15	1:30 - 3:20 PM	Tomoka B*
Accident Tolerant Nuclear Fuels	27-Jan-15	3:20 - 5:10 PM	Tomoka B*
Thermo-structural Ceramics for Nuclear Systems	28-Jan-15	8:30 AM - NOON	Tomoka B*
SiC Composites R&D for Fusion Energy	28-Jan-15	1:30 - 3:20 PM	Tomoka B*
Ceramic and Glass Technology for Nuclear Waste Management	28-Jan-15	3:20 - 5:00 PM	Tomoka B*
Radiation Effects in Ceramics and Composites	29-Jan-15	8:30 AM - NOON	Tomoka B*
Design Properties and Interactions for Nuclear Ceramics	29-Jan-15	1:30 - 5:20 PM	Tomoka B*

* located in Hilton South Tower



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S1: Mechanical Behavior and Performance of Ceramics & Composites

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, TU Clausthal, 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, Harbin, China

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

Peter Mechnich, German Aerospace Center, Germany; Douglas E. Wolfe, The Pennsylvania State University, USA; Dongming Zhu, NASA Glenn Research Center, USA; Marie-Hélène Vidal-Sétif, ONERA, France; Robert Vaßen, Forschungszentrum Jülich GmbH, Germany; Yutaka Kagawa, University of Tokyo, Japan; Soumendra N. Basu, Boston University, USA; Satoshi Kitaoka, Japan Fine Ceramics Center, Japan; Rodney W. Trice, Purdue University, USA; Bryan Harder, NASA Glenn Research Center, USA; Kang N. Lee, Rolls-Royce Corporation, USA; Eric H. Jordan, The University of Connecticut, USA; Kevin Plucknett, Dalhousie University, Canada; Eugene Medvedovski, Endurance Technologies Inc., Canada; Uwe Schulz, German Aerospace Center, Germany; Ping Xiao, University of Manchester, UK; Federico Cernuschi, Ricerca sul Sistema Energetico, Italy; Yiguang Wang, Northwestern Polytechnical University, China;

S3: 12th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Narottam P. Bansal, NASA Glenn Research Center, USA; Mihails Kusnezoff, Fraunhofer IKTS, Germany; Vincenzo Esposito, DTU Energy Conversion, Denmark; Tatsumi Ishihara, Kyushu University, Japan; Ruey-Yi Lee, Institute of Nuclear Energy Research, Taiwan; Nguyen Q. Minh, Consultant, USA; Prabhakar Singh, University of Connecticut, USA; Federico Smeacetto, Politecnico di Torino, Italy; Jeffrey W. Stevenson, Pacific Northwest National Laboratory, USA; Toshio Suzuki, National Institute of Advanced Industrial Science and Technology (AIST), Japan; Sascha Kühn, Ezelleron, Germany; Scott A. Barnett, Northwestern University, USA; Kristen H. Brosnan, General Electric Global Research, USA;

S4: Armor Ceramics

Jerry LaSalvia, ARL, USA; Jeffrey Swab, ARL, USA; David Stepp, ARO, USA; Andrew Wereszczak, ORNL, USA; Michael Golt, ARL, USA; Steve Kilczewski, ARL, USA; Robert Pavlacka, ARL, USA; Kristopher Behler, ARL, USA

S5: Next Generation Bioceramics and Biocomposites

Roger Narayan, University of North Carolina, USA; Markus Reiterer, Medtronic, Inc., USA; Marta Cerruti, McGill University, Canada; Eva Hemmer, Institut National de la Recherche Scientifique (INRS), Canada; Chikara Ohtsuki, Nagoya University, Japan; Kohei Soga, Tokyo University of Science, Japan; Bikramjit Basu, Indian Institute of Science, India; Akiyoshi Osaka, Okayama University, Japan; Enrica Verné, Politecnico di Torino, Italy

S6: Advanced Materials and Technologies for Direct Thermal Energy Conversion and Rechargeable Energy Storage

H. T. Lin, Guangdong University of Technology, China; Palani Balaya, National University of Singapore, Singapore; Olivier Guillon, Forschungszentrum Jülich, Germany; Shirley Meng, UC San Diego, USA; Valerie Pralong, CNRS CRISMAT, France; Do Kyung Kim, Korea Advanced Institute of Science and Technology, Korea; Tohru Sekino, Osaka University, Japan; Terry Tritt, Clemson University, USA; Anke Weidenkaff, Stuttgart University, Germany; Naoaki Yabuuchi, Tokyo Denki University, Japan; Chi-Chang Hu, National Tsing Hua University, Taiwan

S7: 10th International Symposium on Nanostructured Materials: Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental and Health Applications

Sanjay Mathur, University of Cologne, Germany; Suprakas Sinha Ray, DST/CSIR- National Centre for Nanomaterials, South Africa; Hidehiro Kamiya, Tokyo University of Agriculture and Technology, Japan; Marlies van Bael, Hasselt University, Belgium; Yoon-Bong Hahn, Chonbuk National University, Korea; Menka Jain, University of Connecticut, USA; Ru-Shi Liu, National Taiwan University, Taiwan; Gunnar Westin, Uppsala University, Sweden; Shiping Song, SINAP, Shanghai, China; Jih-Jen Wu, National Cheng Kung University, Taiwan; Emanuel Ionescu, Technical University Darmstadt, Germany;

S8: 10th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT10)

Tatsuki Ohji, National Institute of Advanced Industrial Science and Technology (AIST), Japan, Mrityunjay Singh, Ohio Aerospace Institute, NASA Glenn Research Center, USA; Surojit Gupta, University of North Dakota, USA; Jerzy Lis, AGH University of Science and Technology, Poland; Valerie Wiesner, NASA Glenn Research Center, USA; Eugene Medvedovski, Endurance Technologies Inc., Canada; Richard D. Sisson, Jr., Worcester Polytechnic Institute, USA; Tohru S. Suzuki, National Institute for Materials Science (NIMS), Japan; Satoshi Tanaka, Nagaoka University of Technology, Japan; Yiquan Wu, Alfred University, USA

S9: Porous Ceramics: Novel Developments and Applications

Paolo Colombo, University of Padova, Italy; James W. Zimmermann, Corning Incorporated, USA; Tobias Fey, University of Erlangen-Nuremberg, Germany; Fabrice Rossignol, CNRS Limoges, France; Manabu Fukushima, AIST, Japan; Yuji Iwamoto, Nagoya Institute of Technology, Japan; Alek Pyzik, The Dow Chemical Company, USA; Hutha Sarma, Corning Environmental Technologies, USA; Yuping Zheng, Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

S10: Virtual Materials (Computational) Design and Ceramic Genome

Jingyang Wang, Institute of Metal Research, Chinese Academy of Sciences, China; William J. Weber, University of Tennessee, USA; Gerard L. Vignoles, University of Bordeaux, France; Paul Rulis, University of Missouri-Kansas City, USA; Katsuyuki Matsunaga, Nagoya University, Japan; Liping Huang, Rensselaer Polytechnic Institute, USA; Hans J. Seifert, University of Karlsruhe, Germany; Jian Luo, University of California, San Diego, USA

S11: Advanced Materials and Innovative Processing Ideas for the Production Root Technology

Sangmok Lee, Korea Institute of Industrial Technology, Korea; Tadachika Nakayama, Nagaoka University of Technology, Japan; Kyoung Il Moon, Korea Institute of Industrial Technology, Korea; Ali Erdemir, Argonne National Laboratory, USA; Tim Hosenfeldt, Schaeffler Group, Germany; Jun Akedo, AIST Japan; Rajiv Asthana, University of Wisconsin-Stout, USA; L. K. Sharma, CSIR, India; Byungkoog Jang, NIMS, Japan; Kouichi Yasuda, Tokyo Institute of Technology, Japan; Natalie Sobczak, Foundry Research Institute, Poland

Symposia

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

Yanchun Zhou, Aerospace Research Institute of Material & Processing Technology, China; Jon Binner, University of Birmingham, UK; Erica L. Corral, University of Arizona, USA; Per Eklund, Linköping University, Sweden; William G. Fahrenholtz, Missouri University of Science and Technology, USA; Greg Hilmas, Missouri University of Science and Technology, USA; Sea-Hoon Lee, Korea Institute of Materials Science, Korea; Frederic. Monteverde, Institute of Science and Technology of Ceramics-CNR, Italy; Miladin Radovic, Texas A&M University, USA; Jochen Schneider, Materials Chemistry, RWTH Aachen, Aachen, Germany; Luc J Vandeperre, Imperial College London, UK; Guo-Jun Zhang, Shanghai Institute of Ceramics, CAS, China

S13: Advanced Materials for Sustainable Nuclear Fission and Fusion Energy

Yutai Katoh, Oak Ridge National Laboratory, USA; Josef Matyáš, Pacific Northwest National Laboratory, USA; Christina Back, General Atomics, USA; William Ebert, Argonne National Laboratory, USA; Monica Ferraris, Politecnico di Torino, Italy; Weon-Ju Kim, Korea Atomic Energy Research Institute, Korea; Stefan Neumeier, Forschungszentrum Jülich GmbH, Germany; Takashi Nozawa, Japan Atomic Energy Agency, Japan; David Shoesmith, Western University, Canada; Koroush Shirvan, Massachusetts Institute of Technology, USA; Kumar Sridharan, University of Wisconsin, USA; William Weber, University of Tennessee, USA

S14: Crystalline Materials for Electrical, Optical, and Medical Applications

Kiyoshi Shimamura, National Institute for Materials Science (NIMS), Japan; Noboru Ichinose, Waseda University, Japan; Didier Chaussende, National Center for Scientific Research (CNRS), Grenoble, France; Edith Bournet, Lawrence Berkeley National Laboratory, USA; Gisele Maxwell, Shasta Crystals Inc., USA; Qiang Li, Tsinghua University, China; Alain Largeteau, The Institute for Solid State Chemistry Bordeaux, France; Toru Ujihara, Nagoya University, Japan

FS1: Geopolymers, Chemically Bonded Ceramics, Eco-friendly and Sustainable Materials

Waltraud M. Kriven, University of Illinois at Urbana-Champaign, USA; Kenneth MacKenzie, Victoria University of Wellington, New Zealand; John L. Provis, University of Sheffield, UK; Claus H. Rüschler, Leibniz University of Hannover, Germany; Sylvie Rossignol, GEMH-ENSCI, Limoges, France; Kwesi Sagoe-Crentsil, CSIRO Melbourne, Australia; Hubert Rahier, Vrije Universiteit, Brussel, Belgium; Cengiz Bagci, Hitit University, Turkey; Flavio de Andrade Silva, Pontificia Catolica do Rio de Janeiro, Brazil

FS2: Advanced Ceramic Materials and Processing for Photonics and Energy

Alberto Vomiero, Luleå University of Technology, Sweden; Federico Rosei, University du Quebec, Canada; Yasuhiro Tachibana, RMIT University, Australia; Daniel Milanese, Politecnico di Torino, Italy

FS3: Materials Diagnostics, Nondestructive Evaluation, and Structural Health Monitoring of Ceramic Components and Systems

Joerg Opitz, Fraunhofer Institute for Ceramic Technologies and Systems, Germany; Andrew L. Gyekenyesi, Ohio Aerospace Institute, NASA Glenn Research Center, USA; Klaus-Juergen Wolter, TBD, USA; Peter Czurratis, PVA TePla Analytical Systems GmbH, Germany; Gregory Morscher, University of Akron, USA; Ben Dutton, MTC Limited, UK; Steven M. Shepard, Thermal Wave Imaging, Inc., USA; Cerasela Dinu, West Virginia University, USA; Andreas Buchsbaum, RECENDT, Austria; Igor Meglinski, University of Otago, New Zealand; Viktoriya Lapina, Academy of Science, Belarus

FS 4: Additive Manufacturing and 3-D Printing Technologies

Soshu Kirihiro, Osaka University, Japan; Mrityunjay Singh, Ohio Aerospace Institute, NASA Glenn Research Center, USA; Michael Halbig, NASA Glenn Research Center, USA; Cesar R. Foschini, Universidae Estadual Paulista, Bauru, Brazil; Johannes Homa, Lithoz GmbH, Austria; Miranda Fateri, FH Aachen, Germany; Cynthia Gomes, BAM, Germany

FS5: Field Assisted Sintering and Related Phenomena at High Temperatures

Rishi Raj, University of Colorado at Boulder, USA; Olivier Guillon, Forschungszentrum Jülich, Germany

FS6: Hybrid Materials and Processing Technologies

Kwang Ho Kim, Pusan National University, Korea; Sanjay Mathur, University of Cologne, Germany; Oden L. Warren, Hysitron, USA; Francois Ribot, University of Paris, France; Tohru Sekino, Osaka University, Japan; Daniel Chua, National University of Singapore, Singapore; Zorica Orel, National Institute of Ljubljana, Slovenia; Mohamed Sijaj, UQAM, Canada

Emerging Technologies Symposium: Carbon Nanostructures and 2-D Materials, and Composites

Gustavo Costa, NASA Glenn Research Center, USA; Michael Naguib, Oak Ridge National Laboratory, USA; Talita Mazon, CTI - Centro de Tecnologia da Informação Renato Archer, Brazil; S. Ravi P. Silva, Advanced Technology Institute (ATI), University of Surrey, UK; Jilian N. Freitas, Center for Information of Technology Renato Archer, Brazil; Maria A. Zaghete, Sao Paulo State University, Brazil

40th Jubilee Symposium: Engineered Ceramics—Current Status and Future Prospects

Tatsuki Ohji, AIST, Japan; Mrityunjay Singh, Ohio Aerospace Institute, USA; James W. McCauley, ARL/Johns Hopkins University, USA; Alexander Michaelis, Fraunhofer IKTS, Germany; Donald J. Bray, Morgan Advanced Materials Composites and Defense Systems, USA; Stuart Hampshire, University of Limerick, Ireland; Glenn N. Pfendt, A.O. Smith Protective Coatings Div., USA; Sujanto Widjaja, Corning Incorporated, USA; Jose Arana Varela, Sao Paulo Research Foundation, Brazil

5th Global Young Investigator Forum

Valerie Wiesner, NASA Glenn Research Center, USA; Eva Hemmer, Institut National de la Recherche Scientifique (INRS), Canada; Yakup Gönüllü, University of Cologne, Germany; Manabu Fukushima, National Institute of Advanced Industrial Science and Technology (AIST), Japan; Alex C. Lee, National Cheng Kung University, Taiwan; Gustavo Costa, NASA Glenn Research Center, USA; Mahmood Shirooyeh, University of Southern California, USA; Thomas Fischer, University of Cologne, Germany; Hutha K. Sarma, Corning, USA; Lisong Xiao, University Duisburg-Essen, Germany; David Poerschke, University of California, Santa Barbara, USA; Kathleen Shugart, UES at Air Force Research Lab, USA; Takashi Shirai, Nagoya Institute of Technology, Japan; Ziqi Sun, University of Wollongong, Australia; Jesse Angle, University of Illinois, Urbana-Champaign, USA; Diana Santiago, NASA Glenn Research Center, USA

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SYMPOSIUM
St. Louis, MO USA

APRIL 7 – 11

INTERNATIONAL COMMISSION ON GLASS XXIV
INTERNATIONAL CONGRESS 2016
Shanghai, China

APRIL 17 – 21

MATERIALS CHALLENGES IN ALTERNATIVE &
RENEWABLE ENERGY (MCARE 2016)
Hilton Clearwater Beach Resort
Clearwater, FL USA

APRIL 24 – 26

5TH CERAMIC LEADERSHIP SUMMIT, IN
CONJUNCTION WITH CERAMICS EXPO (CLS 2016)
Cleveland, OH USA

APRIL 26 – 28

2ND CERAMICS EXPO
Cleveland, OH USA

MAY 2 – 4

STRUCTURAL CLAY PRODUCTS DIVISION
North Canton, OH USA

MAY 22 – 26

GLASS & OPTICAL MATERIALS DIVISION
MEETING (GOMD 2016)
The Madison Concourse Hotel and Governor's Club
Madison, WI USA

JUNE 26 – JULY 1

9TH INTERNATIONAL CONFERENCE ON HIGH
TEMPERATURE CERAMIC MATRIX COMPOSITES
(HTCMC 9)
Toronto Marriott Downtown Eaton Centre Hotel
Toronto, Ontario Canada

JULY 11 – 13

7TH ADVANCES IN CEMENT-BASED MATERIALS
(CEMENTS 2016)
Northwestern University
Evanston, IL USA

JULY 28 – JULY 31

INNOVATIONS IN BIOMEDICAL MATERIALS AND
TECHNOLOGIES
Rosemont Hyatt
Chicago, IL USA

JULY 31 – AUGUST 5

GORDON RESEARCH CONFERENCE ON CERAMICS
AND SOLID STATE STUDIES
Mount Holyoke College
MA USA

AUGUST 21 – 26

INTERNATIONAL CONGRESS ON CERAMICS
(ICC6)
Dresden, Germany

OCTOBER 23 – 27

MATERIALS SCIENCE & TECHNOLOGY 2016,
COMBINED WITH ACERS 118TH ANNUAL MEETING
(MS&T16)
Salt Palace Convention Center
Salt Lake City, UT USA

Oral Presenters

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Aydelotte, B.	27-Jan	10:20AM	Coquina Salon E	59	Chen, Z.	25-Jan	2:40PM	Coquina Salon D	35
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B					Chichignoud, G.	26-Jan	10:20AM	Tomoka C	47
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Basu, S.	27-Jan	2:00PM	Coquina Salon H	63	Church, K.	27-Jan	1:30PM	Coquina Salon C	69
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Baudin, C.	25-Jan	3:20PM	Coquina Salon D	35	Claverie, J.	27-Jan	4:30PM	Coquina Salon A	65
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Benetti, D.	26-Jan	9:00AM	Coquina Salon G	47	Consonni, V.	26-Jan	11:40AM	Tomoka C	47
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Bernardo, E.	28-Jan	10:40AM	Coquina Salon F	73	Costakis, W.J.	25-Jan	4:20PM	Coquina Salon E	37
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Blair, V.L.	27-Jan	11:50AM	Coquina Salon G	63	Dari, N.	28-Jan	11:10AM	Ponce DeLeon	75
Blair, V.L.	29-Jan	8:50AM	Ponce DeLeon	85	Deck, C.	26-Jan	1:30PM	St. John	53
Bolon, A.M.	26-Jan	3:20PM	Crystal	49	Delmas, C.	25-Jan	1:30PM	Tomoka A	37
Bordia, R.	28-Jan	10:20AM	Coquina Salon B	74	DeLucca, V.	26-Jan	9:20AM	Coquina Salon E	43
Bourret, E.	27-Jan	1:30PM	Tomoka C	68	Deng, Y.	27-Jan	3:20PM	Tomoka A	65
Bracamonte, L.	26-Jan	2:00PM	Tomoka B	52	Denisova, V.	27-Jan	3:40PM	Coquina Salon H	64
Bruno, G.	27-Jan	2:00PM	Coquina Salon G	66	Diaz Cano, A.	25-Jan	4:40PM	Coquina Salon E	37
Bucko, M.M.	27-Jan	9:20AM	Coquina Salon D	57	Dittmer, R.	28-Jan	2:40PM	Coquina Salon F	79
C					Djemia, P.	27-Jan	3:20PM	Ponce DeLeon	67
Cabioch, T.	25-Jan	1:30PM	Tomoka B	39	Doeff, M.	26-Jan	1:30PM	Tomoka A	50
Callaway, E.B.	28-Jan	10:40AM	Coquina Salon D	72	Drouelle, E.	27-Jan	2:00PM	Tomoka B	67
Cambier, F.J.	28-Jan	1:30PM	Coquina Salon B	80	Du, Y.	28-Jan	9:00AM	Coquina Salon C	77
Campbell, A.A.	26-Jan	4:30PM	St. John	53	Du, Y.	29-Jan	10:50AM	Tomoka C	84
Cancado, L.G.	26-Jan	10:20AM	St. John	76	Dubois, S.	25-Jan	4:40PM	Tomoka B	39
Cannizza, E.	29-Jan	11:40AM	Coquina Salon D	83	Dunn, B.	27-Jan	8:30AM	Tomoka A	59
Carlier, T.	27-Jan	3:20PM	Coquina Salon H	64	Dunnigan, R.	28-Jan	2:00PM	Coquina Salon C	82
Carton, E.	27-Jan	9:20AM	Coquina Salon E	58	Duong, L.K.	25-Jan	4:20PM	Coquina Salon G	41
					Duong, T.	27-Jan	4:40PM	Ponce DeLeon	67

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Dutta, I.	25-Jan	2:30PM	Coquina Salon B	38	Gönüllü, Y.	28-Jan	9:20AM	Coquina Salon H	77
E					Good, B.S.	26-Jan	2:00PM	Ponce DeLeon	52
Edstrom, K.	28-Jan	9:30AM	Tomoka A	73	Goto, T.	28-Jan	4:50PM	Tomoka B	81
Eklund, P.	26-Jan	10:50AM	Ponce DeLeon	45	Gower, L.	28-Jan	9:10AM	Coquina Salon F	72
Elangovan, S.	26-Jan	8:30AM	Crystal	43	Grady, J.E.	28-Jan	8:30AM	Coquina Salon D	71
Eldridge, J.I.	25-Jan	3:20PM	Coquina Salon H	36	Graham-Brady, L.	26-Jan	11:20AM	Coquina Salon E	44
Emami, S.	26-Jan	10:30AM	Coquina Salon D	42	Graule, T.	27-Jan	8:30AM	Coquina Salon B	60
Eom, J.	27-Jan	2:40PM	Coquina Salon B	66	Greenfield, M.	27-Jan	11:00AM	Coquina Salon E	59
Epifani, M.	26-Jan	3:20PM	Coquina Salon G	54	Grohsmeier, R.J.	27-Jan	10:50AM	Tomoka B	61
Epifani, M.	28-Jan	9:00AM	Coquina Salon A	73	Gu, C.	26-Jan	4:50PM	Coquina Salon B	52
Erdemir, A.	28-Jan	1:30PM	Tomoka B	81	Guenster, J.	28-Jan	8:30AM	Coquina Salon C	77
Esposito, V.	26-Jan	2:20PM	Crystal	49	Guillon, O.	28-Jan	3:40PM	Ponce DeLeon	82
Estournes, C.	28-Jan	2:30PM	Ponce DeLeon	82	Guillon, O.	28-Jan	8:30AM	Coquina Salon B	74
Etzold, A.M.	26-Jan	8:20AM	Coquina Salon E	43	Gupta, S.	25-Jan	1:30PM	Coquina Salon F	41
Ewsuk, K.	26-Jan	9:20AM	Coquina Salon D	42	Gupta, S.	27-Jan	2:30PM	Crystal	64
F					Gupta, S.	28-Jan	3:20PM	Coquina Salon C	82
Fahrenwaldt, T.	25-Jan	2:50PM	Coquina Salon B	38	H				
Fan, H.	26-Jan	4:30PM	Coquina Salon H	49	Hahn, Y.	27-Jan	9:00AM	Coquina Salon A	60
Fanchini, G.	25-Jan	1:30PM	Coquina Salon G	41	Halbig, M.C.	26-Jan	3:50PM	Coquina Salon C	48
Fang, G.	27-Jan	11:40AM	Coquina Salon D	57	Halim, J.	28-Jan	11:20AM	St. John	76
Farber, B.	28-Jan	9:20AM	Coquina Salon B	74	Hammel, E.	26-Jan	1:50PM	Coquina Salon D	48
Fellows, J.	27-Jan	11:10AM	St. John	62	Hampshire, S.	26-Jan	1:30PM	Coquina Salon C	48
Ferraris, M.	25-Jan	3:50PM	Coquina Salon D	35	Han, B.	28-Jan	3:50PM	Coquina Salon H	83
Ferriol, M.	26-Jan	2:30PM	Tomoka C	53	Han, Z.	28-Jan	4:50PM	Coquina Salon D	78
Fey, T.	29-Jan	10:30AM	Coquina Salon G	84	Hansen, J.B.	26-Jan	10:00AM	Crystal	43
Fischer, T.	26-Jan	11:20AM	Coquina Salon F	47	Hanzel, O.	27-Jan	2:10PM	Coquina Salon D	63
Fischer, T.	28-Jan	4:30PM	Coquina Salon H	83	Harder, B.J.	27-Jan	10:50AM	Coquina Salon H	58
Fonseca, F.C.	25-Jan	3:40PM	Crystal	36	Hardy, A.	27-Jan	11:00AM	Coquina Salon A	60
Foroughi, P.	25-Jan	5:40PM	Coquina Salon E	37	Hardy, J.S.	28-Jan	11:30AM	Crystal	72
Foroughi, P.	27-Jan	11:10AM	Tomoka B	61	Harrington, G.	28-Jan	4:20PM	Crystal	79
Franchin, G.	26-Jan	4:20PM	Coquina Salon F	54	Harrington, J.A.	26-Jan	1:30PM	Tomoka C	53
Franchin, G.	27-Jan	4:00PM	Coquina Salon C	69	Harris, A.	26-Jan	10:40AM	Coquina Salon H	43
Frandsen, H.L.	28-Jan	2:00PM	Crystal	78	Harris, C.	26-Jan	2:40PM	Tomoka B	52
Frank, J.M.	27-Jan	2:00PM	Tomoka C	68	Harrison, S.	26-Jan	11:30AM	St. John	46
Franssen, G.	28-Jan	2:30PM	Tomoka B	81	Hasegawa, M.	27-Jan	11:10AM	Coquina Salon H	58
Frasnelli, M.	29-Jan	10:50AM	Ponce DeLeon	85	Hasegawa, M.	27-Jan	11:20AM	Tomoka C	62
Frueh, T.	26-Jan	10:20AM	Coquina Salon F	47	Hashimoto, S.	27-Jan	11:00AM	Crystal	58
Fu, Z.	26-Jan	2:50PM	Coquina Salon D	48	Hauch, A.	28-Jan	10:20AM	Crystal	72
Fu, Z.	26-Jan	3:50PM	Coquina Salon D	48	Hausmann, B.	29-Jan	10:20AM	Coquina Salon D	83
Fujioka, H.	28-Jan	8:30AM	Tomoka C	75	Hay, R.	28-Jan	10:20AM	Coquina Salon D	72
Fukui, S.	25-Jan	4:50PM	Coquina Salon B	38	Hay, R.	29-Jan	9:00AM	Coquina Salon D	83
Fukushima, M.	26-Jan	4:00PM	Coquina Salon F	54	He, Y.	28-Jan	8:30AM	Coquina Salon A	73
Fukushima, M.	27-Jan	11:20AM	Coquina Salon C	57	Heinze, S.	26-Jan	9:10AM	Coquina Salon H	42
Fukushima, M.	28-Jan	8:50AM	Coquina Salon G	74	Hemmer, E.	27-Jan	11:20AM	Coquina Salon G	63
G					Hemmer, E.	27-Jan	2:20PM	Coquina Salon F	64
Gadea, C.	27-Jan	2:40PM	Coquina Salon C	69	Henager, C.	27-Jan	10:20AM	St. John	62
Gadea, C.	29-Jan	11:10AM	Tomoka C	84	Hennicke, J.	29-Jan	9:30AM	Ponce DeLeon	85
Gao, H.	25-Jan	2:40PM	Tomoka B	39	Hermansson, L.	27-Jan	9:40AM	Coquina Salon F	59
Gao, P.	26-Jan	11:00AM	Coquina Salon A	45	Hernandez, E.	27-Jan	2:40PM	Ponce DeLeon	67
Gao, P.	26-Jan	2:40PM	Crystal	49	Hill, M.D.	26-Jan	11:20AM	Coquina Salon H	43
Gaubicher, J.	25-Jan	3:50PM	Tomoka A	37	Hinoki, T.	29-Jan	11:20AM	Coquina Salon D	83
Ge, L.	27-Jan	2:50PM	Crystal	64	Hogan, J.D.	27-Jan	8:40AM	Coquina Salon E	58
Gedamu, D.M.	26-Jan	5:50PM	Coquina Salon A	51	Homa, J.	28-Jan	10:20AM	Coquina Salon C	77
Gehrke, H.	26-Jan	10:50AM	Tomoka A	44	Honda, S.	28-Jan	11:20AM	Tomoka B	75
Gelbstein, Y.	25-Jan	4:50PM	Crystal	37	Honda, S.	29-Jan	8:30AM	Coquina Salon G	84
Gell, M.	25-Jan	2:40PM	Coquina Salon H	36	Honda, S.	29-Jan	9:10AM	Coquina Salon G	84
Gentile, M.	26-Jan	3:50PM	St. John	53	Hong, S.	28-Jan	1:30PM	Coquina Salon H	82
Gerczak, T.J.	27-Jan	4:00PM	St. John	68	Honma, T.	25-Jan	4:40PM	Tomoka A	37
Ghadbeigi, L.	26-Jan	11:10AM	Tomoka A	44	Hosenfeldt, T.	28-Jan	3:20PM	Tomoka B	81
Ghosh, S.	27-Jan	2:00PM	Coquina Salon B	66	Hotta, M.	28-Jan	2:20PM	Coquina Salon C	82
Ghosh, S.	27-Jan	4:10PM	Coquina Salon B	66	Hu, Q.	27-Jan	3:50PM	Ponce DeLeon	67
Goddard, W.A.	26-Jan	1:20PM	Coquina Salon E	50	Huang, L.	25-Jan	1:30PM	Coquina Salon E	37
Gogotsi, Y.	25-Jan	3:20PM	Tomoka B	39	Huang, W.	26-Jan	9:20AM	Coquina Salon G	47
Gogotsi, Y.	27-Jan	9:00AM	Tomoka A	59	Huang, X.	26-Jan	2:00PM	St. John	53
Gogotsi, Y.	28-Jan	1:30PM	Tomoka A	81	Hug, G.A.	26-Jan	10:20AM	Ponce DeLeon	45
Gokcekaya, O.	29-Jan	10:40AM	Coquina Salon F	84	Hupa, L.	27-Jan	11:00AM	Coquina Salon F	59
Golt, M.	26-Jan	4:00PM	Coquina Salon E	50	Hwang, T.	27-Jan	2:00PM	Coquina Salon A	65
Gonczy, S.T.	27-Jan	9:00AM	St. John	62	Hwang, T.	29-Jan	9:40AM	Tomoka B	85
Gönüllü, Y.	28-Jan	11:40AM	Coquina Salon A	73	ijima, M.	28-Jan	2:40PM	Coquina Salon A	79

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Imanaka, N.	26-Jan	11:10AM	Tomoka C	47	Kong, J.	26-Jan	11:00AM	Crystal	43
Ionescu, E.	26-Jan	4:10PM	Tomoka B	53	Kowalski, B.	25-Jan	3:50PM	Coquina Salon F	41
Ionescu, E.	28-Jan	2:00PM	Coquina Salon A	79	Koyanagi, T.	27-Jan	2:20PM	St. John	68
Ishihara, T.	27-Jan	8:30AM	Crystal	58	Krause, A.	26-Jan	11:00AM	Coquina Salon H	43
Ishikawa, T.	27-Jan	3:20PM	Coquina Salon B	66	Kravchenko, O.	25-Jan	4:50PM	Coquina Salon D	36
Iwamoto, Y.	28-Jan	11:30AM	Coquina Salon G	74	Krenkel, W.	26-Jan	9:30AM	Coquina Salon C	42
Iwaya, M.	28-Jan	9:00AM	Tomoka C	76	Kriven, W.M.	26-Jan	1:30PM	Coquina Salon D	48
J					Kriven, W.M.	28-Jan	3:20PM	Coquina Salon E	82
Jabbari, M.	28-Jan	2:20PM	Coquina Salon G	80	Krogstad, J.A.	27-Jan	10:40AM	Coquina Salon D	57
Jacobsen, G.	25-Jan	2:50PM	St. John	40	Kroll, P.	26-Jan	1:30PM	Ponce DeLeon	52
Jaiswal, A.	26-Jan	2:00PM	Crystal	49	Kroll, P.	28-Jan	10:50AM	Ponce DeLeon	75
Jang, S.	27-Jan	9:40AM	Coquina Salon D	57	Kubota, Y.	26-Jan	11:40AM	Coquina Salon A	45
Jenkins, M.G.	27-Jan	8:30AM	St. John	62	Kuentz, L.	27-Jan	3:20PM	Coquina Salon C	69
Jenkins, M.G.	27-Jan	9:20AM	St. John	62	Kumar, R.	26-Jan	1:50PM	Coquina Salon H	49
Jia, W.	28-Jan	3:50PM	Coquina Salon C	82	Kumar, R.	28-Jan	2:20PM	Coquina Salon D	78
Jiang, C.	26-Jan	1:30PM	Coquina Salon H	49	Kunka, C.	26-Jan	11:40AM	Coquina Salon E	44
Jiang, S.	26-Jan	9:00AM	Coquina Salon B	45	Kupp, E.R.	27-Jan	2:20PM	Coquina Salon C	69
Jin, L.	25-Jan	2:30PM	Coquina Salon G	41	Kusnezoff, M.	28-Jan	5:20PM	Crystal	79
Jirasit, F.	28-Jan	9:20AM	Coquina Salon E	76	Kuwabara, A.	26-Jan	9:00AM	Ponce DeLeon	45
Johnson, J.A.	27-Jan	8:50AM	Coquina Salon F	59	Kuwelkar, K.A.	26-Jan	1:40PM	Coquina Salon E	50
Johnson, M.	25-Jan	4:10PM	Coquina Salon H	36	Kwon, B.	27-Jan	4:00PM	Tomoka A	65
Johnson, S.	25-Jan	1:30PM	St. John	40	L				
Johnson, S.M.	25-Jan	4:20PM	Coquina Salon C	35	Lahoti, M.	27-Jan	3:20PM	Coquina Salon E	69
Jones, T.	27-Jan	11:20AM	Coquina Salon E	59	Lahoti, M.	27-Jan	3:40PM	Coquina Salon E	69
Joshi, R.	25-Jan	5:10PM	Coquina Salon D	36	Lamberson, L.E.	26-Jan	4:40PM	Coquina Salon E	50
K					Lambrinou, K.	27-Jan	1:30PM	Tomoka B	67
Kallel, A.	26-Jan	11:40AM	Tomoka B	46	Lamon, J.L.	28-Jan	9:00AM	Coquina Salon D	72
Kallel, A.	27-Jan	10:20AM	Coquina Salon D	57	Larmon, L.	26-Jan	10:20AM	Tomoka B	46
Kamei, Y.	26-Jan	4:30PM	Coquina Salon A	51	Larson, N.M.	27-Jan	2:20PM	Coquina Salon B	66
Kamiya, H.	26-Jan	3:20PM	Coquina Salon A	51	LaSalvia, J.	26-Jan	3:40PM	Coquina Salon E	50
Kang, J.	28-Jan	8:30AM	Coquina Salon H	77	Lee, C.	26-Jan	5:00PM	Coquina Salon F	54
Kang, K.	28-Jan	9:00AM	Tomoka A	73	Lee, C.	28-Jan	2:40PM	Coquina Salon B	80
Kang, S.L.	25-Jan	2:00PM	Coquina Salon B	38	Lee, C.	28-Jan	9:50AM	Coquina Salon A	73
Kang, Y.	27-Jan	10:30AM	Coquina Salon A	60	Lee, C.	29-Jan	8:50AM	Tomoka B	85
Karaki, T.	28-Jan	11:20AM	Tomoka C	76	Lee, R.	25-Jan	2:30PM	Crystal	36
Kata, D.	26-Jan	4:30PM	Coquina Salon D	48	Lee, S.	26-Jan	1:30PM	Tomoka B	52
Katagiri, K.	27-Jan	8:30AM	Coquina Salon F	59	Lee, W.	29-Jan	11:30AM	Tomoka B	85
Kato, K.	27-Jan	2:20PM	Coquina Salon A	65	Lee, W.E.	25-Jan	3:30PM	St. John	40
Katoh, Y.	27-Jan	9:40AM	St. John	62	Lences, Z.	27-Jan	4:40PM	Tomoka C	68
Kauppinen, E.I.	26-Jan	2:00PM	Coquina Salon A	51	Lerliche, A.L.	28-Jan	1:50PM	Coquina Salon F	79
Kawaminami, S.	25-Jan	2:30PM	Tomoka C	40	Lewinsohn, C.	25-Jan	3:30PM	Coquina Salon B	38
Kawanishi, S.	26-Jan	9:00AM	Tomoka C	47	Li, Q.	28-Jan	10:50AM	Tomoka C	76
Kaya, O.	29-Jan	10:30AM	Ponce DeLeon	85	Li, T.	28-Jan	12:00PM	Coquina Salon A	74
Keane, P.F.	28-Jan	11:20AM	Coquina Salon E	77	Li, W.	27-Jan	11:50AM	Coquina Salon B	61
Kennedy, E.L.	25-Jan	4:00PM	Coquina Salon G	41	Li, X.	28-Jan	2:10PM	Coquina Salon F	79
Kerans, R.J.	26-Jan	9:00AM	Coquina Salon C	42	Liao, T.	26-Jan	11:40AM	Ponce DeLeon	46
Khanna, A.S.	26-Jan	4:50PM	Coquina Salon H	49	Lim, J.	28-Jan	11:10AM	Coquina Salon H	77
Kim, D.	28-Jan	4:40PM	Coquina Salon A	80	Lin, H.	26-Jan	2:00PM	Coquina Salon C	48
Kim, H.	25-Jan	9:40AM	Coquina Salon D	35	Lis, J.	26-Jan	3:30PM	Coquina Salon B	51
Kim, H.	28-Jan	9:40AM	Coquina Salon H	77	Liu, C.	27-Jan	4:00PM	Crystal	64
Kim, J.	28-Jan	8:30AM	Tomoka B	75	Liu, G.	28-Jan	11:00AM	Coquina Salon A	73
Kim, S.	25-Jan	4:50PM	Coquina Salon H	36	Liu, J.	26-Jan	9:30AM	Ponce DeLeon	45
Kim, S.	28-Jan	2:00PM	Coquina Salon H	83	Liu, J.	29-Jan	11:10AM	Ponce DeLeon	86
Kim, W.	25-Jan	2:00PM	St. John	40	Liu, L.	27-Jan	4:30PM	Coquina Salon D	63
Kim, Y.	26-Jan	8:30AM	St. John	46	Liu, Y.	25-Jan	4:50PM	Tomoka C	40
Kim, Y.	28-Jan	10:10AM	Coquina Salon G	74	Liu, Y.	26-Jan	4:20PM	Ponce DeLeon	52
Kiriakidis, G.	27-Jan	11:20AM	Coquina Salon A	60	Liu, Y.	27-Jan	1:30PM	Coquina Salon D	63
Kirihara, S.	26-Jan	3:30PM	Coquina Salon H	49	Liu, Z.	25-Jan	5:10PM	Coquina Salon B	39
Kirihara, S.	26-Jan	4:20PM	Coquina Salon C	48	Lo, J.	27-Jan	8:20AM	Coquina Salon E	58
Kirihara, S.	28-Jan	10:40AM	Coquina Salon C	77	Lovett, A.	28-Jan	10:20AM	Coquina Salon F	73
Kisailus, D.	26-Jan	2:30PM	Coquina Salon G	54	Lu, G.	25-Jan	5:00PM	Coquina Salon A	38
Kita, K.	26-Jan	3:20PM	Coquina Salon F	54	Lu, S.	26-Jan	5:30PM	Coquina Salon A	51
Kitaoka, S.	27-Jan	11:30AM	Coquina Salon H	58	Luchao, S.	28-Jan	9:40AM	Ponce DeLeon	75
Klemm, H.	27-Jan	9:00AM	Coquina Salon D	57	Luo, J.	27-Jan	9:00AM	Ponce DeLeon	61
Klimke, J.	25-Jan	2:30PM	Coquina Salon E	37	M				
Koch, D.	26-Jan	8:30AM	Coquina Salon D	42	Ma, D.	26-Jan	11:20AM	Coquina Salon A	45
Kocjan, A.	28-Jan	3:20PM	Coquina Salon F	79	Macauley, C.	26-Jan	8:50AM	Coquina Salon H	42
Kogo, Y.	27-Jan	2:30PM	Coquina Salon G	66	Mackey, J.	25-Jan	4:10PM	Coquina Salon F	41
Kondo, N.	28-Jan	1:30PM	Coquina Salon C	82	Magne, D.	25-Jan	3:50PM	Tomoka B	39
Kondo, S.	26-Jan	3:20PM	St. John	53	Magne, D.	27-Jan	3:40PM	Tomoka B	67

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		R			Serizawa, H.	27-Jan	1:30PM	St. John	68
Radovic, M.	27-Jan	2:20PM	Tomoka B	67	Shahid, R.	26-Jan	4:50PM	Tomoka A	50
Rahaman, M.N.	27-Jan	1:30PM	Coquina Salon F	64	Shanholtz, E.R.	26-Jan	9:00AM	Coquina Salon E	43
Rahaman, M.N.	27-Jan	9:10AM	Coquina Salon F	59	Sharma, A.	27-Jan	4:30PM	Coquina Salon B	66
Rahier, H.	28-Jan	1:30PM	Coquina Salon E	81	Sharma, L.K.	28-Jan	11:30AM	Coquina Salon B	74
Raj, R.	29-Jan	11:50AM	Ponce DeLeon	86	Sheeder, J.	26-Jan	2:40PM	St. John	53
Ramamurthy, S.	25-Jan	4:00PM	St. John	40	Shimada, H.	25-Jan	4:30PM	Crystal	36
Ramasamy, M.	26-Jan	3:40PM	Crystal	49	Shimada, H.	28-Jan	3:50PM	Crystal	79
Ramesh, K.	26-Jan	2:20PM	Coquina Salon E	50	Shimamura, A.	28-Jan	2:40PM	Coquina Salon C	82
Ramos Villegas, C.I.	26-Jan	9:40AM	Coquina Salon F	47	Shimamura, K.	27-Jan	9:30AM	Tomoka C	62
Restivo, T.A.	27-Jan	11:30AM	Coquina Salon B	60	Shin, D.	27-Jan	2:20PM	Coquina Salon H	63
Rezwan, K.	27-Jan	1:30PM	Coquina Salon G	66	Shinoda, K.	28-Jan	3:50PM	Coquina Salon B	80
Ribero, D.	26-Jan	9:30AM	Coquina Salon B	45	Shirai, T.	28-Jan	3:20PM	Coquina Salon H	83
Riedel, R.	25-Jan	2:00PM	Coquina Salon A	38	Shirai, T.	28-Jan	4:30PM	Coquina Salon G	81
Riedel, R.	27-Jan	1:30PM	Coquina Salon B	66	Shirvan, K.	26-Jan	10:20AM	St. John	46
Robinson, A.K.	26-Jan	2:10PM	Coquina Salon D	48	Shoulders, T.	27-Jan	2:30PM	Tomoka C	68
Rogachev, S.	26-Jan	10:50AM	Tomoka C	47	Shugart, K.	26-Jan	9:20AM	Coquina Salon F	47
Rohbeck, N.	25-Jan	2:30PM	St. John	40	Shugart, K.	27-Jan	9:00AM	Tomoka B	61
Roper, D.	28-Jan	11:40AM	Coquina Salon E	77	Siaj, M.	26-Jan	2:00PM	Coquina Salon G	54
Rosei, F.	27-Jan	10:20AM	Coquina Salon F	59	Siaj, M.	28-Jan	9:30AM	Coquina Salon A	73
Rossignol, S.	28-Jan	2:30PM	Coquina Salon E	82	Sietins, J.	26-Jan	10:40AM	Coquina Salon E	44
Rousse, G.	26-Jan	3:20PM	Tomoka A	50	Silvestroni, L.	27-Jan	8:30AM	Tomoka B	61
Rudola, A.	25-Jan	2:20PM	Coquina Salon F	41	Singh, A.K.	28-Jan	3:50PM	Coquina Salon D	78
Rudola, A.	25-Jan	4:20PM	Tomoka A	37	Singh, D.	27-Jan	10:50AM	Coquina Salon C	57
Rueschhoff, L.	26-Jan	2:20PM	Coquina Salon F	54	Singh, G.	26-Jan	2:20PM	St. John	53
Rueschhoff, L.	26-Jan	4:10PM	Coquina Salon B	52	Singh, G.	28-Jan	4:00PM	Tomoka A	81
Ruggles-Wrenn, M.	26-Jan	11:30AM	Coquina Salon D	42	Singh, J.	26-Jan	8:40AM	Coquina Salon E	43
Ruggles-Wrenn, M.	28-Jan	11:40AM	Coquina Salon D	72	Singh, M.	26-Jan	3:20PM	Coquina Salon C	48
Rulis, P.	25-Jan	2:30PM	Ponce DeLeon	39	Singh, P.	28-Jan	10:50AM	Crystal	72
Rüscher, C.	27-Jan	4:00PM	Coquina Salon E	69	Singh, S.	28-Jan	11:50AM	Coquina Salon B	74
Rüscher, C.	28-Jan	2:00PM	Coquina Salon E	82	Skiner, S.	26-Jan	1:30PM	Crystal	49
Ryu, J.	28-Jan	10:50AM	Coquina Salon H	78	Smeacetto, F.	26-Jan	11:20AM	Crystal	43
Sa Ribeiro, R.A.	28-Jan	S	Coquina Salon E	76	Smith, G.	26-Jan	10:20AM	Coquina Salon E	44
					Smith, M.	26-Jan	9:40AM	St. John	46
Sa Ribeiro, R.A.	28-Jan	9:00AM	Coquina Salon E	76	Smith, S.	26-Jan	3:00PM	Ponce DeLeon	52
Sabato, A.	27-Jan	4:20PM	Crystal	64	Sobczak, J.J.	27-Jan	10:30AM	Coquina Salon B	60
Sajgalik, P.	26-Jan	1:30PM	Coquina Salon B	51	Soga, K.	28-Jan	10:30AM	Coquina Salon A	73
Salem, A.	27-Jan	3:40PM	Coquina Salon C	69	Soga, K.	29-Jan	8:20AM	Tomoka B	85
Salem, J.	27-Jan	10:20AM	Coquina Salon C	57	Sokol, M.	29-Jan	9:40AM	Coquina Salon F	84
Salem, J.	29-Jan	10:40AM	Coquina Salon D	83	Sokol, M.	29-Jan	9:50AM	Ponce DeLeon	85
Samal, S.	26-Jan	11:50AM	Coquina Salon B	45	Solntsev, S.S.	29-Jan	9:40AM	Coquina Salon D	83
Sankar, K.	28-Jan	11:00AM	Coquina Salon E	77	Song, S.	28-Jan	11:20AM	Coquina Salon A	73
Sanson, A.	29-Jan	9:30AM	Tomoka C	83	Soraru, G.	27-Jan	4:10PM	Coquina Salon G	67
Santato, C.	27-Jan	9:00AM	Coquina Salon G	63	Soulie, J.	27-Jan	4:20PM	Coquina Salon F	64
Sarikaya, A.	29-Jan	8:30AM	Tomoka C	83	Sproutster, D.	26-Jan	11:10AM	St. John	46
Satam, M.K.	26-Jan	4:10PM	Tomoka A	50	Stevenson, A.J.	28-Jan	1:30PM	Coquina Salon G	80
Satam, M.K.	27-Jan	3:30PM	Coquina Salon D	63	Stiglich, J.	26-Jan	10:40AM	Tomoka B	46
Sato, K.	28-Jan	1:30PM	Crystal	78	Stiglich, J.	27-Jan	11:20AM	Coquina Salon F	59
Saxena, N.	28-Jan	8:30AM	Coquina Salon F	72	Stiglich, J.	28-Jan	3:50PM	Coquina Salon G	80
Schaedler, T.	28-Jan	11:20AM	Coquina Salon C	77	Stumpf, M.	25-Jan	5:00PM	Tomoka B	40
Schierning, G.	27-Jan	2:00PM	Tomoka A	65	Su, K.	26-Jan	10:40AM	Crystal	43
Schiller, G.	26-Jan	9:30AM	Crystal	43	Subhash, G.	26-Jan	2:00PM	Coquina Salon E	50
Schioler, L.J.	26-Jan	10:50AM	Coquina Salon C	42	Suematsu, H.	27-Jan	10:50AM	Coquina Salon B	60
Schlegel, N.	25-Jan	3:50PM	Coquina Salon H	36	Sun, S.	27-Jan	9:50AM	Crystal	58
Schmidt, K.	27-Jan	8:00AM	Coquina Salon E	58	Sun, S.	28-Jan	11:50AM	Crystal	72
Schmitt, M.	25-Jan	2:20PM	Coquina Salon H	36	Sun, W.	27-Jan	1:50PM	Coquina Salon D	63
Schneller, T.	26-Jan	4:10PM	Coquina Salon A	51	Sun, Y.	28-Jan	11:30AM	Coquina Salon H	78
Schuelke, T.	28-Jan	2:00PM	Tomoka B	81	Sun, Z.	26-Jan	3:20PM	Tomoka B	52
Schuh, C.A.	25-Jan	1:30PM	Coquina Salon D	35	Sun, Z.	27-Jan	1:30PM	Coquina Salon A	65
Schwarzer, E.	28-Jan	11:40AM	Coquina Salon C	77	Sun, Z.	28-Jan	11:30AM	Ponce DeLeon	75
Schwentenwein, M.	28-Jan	11:00AM	Coquina Salon C	77	Suzuki, T.S.	27-Jan	10:10AM	Coquina Salon B	60
Schwentenwein, M.	29-Jan	9:20AM	Coquina Salon F	84	Swab, J.	26-Jan	3:20PM	Coquina Salon E	50
Sciti, D.	27-Jan	10:20AM	Tomoka B	61	Swarnakar, A.K.	27-Jan	9:20AM	Tomoka B	61
Sehr, S.	27-Jan	11:20AM	Ponce DeLeon	61	Syvajarvi, M.	26-Jan	8:30AM	Tomoka C	47
Seifert, H.J.	26-Jan	8:30AM	Ponce DeLeon	45	T	29-Jan	8:30AM	Coquina Salon F	84
Sekino, T.	26-Jan	8:30AM	Coquina Salon A	44					
					Tafu, M.	25-Jan	2:20PM	Tomoka B	39
					Talapatra, A.	27-Jan	10:20AM	Tomoka C	62
					Tallerle, C.	27-Jan	3:20PM	Coquina Salon A	65

32 **40th International Conference & Exposition on Advanced Ceramics & Composites**

Oral Presenters

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Zandi Karimi, A.	29-Jan	11:00AM	Coquina Salon F	84	Zhao, M.	28-Jan	9:00AM	St. John	76
Zhai, L.	28-Jan	2:20PM	Tomoka A	81	Zhong, Y.	26-Jan	8:00AM	Coquina Salon E	43
Zhang, D.	26-Jan	8:30AM	Coquina Salon B	45	Zhong, Y.	28-Jan	4:40PM	Crystal	79
Zhang, H.	25-Jan	2:00PM	Tomoka B	39	Zhong, Y.	28-Jan	9:00AM	Ponce DeLeon	75
Zhang, J.	27-Jan	10:50AM	St. John	62	Zhou, J.	28-Jan	11:20AM	Coquina Salon D	72
Zhang, L.	26-Jan	9:20AM	Tomoka B	46	Zhou, X.	26-Jan	4:10PM	St. John	53
Zhang, S.	28-Jan	10:20AM	Tomoka C	76	Zhu, D.	25-Jan	4:50PM	Coquina Salon C	35
Zhang, T.	29-Jan	9:40AM	Coquina Salon H	86	Zhu, D.	27-Jan	9:40AM	Coquina Salon H	58
Zhang, Y.	27-Jan	10:20AM	Ponce DeLeon	61	Zhu, Y.	27-Jan	9:00AM	Coquina Salon E	58
Zhang, Y.	28-Jan	2:00PM	Ponce DeLeon	82	Zimmermann, J.	29-Jan	9:50AM	Coquina Salon G	84
Zhao, H.	25-Jan	2:00PM	Coquina Salon G	41	Zocca, A.	28-Jan	9:40AM	Coquina Salon C	77
Zhao, K.	28-Jan	2:20PM	Crystal	78	Zoli, L.	26-Jan	3:50PM	Tomoka B	52

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Aksoy, S.	27-Jan	5:00PM	Ocean Center Arena	71	Kim, S.	26-Jan	5:30PM	Ocean Center Arena	55
Allen, J.	26-Jan	5:30PM	Ocean Center Arena	56	Kim, Y.	26-Jan	5:30PM	Ocean Center Arena	55
An, T.	27-Jan	5:00PM	Ocean Center Arena	70	Kim, Y.	27-Jan	5:00PM	Ocean Center Arena	69
Aoki, Y.	26-Jan	5:30PM	Ocean Center Arena	56	Kita, K.	27-Jan	5:00PM	Ocean Center Arena	71
Appleby, M.P.	26-Jan	5:30PM	Ocean Center Arena	55	Kobayashi, S.	27-Jan	5:00PM	Ocean Center Arena	70
Arai, Y.	26-Jan	5:30PM	Ocean Center Arena	56	Kocjan, A.	26-Jan	5:30PM	Ocean Center Arena	56
Atsumi, Y.	26-Jan	5:30PM	Ocean Center Arena	55	Kolusheva, S.	27-Jan	5:00PM	Ocean Center Arena	70
Ayguzer Yasar, Z.	26-Jan	5:30PM	Ocean Center Arena	56	Kuwelkar, K.A.	26-Jan	5:30PM	Ocean Center Arena	56
Bahmer, M.	27-Jan	5:00PM	Ocean Center Arena	71	Kwang-Young, L.	26-Jan	5:30PM	Ocean Center Arena	56
Bao, C.	27-Jan	5:00PM	Ocean Center Arena	71	Kwon, B.	27-Jan	5:00PM	Ocean Center Arena	70
Basu, S.	26-Jan	5:30PM	Ocean Center Arena	55	Kyung Mox, C.	27-Jan	5:00PM	Ocean Center Arena	70
Caglar, M.	27-Jan	5:00PM	Ocean Center Arena	71	Lecomte, G.	27-Jan	5:00PM	Ocean Center Arena	69
Caglar, Y.	27-Jan	5:00PM	Ocean Center Arena	71	Lee, H.	27-Jan	5:00PM	Ocean Center Arena	71
Chang, H.	27-Jan	5:00PM	Ocean Center Arena	70	Li, Y.	26-Jan	5:30PM	Ocean Center Arena	54
Chen, X.	26-Jan	5:30PM	Ocean Center Arena	56	Lilova, K.	27-Jan	5:00PM	Ocean Center Arena	69, 70
Chern Lin, J.	27-Jan	5:00PM	Ocean Center Arena	71	Lin, T.	27-Jan	5:00PM	Ocean Center Arena	70
Chida, J.	26-Jan	5:30PM	Ocean Center Arena	55	Liu, Y.	26-Jan	5:30PM	Ocean Center Arena	56
Choi, H.	27-Jan	5:00PM	Ocean Center Arena	71	Long, Y.	26-Jan	5:30PM	Ocean Center Arena	55
Colombo, P.	27-Jan	5:00PM	Ocean Center Arena	71	Lu, G.	27-Jan	5:00PM	Ocean Center Arena	71
Dai, W.	27-Jan	5:00PM	Ocean Center Arena	71	Mansour, R.	26-Jan	5:30PM	Ocean Center Arena	55
De Marco, V.	27-Jan	5:00PM	Ocean Center Arena	70	Mathur, S.	27-Jan	5:00PM	Ocean Center Arena	70
DeVries, M.	26-Jan	5:30PM	Ocean Center Arena	56	Mhin, S.	27-Jan	5:00PM	Ocean Center Arena	71
Ding, D.	27-Jan	5:00PM	Ocean Center Arena	70	Mitic, V.	27-Jan	5:00PM	Ocean Center Arena	71
Djemina, P.	26-Jan	5:30PM	Ocean Center Arena	56	Miyazaki, H.	27-Jan	5:00PM	Ocean Center Arena	71
Dunn, J.S.	26-Jan	5:30PM	Ocean Center Arena	56	Molin, S.	27-Jan	5:00PM	Ocean Center Arena	70
El Hajji, M.	26-Jan	5:30PM	Ocean Center Arena	55	Moon, K.	27-Jan	5:00PM	Ocean Center Arena	70
Ferraris, M.	26-Jan	5:30PM	Ocean Center Arena	55	Moronta Perez, R.	26-Jan	5:30PM	Ocean Center Arena	56
Fischer, T.	27-Jan	5:00PM	Ocean Center Arena	70	Muccillo, P.	27-Jan	5:00PM	Ocean Center Arena	70
Frage, N.	26-Jan	5:30PM	Ocean Center Arena	56	Mwakikunga, B.	27-Jan	5:00PM	Ocean Center Arena	71
Fujita, S.	26-Jan	5:30PM	Ocean Center Arena	55	Nakamura, A.	27-Jan	5:00PM	Ocean Center Arena	70
Gajek, M.	26-Jan	5:30PM	Ocean Center Arena	56	Nakamura, M.	26-Jan	5:30PM	Ocean Center Arena	55
Halim, J.	26-Jan	5:30PM	Ocean Center Arena	56	Ogasawara, T.	26-Jan	5:30PM	Ocean Center Arena	55
Halim, J.	27-Jan	5:00PM	Ocean Center Arena	69	Ogawa, S.	26-Jan	5:30PM	Ocean Center Arena	56
Han, S.	26-Jan	5:30PM	Ocean Center Arena	54	Ogawa, S.	27-Jan	5:00PM	Ocean Center Arena	70
Hennicke, J.	27-Jan	5:00PM	Ocean Center Arena	69	Oh, S.	26-Jan	5:30PM	Ocean Center Arena	56
Hisato, I.	26-Jan	5:30PM	Ocean Center Arena	55	Ojard, G.	26-Jan	5:30PM	Ocean Center Arena	55
Huang, R.	26-Jan	5:30PM	Ocean Center Arena	55	Öztürk, N.	27-Jan	5:00PM	Ocean Center Arena	70
Illican, S.	27-Jan	5:00PM	Ocean Center Arena	71	Pantenburg, I.	27-Jan	5:00PM	Ocean Center Arena	70
Iwai, H.	27-Jan	5:00PM	Ocean Center Arena	70	Park, E.	26-Jan	5:30PM	Ocean Center Arena	55
Izci, E.	27-Jan	5:00PM	Ocean Center Arena	70	Partyka, J.	26-Jan	5:30PM	Ocean Center Arena	55
Jacobsen, H.S.	27-Jan	5:00PM	Ocean Center Arena	71	Partyka, J.	27-Jan	5:00PM	Ocean Center Arena	71
Jeong, K.	27-Jan	5:00PM	Ocean Center Arena	71	Paskaramoorthy, R.	27-Jan	5:00PM	Ocean Center Arena	70
Ju, C.	26-Jan	5:30PM	Ocean Center Arena	56	Pralong, V.	27-Jan	5:00PM	Ocean Center Arena	70
Kaji, T.	27-Jan	5:00PM	Ocean Center Arena	71	Robinson, A.K.	26-Jan	5:30PM	Ocean Center Arena	56
Kajihara, K.	26-Jan	5:30PM	Ocean Center Arena	55	Rosário, D.C.	27-Jan	5:00PM	Ocean Center Arena	70
Kang, J.	27-Jan	5:00PM	Ocean Center Arena	70	Sadia, Y.	27-Jan	5:00PM	Ocean Center Arena	70
Kara, F.	27-Jan	5:00PM	Ocean Center Arena	71	Salamone, S.	26-Jan	5:30PM	Ocean Center Arena	55
Kara, I.	27-Jan	5:00PM	Ocean Center Arena	69	Salem, J.	26-Jan	5:30PM	Ocean Center Arena	55
Kawagishi, S.	26-Jan	5:30PM	Ocean Center Arena	56	Schmidt, T.	27-Jan	5:00PM	Ocean Center Arena	71

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Shin, H.	26-Jan	5:30PM	Ocean Center Arena	55	Wang, M.	27-Jan	5:00PM	Ocean Center Arena	70
Son, W.	26-Jan	5:30PM	Ocean Center Arena	55	Watanabe, K.	27-Jan	5:00PM	Ocean Center Arena	71
Song, S.	26-Jan	5:30PM	Ocean Center Arena	56	Wu, F.	26-Jan	5:30PM	Ocean Center Arena	54
Stanishevsky, A.	27-Jan	5:00PM	Ocean Center Arena	71	Yanagawa, S.	26-Jan	5:30PM	Ocean Center Arena	55
Tian, N.	27-Jan	5:00PM	Ocean Center Arena	70	Yin, J.	27-Jan	5:00PM	Ocean Center Arena	71
Tokairin, T.	26-Jan	5:30PM	Ocean Center Arena	56	Yuan, J.	26-Jan	5:30PM	Ocean Center Arena	56
Turan, D.	26-Jan	5:30PM	Ocean Center Arena	55	Yüksel Price, B.	26-Jan	5:30PM	Ocean Center Arena	56
Varela, J.A.	26-Jan	5:30PM	Ocean Center Arena	56	Yun, B.	26-Jan	5:30PM	Ocean Center Arena	55
Walck, S.D.	26-Jan	5:30PM	Ocean Center Arena	56	Zhang, H.	26-Jan	5:30PM	Ocean Center Arena	55
Wang, J.	27-Jan	5:00PM	Ocean Center Arena	71	Zhang, Y.	26-Jan	5:30PM	Ocean Center Arena	55

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Monday, January 25, 2016

Plenary Session

Room: Coquina Salon D

Session Chairs: Soshu Kirihaara, Osaka University; Andrew Gyekenyesi, Ohio Aerospace Institute

8:30 AM

Opening Remarks

9:00 AM

(ICACC-PL-001-2016) Challenges and Opportunities for 21st Century Research & Development

J. Wadsworth*; 1. Battelle Memorial Institute, USA

9:40 AM

(ICACC-PL-002-2016) From Idea to Product: Sustainable Cycle

H. Kim*; 1. Korea Institute of Materials Science, The Republic of Korea

10:20 AM

Break

10:40 AM

(ICACC-PL-003-2016) Function through Defects: from ceramics to electrochemistry

J. Maier*; 1. Max Planck Institute for Solid State Research, Germany

11:20 AM

(ICACC-PL-004-2016) SiC-SiC Ceramic Matrix Composites in Jet Engines

S. M. Correa*; 1. GE Aviation, USA

40th Jubilee Symposium: Engineered Ceramics: Current Status and Future Prospects

Engineered Ceramics I

Room: Coquina Salon C

Session Chairs: Michael Halbig, NASA Glenn Research Center; Tatsuki Ohji, National Institute of Advanced Industrial Science and Technology (AIST)

1:30 PM

(ICACC-JUB-001-2016) A Retrospective and a Path Forward for Advanced Engineered Ceramics (Invited)

J. W. McCauley*; 1. Johns Hopkins University/Army Research Laboratory, USA

2:00 PM

(ICACC-JUB-002-2016) Materials by Design: The Example of Metal-Organic Frameworks (Invited)

J. J. Petrovic*; 1. Petrovic and Associates, USA

2:30 PM

(ICACC-JUB-003-2016) Failure of Ion Conducting Materials by Internal Precipitation (Invited)

A. V. Virkar*; 1. University of Utah, USA

3:00 PM

Break

3:20 PM

(ICACC-JUB-004-2016) Smart Advanced Ceramic Materials for energy and environmental technology (Invited)

A. Michaelis*; 1. Fraunhofer IKTS, Germany

3:50 PM

(ICACC-JUB-005-2016) Custom Mechanical Strength Test Specimens for Brittle Materials and Their Components (Invited)

A. Wereszczak*; 1. Oak Ridge National Laboratory, USA

4:20 PM

(ICACC-JUB-006-2016) Thermal Protection Materials and Systems: Past and Future (Invited)

S. M. Johnson*; 1. NASA-Ames Research Center, USA

4:50 PM

(ICACC-JUB-007-2016) Environmental Barrier Coating Development for SiC-SiC Ceramic Matrix Composites: Recent Advances and Future Directions (Invited)

D. Zhu*; 1. NASA Glenn Research Center, USA

S1: Mechanical Behavior and Performance of Ceramics & Composites

Mechanics and Characterization

Room: Coquina Salon D

Session Chairs: Jonathan Salem, NASA Glenn Research Center; Gregory Morscher, The University of Akron

1:30 PM

(ICACC-S1-001-2016) Shape Memory and Superelasticity in Zirconia Ceramics (Invited)

C. A. Schuh*; 1. Massachusetts Institute of Technology, USA

2:00 PM

(ICACC-S1-002-2016) Adventures and Misadventures in Applying ASTM Standard C 1421 to Measurements of the Fracture Toughness, K_{IC} , of Glasses

G. D. Quinn*; 2. J. Swab*; 1. Army Research Laboratory, USA; 2. NIST, USA

2:20 PM

(ICACC-S1-003-2016) A Review of Hydrostatically Pressurized Tube Test for Hoop Tensile Strength from Ambient to Elevated Temperatures at UDRI

L. Chuck*; 2. S. M. Goodrich*; 3. C. D. Barklay*; 1. University of Dayton, USA

2:40 PM

(ICACC-S1-004-2016) Characterization of Deformation and Damage in Porous Bulk and Film SOFC Components via Spherical Indentation and Simulation

Z. Chen*; 2. A. Atkinson*; 3. N. Brandon*; 1. Imperial College, United Kingdom

3:00 PM

Break

3:20 PM

(ICACC-S1-005-2016) Stable fracture testing of brittle materials

C. Baudin*; 2. A. Garcia-Prieto*; 1. Instituto de Cerámica y Vidrio, CSIC, Spain

3:50 PM

(ICACC-S1-006-2016) Shear tests on joined materials: a comparison between torsion and ISO 13124

M. Ferraris*; 2. L. Goglio*; 3. M. Salvo*; 4. F. Smeacetto*; 5. S. Delapierre*; 6. V. Casalegno*; 7. S. Gonczy*; 8. C. Henager*; 9. T. Hinoki*; 10. Y. Katoh*; 1. Oak Ridge National Laboratory, USA; 2. Politecnico di Torino, Italy; 3. Gateway Materials Technology, USA; 4. Kyoto University, Japan; 5. Pacific Northwest National Lab, USA

4:10 PM

(ICACC-S1-008-2016) A Test Method to Measure the Tensile Strain of Ceramic Multi-Filament Fiber Tow from Ambient to Elevated Temperatures Using Fraunhofer Laser Diffraction

L. Chuck*; 2. S. M. Goodrich*; 3. C. D. Barklay*; 1. University of Dayton, USA

4:30 PM

(ICACC-S1-009-2016) Modeling analysis of the four point bending test of V SiC Interfacial Joints for Fusion Applications

Y. H. Abdelmoaty*; G. Vasudevamurthy; 1. Virginia Commonwealth University, USA

4:50 PM

(ICACC-S1-010-2016) Prediction of Residual Deformation in Thermosetting Composites Due to Cure

O. Kravchenko*; S. Kravchenko; R. Pipes; 1. Case Western Reserve University, USA; 2. Purdue University, USA

5:10 PM

(ICACC-S1-011-2016) An Experimental Study on Fabrication, Mechanical Behavior Characterization and Microstructural Evolution in Glass-Metal Joints

R. Joshi*; R. Chhibber; 1. IIT Jodhpur, India; 2. Indian Institute of Technology Jodhpur, India

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

Thermal Barrier Coatings I

Room: Coquina Salon H

Session Chairs: Douglas Wolfe, Pennsylvania State University; Nadin Schlegel

1:30 PM

(ICACC-S2-001-2016) Development of Advanced Thermal Barrier Coatings with Improved Temperature Capability (Invited)

G. Witz*; H. Bossmann; J. Sopka; M. Schaudinn; S. Mihm; T. Buecklers; C. Kunz; 1. Alstom, Switzerland

2:00 PM

(ICACC-S2-002-2016) Advanced Thermal Barrier Coating (TBC) Design Architectures and Compositions with Improved Durability and Performance

D. E. Wolfe*; M. Schmitt; M. D. Hill; A. K. Rai; D. Zhu; 1. Pennsylvania State University, USA; 2. Trans-Tech, Inc., USA; 3. The Applied Research Laboratory, USA; 4. UES, Inc, USA; 5. NASA Glenn Research Center, USA

2:20 PM

(ICACC-S2-003-2016) High Temperature Thermal Barrier Coatings (TBCs) With Enhanced Durability

M. Schmitt*; A. K. Rai; D. Zhu; B. J. Harder; D. E. Wolfe; 1. Pennsylvania State University, USA; 2. NASA Glenn Research Center, USA; 3. UES Inc., USA; 4. The Applied Research Laboratory, USA

2:40 PM

(ICACC-S2-004-2016) Properties of Yttrium Aluminum Garnet (YAG) Thermal Barrier Coatings Made by the Solution Precursor Plasma Spray Process

M. Gell*; E. Jordan; J. Roth; B. Nair; R. Kumar; J. Wang; C. Jiang; 1. University of Connecticut, USA; 2. HiFunda LLC, USA

3:00 PM

Break

3:20 PM

(ICACC-S2-005-2016) Temperature Mapping of Air Film-Cooled Thermal Barrier Coated Surfaces Using Cr-Doped GdAlO₃ Phosphor Thermometry (Invited)

J. I. Eldridge*; V. Shyam; A. C. Wroblewski; D. Zhu; M. D. Cuy; D. E. Wolfe; 1. NASA Glenn Research Center, USA; 2. Vantage Partners, USA; 3. Pennsylvania State University, USA

3:50 PM

(ICACC-S2-006-2016) Mechanical properties of Gd₂Zr₂O₇ layers deposited by atmospheric plasma spraying

R. Vassen; E. Bakan; N. Schlegel; R. Muecke; D. Mack; 1. Forschungszentrum Juelich, Germany

4:10 PM

(ICACC-S2-007-2016) Non-equilibrium Phases via Plasma Spray – Physical Vapor Deposition

G. Koszegi; B. J. Harder; M. Johnson*; K. Faber; 1. California Institute of Technology, USA; 2. NASA Glenn Research Center, USA

4:30 PM

(ICACC-S2-008-2016) Study of effect of Hafnium Addition on Oxidation Resistance of β NiAl Coatings Prepared by an In-situ Chemical Vapour Deposition Method

A. D. Chandio*; P. Xiao; 1. University of Manchester, United Kingdom

4:50 PM

(ICACC-S2-009-2016) Phase Formation and Thermal Conductivity of Oxides in ZrO₂-La₂O₃-Gd₂O₃ Systems for TBC Application

S. Kim*; S. Lee; Y. Oh; S. Lee; H. Kim; B. Jang; 1. Korea Institute of Ceramic Engineering and Technology (KICET), The Republic of Korea; 2. National Institute of Materials Science, Japan

S3: 13th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Demonstration / SOFC-Systems

Room: Crystal

Session Chairs: Narottam Bansal, NASA Glenn Research Center; Shailesh Vora, U.S. Department of Energy

1:30 PM

(ICACC-S3-001-2016) Overview of DOE Office of Fossil Energy's Solid Oxide Fuel Cells Program (Invited)

S. D. Vora*; 1. U.S. Department of Energy, USA

2:00 PM

(ICACC-S3-002-2016) Engineered Ceramics for Solid Oxide Fuel Cells (Invited)

N. Q. Minh*; 1. University of California, San Diego, USA

2:30 PM

(ICACC-S3-003-2016) Development of SOFC Technology at Taiwan Institute of Nuclear Energy Research (Invited)

R. Lee*; Y. Cheng; T. Lin; C. Hwang; N. Hsu; W. Hong; C. Liu; 1. Institute of Nuclear Energy Research, Taiwan

3:00 PM

(ICACC-S3-004-2016) Solid Oxide Fuel Cell Technology Development at FCE

J. M. Barton*; A. Torabi; C. Willman; H. Ghezel-Ayagh; E. Tang; 1. Versa Power Systems Ltd., Canada; 2. FuelCell Energy, Inc., USA

3:20 PM

Break

3:40 PM

(ICACC-S3-005-2016) Advances towards direct ethanol solid oxide fuel cells (Invited)

F. C. Fonseca*; M. C. Steil; S. Georges; F. B. Noronha; P. Gelin; 1. IPEN, Brazil; 2. CNRS LEPMI, France; 3. INT, Brazil; 4. IRCELYON, France

4:10 PM

(ICACC-S3-006-2016) Developing low-intermediate temperature fuel cells for direct conversion of methane to methanol fuel

A. Torabi*; J. M. Barton; C. Willman; H. Ghezel-Ayagh; 1. FuelCell Energy Inc, USA

4:30 PM

(ICACC-S3-007-2016) Development of Materials for High Efficient Ceramic Electrochemical Hydrogen Compressor

H. Shimada*; T. Yamaguchi; H. Sumi; K. Hamamoto; T. Suzuki; Y. Fujishiro; S. Suzuki; Y. Takahashi; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan; 2. NORITAKE CO., LIMITED, Japan

4:50 PM

(ICACC-S3-008-2016) Development of a hybrid SOFC-TE system
D. Rabin¹; G. Shekel¹; I. Azuelus¹; D. Dadon¹; Y. Gelbstein¹; 1. Ben-Gurion University of the Negev, Israel

S4: Armor Ceramics

Developments in Transparent and Glass Research

Room: Coquina Salon E

Session Chairs: Jerry LaSalvia, Army Research Laboratory; Steve Kilczewski, Army Research Laboratory

1:20 PM

Welcome and Opening Remarks

1:30 PM

(ICACC-S4-001-2016) Understanding Structure and Fracture Behavior of Glass from Its Elastic Response (Invited)
L. Huang¹; 1. Rensselaer Polytechnic Institute, USA

2:00 PM

(ICACC-S4-002-2016) Nano-Ductility in Silicate Glasses is Driven by Topological Heterogeneity (Invited)
B. Wang¹; Y. Yu¹; M. Wang¹; J. C. Mauro²; M. Bauchy¹; 1. University of California, Los Angeles, USA; 2. Corning Incorporated, USA

2:30 PM

(ICACC-S4-003-2016) Gelcasting of transparent ceramics (Invited)
J. Klimke¹; 1. IKTS Fraunhofer Institute, Germany

3:00 PM

Break

Developments in Synthesis and Processing I

Room: Coquina Salon E

Session Chair: Lionel Vargas, ARL

3:20 PM

(ICACC-S4-004-2016) Additive Manufacturing of ceramic-based composites (Invited)
N. Travitzky¹; P. Grell¹; 1. University of Erlangen-Nuremberg, Germany

3:50 PM

(ICACC-S4-005-2016) Additive Manufacturing of Advanced Ceramic Components: What is possible today and what are the trends? (Invited)
T. Moritz¹; H. Richter¹; U. Scheithauer¹; M. Ahlhelm¹; E. Schwarzer¹; A. Michaelis¹; 1. Fraunhofer IKTS, Germany

4:20 PM

(ICACC-S4-006-2016) Optimization of Boron Carbide Ceramic Suspension Gels (CeraSGels) for Room Temperature Robocasting
W. J. Costakis¹; A. Diaz Cano¹; L. Rueschhoff¹; A. McEachen¹; R. Trice¹; J. Youngblood¹; 1. Purdue University, USA

4:40 PM

(ICACC-S4-007-2016) Room-temperature injection molding of boron carbide suspensions
A. Diaz Cano¹; J. Youngblood¹; R. Trice¹; 1. Purdue University, USA

5:00 PM

(ICACC-S4-008-2016) Further Results on the Densification and Microstructure of Boron Carbide Utilizing Al- and Si-Based Additives
K. D. Behler¹; J. LaSalvia¹; P. E. O'Shannessy¹; K. A. Kuwielkar¹; S. D. Walck¹; 1. TKC Global and US Army Research Laboratory, USA; 2. Rutgers University, USA

5:20 PM

(ICACC-S4-009-2016) Effect of Boron to Carbon Ratio on the Properties of Boron Carbide
T. L. Munhollon¹; K. Xie²; L. Farbaniec²; V. Domnich¹; R. A. Haber¹; 1. Rutgers University, USA; 2. Johns Hopkins University, USA

5:40 PM

(ICACC-S4-010-2016) Size and Morphology Control of Nanocrystalline Boron Carbide Ceramic Powders via Study of Kinetics and Mechanism for CTR Reaction
P. Foroughi¹; Z. Cheng¹; 1. Florida International University, USA

S6: Advanced Materials and Technologies for Direct Thermal Energy Conversion and Rechargeable Energy Storage

Sodium Batteries and Thermoelectrics

Room: Tomoka A

Session Chairs: Palani Balaya, National University of Singapore; Shigeto Okada, Kyushu University

1:30 PM

(ICACC-S6-001-2016) An overview of P2-sodium layered oxides in Na-Batteries (Invited)
C. Delmas¹; B. Mortemard¹; J. Yoshida¹; M. Guignard¹; D. Carlier¹; A. Wattiaux¹; 1. ICMCB-CNRS, France

2:00 PM

(ICACC-S6-002-2016) Materials Trend Development in Sodium Batteries from Oxides to Phosphates (Invited)
I. Belharouak¹; R. Essehli¹; H. Ben Yahia¹; Y. Sun¹; 1. Hanyang University, The Republic of Korea; 2. Qatar Foundation, Qatar

2:30 PM

(ICACC-S6-003-2016) Alluaudite family of high-voltage sodium battery cathodes (Invited)
P. Barpanda¹; 1. Indian Institute of Science, India

3:00 PM

Break

3:20 PM

(ICACC-S6-004-2016) Development of MXene nanosheets for negative electrode materials of sodium-ion battery (Invited)
M. Okubo¹; A. Yamada¹; 1. The University of Tokyo, Japan

3:50 PM

(ICACC-S6-005-2016) Redox behaviors of diimide compounds as high capacity negative electrode materials for sodium aqueous batteries (Invited)
J. Gaubicher¹; P. Jimenez-Manero¹; P. Poizat¹; K. Antonia¹; B. Lestriez¹; D. Guyomard¹; 1. INSTITUT DES MATERIAUX JEAN ROUXEL, France

4:20 PM

(ICACC-S6-006-2016) Revisiting Na₂Ti₃O₇ as a Promising Anode for Sodium-ion Battery Application
A. Rudola¹; P. Balaya¹; 1. National University of Singapore, Singapore

4:40 PM

(ICACC-S6-007-2016) Cathode properties on sodium iron phosphate glass for sodium ion batteries
T. Honma¹; S. Nakata¹; K. Shinozaki¹; T. Komatsu¹; 1. Nagaoka University of Technology, Japan

5:00 PM

(ICACC-S6-008-2016) Multifunctional perovskite-type thermoelectric ceramics (Invited)
A. Weidenkaff¹; W. Xie¹; X. Xiao¹; M. Widenmeyer¹; T. Zou¹; A. Veziridis¹; 1. University of Stuttgart, Germany

S7: 10th International Symposium on Nanostructured Materials: Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental and Health Applications

Nanomaterials for Energy Harvesting Applications I

Room: Coquina Salon A

Session Chair: Sanjay Mathur, University of Cologne

1:30 PM

(ICACC-S7-001-2016) Boron-based nitride nano-ceramics for energy applications (Invited)

P. Miele^{*1}; M. Bechelany¹; S. Bernard¹; U. B. Demirci¹; 1. Université de Montpellier, France

2:00 PM

(ICACC-S7-002-2016) Advanced SiOC-Based Nanocomposites for Energy Storage Applications (Invited)

R. Riedel^{*1}; 1. TU Darmstadt, Germany

2:30 PM

(ICACC-S7-003-2016) Nano-composite materials and their applications in energy harvesting (Invited)

S. Christiansen^{*1}; 1. Helmholtz-Zentrum für Materialien und Energie Berlin (HZB), Germany

3:00 PM

Break

Nanomaterials for Energy Harvesting Applications II

Room: Coquina Salon A

Session Chairs: Silke Christiansen, Helmholtz-Zentrum für Materialien und Energie Berlin (HZB); Ralf Riedel, TU Darmstadt

3:30 PM

(ICACC-S7-004-2016) Electrospun Ceramic Nanofibers as High Performance Photoactive and Piezoelectric Materials (Invited)

M. Nalbandian¹; G. Ico¹; J. Nam¹; N. V. Myung^{*1}; 1. University of California, Riverside, USA

3:50 PM

(ICACC-S7-005-2016) Interfacial Energetics Controls for Visible-Light Driven Photocatalysts for Efficient Photoelectrochemical Water Oxidation (Invited)

J. Wu^{*1}; J. Yang¹; B. Cheng¹; H. Cho¹; 1. National Cheng Kung University, Taiwan

4:20 PM

(ICACC-S7-006-2016) Graphene oxides and their hybrids for CO₂ conversion and solar fuels (Invited)

L. Chen^{*1}; 1. National Taiwan University, Taiwan

4:40 PM

(ICACC-S7-007-2016) ZnO/BiVO₄ Core-Shell Hierarchical Nanostructured Array for Photoelectrochemical Water Splitting

J. Yang^{*1}; J. Wu¹; 1. National Cheng Kung University, Taiwan

5:00 PM

(ICACC-S7-008-2016) Photocatalytic Hydrogen Generation Catalyzed by Co-catalysts over Sensitized Graphene

G. Lu^{*1}; 1. Lanzhou Institute of Chemical Physics, China

5:20 PM

(ICACC-S7-009-2016) BiVO₄-TiO₂ Nanostructured Heterojunction Photoanode for Photoelectrochemical Water Oxidation

B. Cheng¹; J. Yang¹; H. Cho^{*1}; J. Wu¹; 1. National Cheng Kung University, Taiwan

S8: 10th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT10)

Functional Ceramics Processing I

Room: Coquina Salon B

Session Chairs: Surojit Gupta, University of North Dakota; Pavol Sajgalik, Institute of Inorganic Chemistry, Slovak Academy of Sciences

1:30 PM

(ICACC-S8-001-2016) Foaming of Plaster of Paris to Produce Porous Gypsum (Invited)

E. Roch Isern¹; G. L. Messing^{*1}; 1. The Pennsylvania State University, USA

2:00 PM

(ICACC-S8-002-2016) Fabrication and Magnetoelectric Properties of Laser Annealed PZT Thick Film on Amorphous Magnetostrictive Metal Substrate (Invited)

S. L. Kang^{*1}; H. Palneedi¹; D. Maurya²; S. Priya²; S. Choi³; J. Ryu⁴; 1. KAIST, The Republic of Korea; 2. Virginia Tech, USA; 3. Korea Institute of Materials Science, The Republic of Korea; 4. Korea Institute of Materials Science (KIMS), The Republic of Korea

2:30 PM

(ICACC-S8-003-2016) Processing Stable Porous Silicon (SPS) as an Anode for Lithium Ion Battery (Invited)

I. Dutta^{*1}; S. O'Malley¹; F. Behan¹; B. Kent¹; J. Chang¹; R. Youngman¹; B. Wheaton¹; D. Baker¹; B. Abel¹; 1. Corning Incorporated, USA

2:50 PM

(ICACC-S8-004-2016) Ceramic membranes for treatment of challenging process streams (Invited)

T. Fahrenwaldt^{*1}; T. Wölfel¹; V. Prehn¹; 1. Inopor GmbH, Germany

3:10 PM

Break

3:30 PM

(ICACC-S8-005-2016) Performance of Ceramic, Microchannel Heat Exchangers

C. Lewinsohn^{*1}; J. Fellows¹; 1. Ceramtec, Inc., USA

3:50 PM

(ICACC-S8-006-2016) Preparation of New Barium Titanate-based Nano-complex Ceramics with High-density Heteroepitaxial Interfaces by Solvothermal Solidification Method and Their Dielectric Property (Invited)

S. Wada^{*1}; 1. University of Yamanashi, Japan

4:10 PM

(ICACC-S8-007-2016) Integration of multiferroic Bi_{3.25}La_{0.75}Ti_{2.5}Nb_{0.25}Fe_{0.125}Co_{0.125}O₁₂ thin films by using ZnO buffer layer

D. Coathup^{*1}; M. Liao²; Z. Li³; H. Yan³; B. Shi¹; H. Ye¹; 1. Aston University, United Kingdom; 2. National Institute for Materials Science (NIMS), Japan; 3. Queen Mary University of London, United Kingdom

4:30 PM

(ICACC-S8-008-2016) Immobilization mechanism of inorganic toxic ions at solid/liquid interface of hydroxides (Invited)

C. Tokoro^{*1}; 1. Waseda university, Japan

4:50 PM

(ICACC-S8-009-2016) Application of DEM simulation and multiple classification analysis to estimate particle size distribution in ball milling

S. Fukui^{*1}; Y. Tsunazawa¹; C. Tokoro¹; 1. Waseda university, Japan

5:10 PM

(ICACC-S8-010-2016) Impedance analysis of polycrystalline 3C-SiC on silicon substrate

Z. Liu^{*}; H. Zhuang²; W. Li¹; C. Gu¹; H. Ye²; 1. Institute of Physics, CAS, China; 2. Institute of Materials Engineering, University of Siegen, Germany; 3. Aston University, United Kingdom

S10: Virtual Materials (Computational) Design and Ceramic Genome

Novel Computational Methods and Multi-scale Modeling I

Room: Ponce DeLeon

Session Chair: Gerard Vignoles, University of Bordeaux 1

1:30 PM

(ICACC-S10-001-2016) Simulation of Complex Materials Structures with Charge Optimized Many-Body (COMB) Potentials (Invited)

S. R. Phillpot^{*}; 1. University of Florida, USA

2:00 PM

(ICACC-S10-002-2016) Chemical bond investigations of MAX-phases and MXenes by *ab initio* calculations and soft X-ray spectroscopy (Invited)

M. Magnuson^{*}; 1. IFM, Sweden

2:30 PM

(ICACC-S10-003-2016) Incentivized Participation for Standard Data Format and Exchange Mechanisms for Condensed Matter Electronic Structure Simulations (Invited)

P. Rulis^{*}; 1. University of Missouri - Kansas City, USA

3:00 PM

Break

Novel Computational Methods and Multi-scale Modeling II

Room: Ponce DeLeon

Session Chairs: Simon Phillpot, University of Florida; Paul Rulis, University of Missouri - Kansas City

3:20 PM

(ICACC-S10-004-2016) A multiscale study of elasticity in highly textured pyrocarbons (Invited)

J. Leyssale²; A. Gamboa¹; B. Farbos¹; S. Jouannigot¹; G. Couegnat¹; A. P. Gillard¹; G. L. Vignoles^{*}; 1. University Bordeaux, France; 2. Massachusetts Institute of Technology, USA

3:50 PM

(ICACC-S10-005-2016) Modeling of the damage of the MMCs with Lamellar Microstructure

R. Piat^{*}; M. Kashtalyan²; 1. Darmstadt University of Applied Science, Germany; 2. CEMINACS, School of Engineering, University of Aberdeen, United Kingdom

4:10 PM

(ICACC-S10-006-2016) Modeling the rapid solidification and mechanical response of thermal sprayed chromium oxide coating

T. Pinomaa^{*}; T. Andersson¹; S. Gurevich²; A. Laukkanen¹; N. Provatas²; 1. VTT Technical Research Centre of Finland, Finland; 2. McGill University, Canada

4:30 PM

(ICACC-S10-007-2016) Modeling of high-temperature heat transfer in foams and fibrous preforms from 3D images

G. L. Vignoles^{*}; A. Ortona¹; J. Vicente²; F. Panerai⁴; 1. SUPSI, Switzerland; 2. University Bordeaux, France; 3. University Marseille, France; 4. Analytical Mechanics Associates, Inc., USA

4:50 PM

(ICACC-S10-008-2016) Micro-Computed Tomography Image Based Thermo-Elastic Properties Studies of Freeze-Cast MMCs

R. Piat^{*}; Y. Sinchuk¹; A. De Marcos²; B. NAIT-ALI¹; 1. Darmstadt University of Applied Science, Germany; 2. University of Poitiers, France; 3. Laboratoire Science des Procédés Céramiques et Traitements de Surface, France

5:10 PM

(ICACC-S10-009-2016) Quantifying structure prediction via virtual diffraction

S. P. Coleman^{*}; E. Hernandez²; M. A. Tschopp¹; J. S. Dunn¹; 1. U.S. Army Research Laboratory, USA; 2. US Army Research Laboratory, USA

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

Structure-property Relationships of MAX Phases

Room: Tomoka B

Session Chair: Yuri Gogotsi, Drexel University

1:30 PM

(ICACC-S12-001-2016) Recent advances in MAX phases solid solutions (Invited)

T. Cabioch^{*}; P. Chartier¹; V. Mauchamp¹; S. Dubois¹; 1. University of Poitiers, France

2:00 PM

(ICACC-S12-002-2016) Discovery of carbon-vacancy ordering in Nb₄AlC_{3-x} under the guidance of first-principles calculations

H. Zhang^{*}; T. Hu¹; X. Wang²; Z. Li¹; M. Hu¹; E. Wu¹; Y. Zhou¹; 1. Institute of Metal Research, China

2:20 PM

(ICACC-S12-003-2016) A high throughput combinatorial approach to the exploration of the effect of M site alloying on the solid solution behaviour of Ti₂AlC MAX phase

A. Talapatra^{*}; T. Duong¹; W. Son¹; H. Gao¹; R. Arroyave¹; M. Radovic²; 1. Texas A&M University, USA

2:40 PM

(ICACC-S12-004-2016) Experimental Study of Physical and Mechanical Properties of Ti₃(Al,Si)C₂ solid solutions

H. Gao^{*}; W. Son²; T. Duong²; A. Talapatra²; R. Arroyave²; M. Radovic²; 1. Texas A&M, USA; 2. Texas A&M University, USA

3:00 PM

Break

Materials Design, New Composition and Composites I

Room: Tomoka B

Session Chair: Thierry Cabioch, University of Poitiers

3:20 PM

(ICACC-S12-005-2016) MXenes, two-dimensional carbides and nitrides made from MAX phases (Invited)

Y. Gogotsi^{*}; 1. Drexel University, USA

3:50 PM

(ICACC-S12-006-2016) Electronic structure of two dimensional titanium carbide MXene materials: insights into the surface functionalization groups

D. Magne^{*}; V. Mauchamp¹; S. Celerier¹; P. Chartier¹; T. Cabioch¹; 1. Institut PPRIME, France; 2. IC2MP, France

4:10 PM

(ICACC-S12-007-2016) Large-Scale Delamination of Multi-layered MXenes Derived from MAX Phases (Invited)

M. Naguib^{*}; R. Unocic¹; B. L. Armstrong¹; J. Nanda¹; 1. Oak Ridge National Laboratory, USA

4:40 PM

(ICACC-S12-008-2016) Experimental evidence of a new [Ti_(1-y)Cu_y]₃[Al_{1-x}Cu_(1-x)]C₂ MAX phase solid solution

S. Dubois^{*}; M. Nechiche²; V. Gauthier¹; A. Joulain¹; V. Mauchamp¹; T. Cabioch¹; X. Milhet¹; S. Azem²; P. Chartier¹; 1. PPRIME Institute, France; 2. University of Tizi Ouzou, Algeria

5:00 PM

(ICACC-S12-009-2016) YSZ/Nb₂AlC MAX phase composites for crack healing applications

M. Stumpf*; T. Fey*; P. Greil*; 1. Friedrich-Alexander-University Erlangen-Nuremberg, Germany

S13: Advanced Materials for Sustainable Nuclear Fission and Fusion Energy

Accident Tolerant Fuels I and Spent Nuclear Fuels

Room: St. John

Session Chairs: Michael Jenkins, Bothell Engineering and Science Technologies; Josef Matyas, PNNL

1:30 PM

(ICACC-S13-001-2016) Development of Accident Tolerant Fuel for LWR Application: Current Progress and Technical Challenges (Invited)

S. Johnson*; 1. Westinghouse Electric Company, USA

2:00 PM

(ICACC-S13-002-2016) Development and Property Evaluation of SiC Composite Tubes for Nuclear Fuel Cladding (Invited)

W. Kim*; D. Kim*; H. Lee*; J. Park*; 1. Korea Atomic Energy Research Institute, The Republic of Korea

2:30 PM

(ICACC-S13-003-2016) Micro-mechanical Properties of SiC Composites

N. Rohbeck*; P. Xiao*; 1. University of Manchester, United Kingdom

2:50 PM

(ICACC-S13-004-2016) Damage Accumulation in Nuclear Grade SiC/SiC Tubular Composites during Mechanical Testing

G. Jacobsen*; J. Sheeder*; X. Huang*; L. Alva*; K. Shapovalov*; C. Deck*; 1. General Atomics, USA; 2. University of South Carolina, USA

3:10 PM

Break

3:30 PM

(ICACC-S13-005-2016) Developments in Ceramic and Glass Composite Material (GCM) Wasteforms for Difficult Radioactive Wastes (Invited)

W. E. Lee*; D. Pletzer*; N. E. Ahmad*; C. Hutchison*; Y. Hsieh*; R. K. Chinnam*; 1. Imperial College London, United Kingdom

4:00 PM

(ICACC-S13-006-2016) Corrosion of Copper-Coated Steel Containers for Used Nuclear Fuel Storage (Invited)

S. Ramamurthy*; T. Standish*; D. Zagidulin*; J. Chen*; R. Jacklin*; D. Shoesmith*; P. Keech*; 1. University of Western Ontario, Canada; 2. Nuclear Waste Management Organization, Canada

4:30 PM

(ICACC-S13-007-2016) In-situ structural investigations on monazite-type La_{0.2}Gd_{0.8}PO₄-ceramics under heavy ion irradiation

S. Neumeier*; P. K. Kulriya*; Y. Arinicheva*; G. Deissmann*; D. Bosbach*; 1. Forschungszentrum Jülich GmbH, Germany; 2. Inter-University Accelerator Centre, India

4:50 PM

(ICACC-S13-008-2016) Chasing iodine in low-activity waste off-gas condensate

J. Matyas*; R. M. Asmussen*; N. Qafoku*; 1. PNNL, USA

5:10 PM

(ICACC-S13-009-2016) Suggestive Improvements to the Spent Nuclear Fuel Dry Storage cask system

D. Miller*; R. Kanakala*; 1. University of Idaho, USA

S14: Crystalline Materials for Electrical, Optical and Medical Applications

New Direction I

Room: Tomoka C

Session Chair: Kenji Toda, Niigat University

1:30 PM

(ICACC-S14-001-2016) A new insight on the concept of stoichiometry for oxides (Invited)

S. Uda*; 1. Tohoku University, Japan

2:00 PM

(ICACC-S14-002-2016) Single crystal growth of NbN and NbTiN for superconductive single photon detectors (Invited)

F. Mercier*; N. Tsavdaris*; D. Hazra*; M. Hofheinz*; E. Blanquet*; 1. CNRS-SIMAP, France; 2. CEA, France

2:30 PM

(ICACC-S14-003-2016) Oxide single crystals grown by the flame-fusion method (Invited)

S. Kawaminami*; S. Asaka*; K. Mochizuki*; 1. Shinkosha Co., Ltd., Japan

3:00 PM

Break

Optical Material I

Room: Tomoka C

Session Chair: Michel Ferriol, Université de Lorraine

3:20 PM

(ICACC-S14-004-2016) Polarization-dependent absorption behavior in the monoclinic LYB and LGB compounds doped with Ytterbium ions (Invited)

W. Gebremichael*; Y. Petit*; A. Fargues*; P. Veber*; M. Velazquez*; V. Jubera*; L. Canioni*; I. Manek-Hönniger*; 1. University of Bordeaux, France; 2. CNRS, France

3:50 PM

(ICACC-S14-005-2016) Crystal growth of non-linear optical crystal in SICCAS (Invited)

A. Wu*; L. Su*; J. Xu*; Y. Zheng*; X. Chen*; 1. Shanghai Institute of Ceramics, Chinese Academy of Sciences, China; 2. Shanghai Jiaotong University, China

4:20 PM

(ICACC-S14-006-2016) Investigation on the electro-optical crystals and switchers: From crystal growth to laser applications (Invited)

J. Wang*; H. Yu*; X. Wang*; 1. Shandong University, China; 2. Shandong Academy of Sciences, China

4:50 PM

(ICACC-S14-007-2016) Enhanced conversion of polycrystalline to single-crystal Sr₃(PO₄)₃F in an electric field

Y. Liu*; J. Zheng*; Y. Wu*; 1. Alfred University, USA

5:10 PM

(ICACC-S14-008-2016) Crystal growth between 1250°C and 1100°C of cubic rare-earth sesquioxides by the flux method

M. Velazquez*; P. Veber*; G. Buse*; G. Gadret*; O. Plantevin*; P. Goldner*; D. Rytz*; M. Peltz*; E. Veron*; R. Belhoucif*; P. Douissard*; T. Martin*; 1. CNRS, France; 2. LICB, UMR 6303 CNRS-Université de Bourgogne, France; 3. CSNSM, UMR 8609 CNRS-Université d'Orsay, France; 4. PSL Research University, Chimie ParisTech – CNRS, Institut de Recherche de Chimie, France; 5. Fee GmbH, Germany; 6. CEMHTI-CNRS UPR 3079, France; 7. Faculté de Physique, Laboratoire d'Électronique Quantique, USTHB, Algeria; 8. ESRF - The European Synchrotron, France

5th Global Young Investigator Forum

Nanocomposites and Nanostructured Materials and Energy Generation, Saving and Storage

Room: Coquina Salon F

Session Chairs: Valerie Wiesner, NASA Glenn Research Center; Eva Hemmer, INRS; Riccardo Marin, INRS; Manabu Fukushima, National Institute of Advanced Industrial Science and Technology (AIST)

1:30 PM

(ICACC-GYIF-001-2016) On the Design of Novel Structural Materials for Multifunctional Applications (Invited)

S. Gupta^{*1}; 1. University of North Dakota, USA

2:00 PM

(ICACC-GYIF-002-2016) Fabrication of Si-CNT/graphene nanocomposites for high-performance lithium-ion batteries

L. Xiao^{*1}; Y. Sehlleier¹; C. Schulz²; H. Wiggers²; 1. University of Duisburg-Essen, Germany; 2. Center for Nanointegration Duisburg-Essen (CENIDE), Germany

2:20 PM

(ICACC-GYIF-003-2016) Sodium Titanates as Promising Anodes for Sodium-ion Battery Application

A. Rudola^{*1}; P. Balaya¹; 1. National University of Singapore, Singapore

2:40 PM

(ICACC-GYIF-004-2016) Efficiency enhancement in Giant Core/Alloyed-Shell Quantum Dots Luminescent Solar Concentrator

H. Zhao¹; D. Benetti^{*1}; L. Jin¹; Y. Zhou¹; F. Rosei¹; A. Vomiero²; 1. INRS, Canada; 2. Institute of Metal Research, Italy

3:00 PM

Break

3:20 PM

(ICACC-GYIF-005-2016) Dielectric properties of BaTiO₃ nanocube 3D architectures (Invited)

K. Mimura^{*1}; K. Kato¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

3:50 PM

(ICACC-GYIF-006-2016) Control of phase distribution and microstructure in high temperature piezoelectrics for modification of properties

B. Kowalski^{*1}; A. Sehirlioglu¹; 1. Case Western Reserve University, USA

4:10 PM

(ICACC-GYIF-007-2016) Filled Nd₂Fe₁₇Co_{4-x}Sb_{12-y}Ge₂ skutterudites: processing and thermoelectric properties

J. Mackey^{*1}; A. Sehirlioglu¹; F. Dynys²; 1. Case Western Reserve University, USA; 2. NASA Glenn Research Center, USA

4:30 PM

(ICACC-GYIF-008-2016) Terametry - Temperature Sensing Using THz Radiation

R. Naccache^{*1}; A. Mazhorova¹; M. Clerici²; L. Razzari¹; F. Vetrone¹; R. Morandotti¹; 1. INRS, Canada; 2. Heriot-Watt University, United Kingdom

4:50 PM

(ICACC-GYIF-009-2016) Synthesis of hollow silica nanoparticles using poly acrylic acid- amine compound template

Y. Nakashima^{*1}; M. Fujii¹; T. Shirai¹; 1. Nagoya Institute of Technology, Japan

5:10 PM

(ICACC-GYIF-010-2016) Shaping of ceramic microspheres using vibrational droplet coagulation

J. Pype¹; B. Michielsens^{*1}; S. Mullens¹; V. Meynen²; 1. VITO, Belgium; 2. University of Antwerp, Belgium

FS2: Advanced Ceramic Materials and Processing for Photonics and Energy

Solar Energy I

Room: Coquina Salon G

Session Chairs: Riad Nechache, Ecole de Technologie Supérieure; Daniel Chua, National University of Singapore

1:30 PM

(ICACC-FS2-001-2016) Interfacing organic, inorganic and carbon-based nanomaterials for energy applications (Invited)

G. Fanchini^{*1}; 1. University of Western Ontario, Canada

2:00 PM

(ICACC-FS2-002-2016) Heterostructured nanomaterials for solar energy applications (Invited)

H. Zhao^{*1}; 1. INRS, Quebec University, Canada

2:30 PM

(ICACC-FS2-003-2016) Near Infrared Colloidal Quantum Dots for Efficient and Durable Photoelectrochemical Hydrogen Production

L. Jin^{*2}; B. Alotaibi¹; D. Benetti¹; S. Li²; H. Zhao¹; Z. Mi²; A. Vomiero³; F. Rosei¹; 1. INRS, Canada; 2. Institut National de la Recherche Scientifique, Canada; 3. Institut national de la recherche scientifique, Canada; 4. Institute of Metal Research, Italy; 5. McGill University, Canada

2:50 PM

Break

3:10 PM

(ICACC-FS2-004-2016) Electrodes for photoelectrochemical cells: structure-driven functional performances (Invited)

I. Concina^{*1}; 1. University of Brescia & CNR-INO SENSOR Lab, Italy

3:40 PM

(ICACC-FS2-005-2016) Design of electrospun hybrids for energy applications

F. Navarro Pardo^{*1}; D. Benetti¹; L. Jin¹; H. Zhao¹; A. Vomiero²; F. Rosei¹; 1. Institut National de la Recherche Scientifique, Canada; 2. Luleå University of Technology, Sweden

4:00 PM

(ICACC-FS2-006-2016) Microstructure Analysis of the Epitaxial Growth of Electrodeposited Cu₂O on Gold Nanoislands

E. L. Kennedy^{*1}; J. B. Coulter¹; D. P. Birnie¹; 1. Rutgers University, USA

4:20 PM

(ICACC-FS2-007-2016) Mixed Halide Perovskite Solar Cells Structure Having An Al₂Zn_(1-x)O Nanorod Electron Transport Layer

L. K. Duong^{*1}; J. Ting¹; 1. National Cheng Kung University, Taiwan

4:40 PM

(ICACC-FS2-008-2016) Intergrown of mixed-phase TiO₂/PVDF membranes

J. Z. Tan^{*1}; R. Caruso¹; X. Wang²; 1. University of Melbourne, Australia; 2. Commonwealth Scientific and Industrial Research Organization (CSIRO), Australia

5:00 PM

(ICACC-FS2-009-2016) Enhanced photovoltaic properties in dye sensitized solar cells by surface modification of SnO₂ photoanodes

K. Basu^{*1}; D. Benetti¹; H. Zhao²; F. Vetrone²; A. Vomiero³; F. Rosei²; 1. *University du Quebec, Institut National de la Recherche Scientifique, Canada; 2. INRS, Canada; 3. Institut national de la recherche scientifique, Canada; 4. Luleå University of Technology, Sweden

Tuesday, January 26, 2016

40th Jubilee Symposium: Engineered Ceramics: Current Status and Future Prospects

Engineered Ceramics II

Room: Coquina Salon C

Session Chairs: Jonathan Salem, NASA Glenn Research Center; Sylvia Johnson, NASA-Ames Research Center

8:30 AM

(ICACC-JUB-008-2016) Ceramic Composites for High Temperature Aerospace Structures (Invited)

D. B. Marshall*; B. N. Cox¹; O. Sudre¹; 1. Teledyne Scientific, USA

9:00 AM

(ICACC-JUB-009-2016) Life Limiting Behavior of SiC-Based Composites (Invited)

R. J. Kerans*; 1. Air Force Research Lab Materials & Mfg Dir (emeritus), USA

9:30 AM

(ICACC-JUB-010-2016) 20 Years of Carbon/Ceramic Brakes: Development, Status and Perspectives (Invited)

W. Krenkel*; 1. University of Bayreuth, Germany

10:00 AM

Break

10:20 AM

(ICACC-JUB-011-2016) Reaction-Forming of Ceramic Composites using Metallic Aluminum (Invited)

N. Claussen¹; R. Janssen¹; N. Travitzky*; 1. Hamburg University of Technology, Germany; 2. University of Erlangen-Nuernberg, Germany

10:50 AM

(ICACC-JUB-012-2016) Ceramic Matrix Composites and CMH-17 (Invited)

L. J. Schioler*; 1. National Institute of Aerospace, USA

11:20 AM

(ICACC-JUB-013-2016) Carbons as reinforcements for High Temperature Composites (Invited)

L. M. Manocha*; 1. Sophisticated Instrumentation Center for Advanced Research and Testing (SICART), India

S1: Mechanical Behavior and Performance of Ceramics & Composites

Reliability & Life Predictions

Room: Coquina Salon D

Session Chairs: Tatsuya Hinoki, Kyoto University; Emmanuel Maillet, GE Global Research

8:30 AM

(ICACC-S1-012-2016) From Testing to Modelling – Prediction of Mechanical Behavior of Ceramic Matrix Composites (Invited)

D. Koch*; Y. Shi¹; S. Hofmann¹; 1. Institute of Structures and Design, Germany

9:00 AM

(ICACC-S1-013-2016) Experiment and Simulation of the Formation of Green Bodies from Alumina Powder

A. Piccolroaz*; M. S. Swan¹; 1. University of Trento, Italy

9:20 AM

(ICACC-S1-014-2016) Characterization of Stress To Predict The Reliability of Brittle Materials (Invited)

T. Buchheit¹; M. C. Teague¹; R. L. Johnson¹; S. P. Meserole¹; D. R. Tallant¹; K. Ewsuk*; 1. Sandia National Laboratories, USA

9:50 AM

(ICACC-S1-015-2016) In-situ Optical Coherence Tomography Inspection of laser-structured polycrystalline ceramics

C. Wolf*; I. Kinski¹; C. Jürgens¹; G. Eberhardt¹; A. Lehmann¹; G. Unglaube¹; 1. Fraunhofer Institute for Ceramic Technologies and Systems, Branch Material Diagnostics, Germany; 2. LDT Laser Display Technology GmbH, Germany

10:10 AM

Break

10:30 AM

(ICACC-S1-016-2016) Thermal cycling effect on mechanical properties of balsa core sandwich composites immersed in water saline solution

S. Emami*; E. Toubia¹; 1. University of Dayton, USA

10:50 AM

(ICACC-S1-017-2016) There is plenty of room...between layers: Novel concepts to design tough and reliable ceramic systems

R. Bermejo*; 1. Montanuniversitaet Leoben, Austria

11:10 AM

(ICACC-S1-018-2016) Understanding the structural integrity of ceramic-based functional components

M. Gruber¹; K. Macurova¹; M. Pletz¹; P. Supancic¹; R. Danzer¹; F. Aldrian²; R. Bermejo*; 1. Montanuniversitaet Leoben, Austria; 2. TDK, Austria

11:30 AM

(ICACC-S1-019-2016) Facility for Testing SiC Fiber Tows at Elevated Temperature in Silicic Acid-Saturated Steam

S. Robertson¹; K. Sprinkle¹; M. Ruggles-Wrenn*; 1. Air Force Institute of Technology, USA

11:50 AM

(ICACC-S1-020-2016) Characterization of local deformation of silicon carbide matrix composites with artificial surface flaws by various damage monitoring techniques

T. Nozawa*; K. Ozawa¹; H. Tanigawa¹; 1. Japan Atomic Energy Agency, Japan

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

Thermal Barrier Coatings II

Room: Coquina Salon H

Session Chair: Gregoire Witz, Alstom

8:30 AM

(ICACC-S2-010-2016) Multifunctional, Multilayered Thermal Barrier Coatings: Interplay among Design, Materials and Manufacturing

V. Viswanathan*; G. Dwivedi¹; S. Sampath¹; 1. Stony Brook University, USA

8:50 AM

(ICACC-S2-011-2016) Opportunities and challenges of multi-phase ceramic topcoats

C. Macauley*; C. G. Levi¹; 1. University of California Santa Barbara, USA

9:10 AM

(ICACC-S2-012-2016) First-Principles Calculations Along the ZrO₂-YTbO₄ Quasi-Binary

S. Heinze*; C. G. Levi¹; A. Van der Ven¹; 1. UC Santa Barbara, USA

9:30 AM

(ICACC-S2-013-2016) Thermal cycling behavior and Cyclic Thermogravimetric Analysis of a new TBC system made by Spark Plasma Sintering

F. Nozahic*; C. Estournes¹; D. Monceau¹; 1. CIRIMAT, France

9:50 AM

Break

CMAS-related TBC Degradation and Mitigation Strategies I

Room: Coquina Salon H

Session Chair: Marie-Helene Vidal-Setif, ONERA

10:10 AM

(ICACC-S2-014-2016) Phase Relationships and Composition Trends in Reactions Between Rare Earth Containing TBCs and Silicate Melts (Invited)

D. L. Poerschke*; C. G. Levi¹; 1. University of California Santa Barbara, USA

10:40 AM

(ICACC-S2-015-2016) Cyclic durability testing of thermal barrier coatings with CMAS application: effect of CMAS deposition mechanism

A. Harris*; E. Jordan¹; 1. University of Connecticut, USA

11:00 AM

(ICACC-S2-016-2016) Thermo-Chemical Interactions of Environmental and Thermal Barrier Coating Materials with CMAS

A. Krause*; H. Garces¹; L. R. Turcer¹; N. P. Padture¹; 1. Brown University, USA

11:20 AM

(ICACC-S2-017-2016) Potential High Fracture Toughness, CMAS Resistant, TBC Compositions in Ln-Al-Zr-O Ternary Systems

M. D. Hill*; J. A. Shunkwiler¹; M. Schmitt¹; D. E. Wolfe²; 1. Trans-Tech, Inc., USA; 2. The Pennsylvania State University, USA

11:40 AM

(ICACC-S2-018-2016) Melt-infiltration of 7 YSZ TBC on the Example of two Artificial Volcanic Ash Variants

P. Mechnich*; 1. German Aerospace Center (DLR), Germany

S3: 13th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Electrolysis / Interconnects

Room: Crystal

Session Chairs: Toshio Suzuki, National Institute of Advanced Industrial Science and Technology (AIST); Jeffry Stevenson, Pacific Northwest National Lab

8:30 AM

(ICACC-S3-009-2016) Challenges in Broadening Applications for Solid Oxide Electrolysis Cells (Invited)

S. Elangovan*; J. Hartvigsen¹; D. Larsen¹; J. Elwell¹; 1. Ceramtec, Inc., USA

9:00 AM

(ICACC-S3-010-2016) Development of Solid Oxide Electrolysis Cell for Hydrogen Production and Power Storage Systems (Invited)

M. Yoshino*; 1. Toshiba Corporation, Japan

9:30 AM

(ICACC-S3-011-2016) Study of detailed degradation behavior of solid oxide electrolyzer cells (SOEC) (Invited)

G. Schiller*; M. Hoerlein¹; F. Tietz²; 1. DLR - German Aerospace Center (DLR), Germany; 2. Forschungszentrum Juelich, Germany

10:00 AM

(ICACC-S3-012-2016) Pressurised operation of Solid Oxide Electrolyzers

J. B. Hansen*; S. Højgaard Jensen²; 1. Haldor Topsøe A/S, Denmark; 2. DTU, Denmark

10:20 AM

Break

10:40 AM

(ICACC-S3-013-2016) Effects of yttrium addition on properties of advanced metallic alloys for SOFC interconnect application

A. Yeh¹; K. Su*; 1. Nation Tsing Hua University (Taiwan), Taiwan

11:00 AM

(ICACC-S3-014-2016) Properties of TiC-Ni-Mo Using Nanosize TiC Powders

J. Kong*; R. Koc¹; 1. Southern Illinois University Carbondale, USA

11:20 AM

(ICACC-S3-015-2016) Morphological and electrical characterization of Mn-Co spinel protective coatings for solid oxide cells interconnects

S. Molin²; A. Boccaccini³; M. Bindi⁴; P. Leone¹; A. Sabato¹; M. Salvo¹; F. Smeacetto*; 1. Politecnico di Torino, Italy; 2. DTU, Denmark; 3. University of Erlangen-Nuremberg, Germany; 4. Edison S.p.A., Italy

11:40 AM

(ICACC-S3-016-2016) Dual layer coatings for the oxygen side of interconnects for Solid Oxide Electrolysis Stacks

S. Molin*; V. Venkatachalam¹; K. Andersen¹; M. Chen¹; P. Hendriksen¹; 1. Technical University of Denmark, Denmark

12:00 PM

(ICACC-S3-017-2016) A Development of Plasma Sprayed Protective LSM Coating in INER

C. Chang*; C. Hwang¹; C. Tsai¹; S. Yang¹; W. Shong¹; T. D. Huang¹; M. Wu¹; 1. Institute of Nuclear Energy Research, Taiwan

S4: Armor Ceramics

Developments in Synthesis and Processing II

Room: Coquina Salon E

Session Chair: Victoria Blair, US Army Research Laboratory

8:00 AM

(ICACC-S4-011-2016) Integrated Investigation on the Amorphization Behavior of B4C

M. Asadikiya¹; Y. Zhong*; 1. Florida International University, USA

8:20 AM

(ICACC-S4-012-2016) Reduction of Silicon Carbide in Silicon Doped Boron Carbide for Sinterability and Increased Toughness

A. M. Etzold*; R. A. Haber¹; 1. Rutgers University, USA

8:40 AM

(ICACC-S4-013-2016) Tailored Interface Controlled Layered B₄C Ceramic Tiles Produced by Field Assisted Sintering Technology (FAST) for Body Armor Applications

J. Singh*; 1. Pennsylvania State University, USA

9:00 AM

(ICACC-S4-014-2016) Effect of Alumina and Silica Additives on the Densification Behavior of Hot-Pressed Boron Suboxide

E. R. Shanholztz*; P. E. O'Shannessy¹; J. LaSalvia¹; K. Behler²; K. A. Kuwelkar³; 1. Army Research Laboratory, USA; 2. Rutgers University, USA; 3. ORISE, USA; 4. Drexel University, USA; 5. TKC Global, USA

9:20 AM

(ICACC-S4-015-2016) Evaluating the Effect of Powder Oxygen Content on Silicon Carbide Morphology

V. DeLucca*; R. A. Haber¹; 1. Rutgers University, USA

9:40 AM

(ICACC-S4-016-2016) Dissolution of excess alumina into single phase magnesium aluminate spinel

J. A. Miller*; I. E. Reimanis¹; W. Miao²; 1. Colorado School of Mines, USA; 2. Corning Incorporated, USA

10:00 AM

Break

10:20 AM

(ICACC-S4-017-2016) Multi-layer ceramic armors from bio inspired, structural templates

G. Smith*; G. Dwivedi*; S. Sampath*; 1. Stony Brook University, USA

10:40 AM

(ICACC-S4-018-2016) Novel Processing of Metal-Ceramic Interfaces through Ultrasonic Additive Manufacturing

J. Sietins*; B. McWilliams*; 1. Army Research Laboratory, USA

Developments in Materials and Process Modeling I

Room: Coquina Salon E

Session Chair: Nitin Daphalapurkar, The Johns Hopkins University

11:00 AM

(ICACC-S4-019-2016) Computational Implementation of Anisotropic damage failure in brittle materials

R. Ayyagari Venkata S*; D. Mallick*; N. Daphalapurkar*; A. Tonge*; K. Ramesh*; 1. Johns Hopkins University, USA; 2. US Army Research Laboratory, USA; 3. The Johns Hopkins University, USA

11:20 AM

(ICACC-S4-020-2016) A multi-scale model for dynamic failure of ceramics based on efficiently binned flaw populations

F. Huq*; L. Graham-Brady*; 1. JHU/APL, USA

11:40 AM

(ICACC-S4-021-2016) Prediction of Raman Spectra and Shear Resistance of Boron Carbide using Density Functional Perturbation Theory

C. Kunka*; A. Awasthi*; G. Subhash*; 1. University of Florida, USA

S6: Advanced Materials and Technologies for Direct Thermal Energy Conversion and Rechargeable Energy Storage

Solid Electrolyte and Solid State Batteries

Room: Tomoka A

Session Chairs: Olivier Guillon, Forschungszentrum Juelich; Ilias Belharouak, Qatar Foundation

8:30 AM

(ICACC-S6-009-2016) Design of Alkali Superionic Conductor Solid Electrolytes using First Principles Calculations (Invited)

S. Ong*; Z. Deng*; Z. Zhu*; I. Chu*; B. Radhakrishnan*; Z. Wang*; 1. University of California, San Diego, USA

9:00 AM

(ICACC-S6-010-2016) All-Solid-State Li-ion Batteries for Transformational Energy Storage (Invited)

E. D. Wachsman*; 1. University of Maryland, USA

9:30 AM

(ICACC-S6-011-2016) Lithium loss indicated formation of microcracks in LATP ceramics

K. Waetzig*; A. Rost*; U. Langklotz*; J. Schilm*; 1. Fraunhofer IKTS, Germany; 2. Dresden University of Technology, Institute of Materials Science, Germany

9:50 AM

Break

10:10 AM

(ICACC-S6-012-2016) Li₃La₂Zr₂O₁₂ Interface Modification for Li-dendrite Prevention

C. Tsai*; H. Gehrke*; V. Roddatis*; V. C. Nair*; S. Uhlenbruck*; O. Guillon*; 1. Forschungszentrum Juelich, Germany; 2. University of Göttingen, Germany; 3. Leibniz University, Germany

10:30 AM

(ICACC-S6-013-2016) Ionic liquid confined as solid electrolyte for all-solid-state lithium microbatteries

D. Aidouda*; B. Lestriez*; D. Guyomard*; J. Le Bideau*; 1. CNRS UMR 6502, France

10:50 AM

(ICACC-S6-014-2016) All-solid-state thin film Lithium Ion batteries by PVD processing

H. Gehrke*; C. Dellen*; C. Tsai*; S. Lobe*; S. Uhlenbruck*; O. Guillon*; 1. Forschungszentrum Juelich, Germany

11:10 AM

(ICACC-S6-015-2016) Synthesis of Sodium Zirconium Gallate + Ytria-Stabilized Zirconia by a Vapor Phase Process

L. Ghadbeigi*; Z. Liu*; T. D. Sparks*; A. V. Virkar*; 1. University of Utah, USA

S7: 10th International Symposium on Nanostructured Materials: Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental and Health Applications

Nanomaterials for Energy Harvesting Applications III

Room: Coquina Salon A

Session Chairs: Pu-Xian Gao, University of Connecticut; Dongling Ma, INRS, Uni. Quebec

8:30 AM

(ICACC-S7-011-2016) Tuning of Titania Nanotubes for Visible-light Responsible Photochemical Function (Invited)

T. Sekino*; K. Fujii*; H. Nishida*; T. Goto*; 1. Osaka University, Japan

9:00 AM

(ICACC-S7-012-2016) Routes to Nanoparticles Optimized for Energy Technology (Invited)

M. Winterer*; 1. University Duisburg-Essen, Germany

9:30 AM

(ICACC-S7-013-2016) Composite wide bandgap semiconducting oxides for high-efficiency excitonic solar cells (Invited)

A. Vomiero*; 1. Lulea University of Technology, Sweden

9:50 AM

(ICACC-S7-014-2016) Nano-sized ceramic materials synthesized from ionic liquids as functional nanomaterials for sustainable energy-harvesting (Invited)

A. V. Mudring*; 1. Iowa State University, USA

10:10 AM

Break

Nanomaterials for Energy Harvesting Applications IV

Room: Coquina Salon A

Session Chairs: Anja Mudring, Iowa State University; Alberto Vomiero, Institute of Metal Research

10:30 AM

(ICACC-S7-015-2016) Micro and Nano Ionic Thin Film Electrode Structures: What the Future Holds (Invited)

H. L. Tuller*; 1. Massachusetts Institute of Technology, USA

11:00 AM

(ICACC-S7-016-2016) Scalable Nanomaterials Integration toward Ultrahigh Efficiency, Robustness, and Multi-functionality: An example of Nano-array based Catalytic Converters (Invited)

P. Gao^{*1}; 1. University of Connecticut, USA

11:20 AM

(ICACC-S7-017-2016) Harvesting Near-infrared Photons in Solar Cells and Photocatalysis (Invited)

D. Ma^{*1}; 1. INRS, Uni. Quebec, Canada

11:40 AM

(ICACC-S7-018-2016) Control of Anisotropic Growth of Ceria Rods Fabricated by Gas-liquid Co-precipitation

Y. Kubota^{*1}; K. Katsumata²; N. Matsushita¹; 1. Tokyo Institute of Technology, Japan; 2. Tokyo University of Science, Japan

12:00 PM

(ICACC-S7-019-2016) High critical currents by flux pinning by 1D nanostructures in thin film superconductor tapes

V. Selvamanickam^{*1}; 1. University of Houston, USA

S8: 10th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT10)

Functional Ceramics Processing II

Room: Coquina Salon B

Session Chairs: Tetsuo Uchikoshi, National Institute for Materials Science; Yiquan Wu, Alfred University

8:30 AM

(ICACC-S8-011-2016) Bioinspired functional materials templated from nature materials (Invited)

D. Zhang^{*1}; 1. Shanghai Jiao Tong University, China

9:00 AM

(ICACC-S8-012-2016) Transparent material drilling and cutting using innovative fiber lasers (Invited)

S. Jiang^{*1}; 1. AdValue Photonics Inc, USA

9:30 AM

(ICACC-S8-013-2016) Synthesis and characterization of phosphate cathode materials prepared by a polymeric steric entrapment precursor route

D. Ribero^{*1}; W. M. Kriven¹; 1. University of Illinois at Urbana-Champaign, USA

9:50 AM

Break

10:10 AM

(ICACC-S8-014-2016) Optical Ceramics Processed Through Environmentally Friendly Casting Techniques

Y. Li¹; Y. Wu^{*1}; 1. Alfred University, USA

10:30 AM

(ICACC-S8-015-2016) Direct fabrication of micro- and nano-diamond structures for advanced sensing applications

J. Pinto^{*1}; C. Tang²; H. Ye³; G. Yang²; J. Xuefang²; 1. University of Aveiro, Portugal; 2. Changshu Institute of Technology, China; 3. Aston University, United Kingdom

10:50 AM

(ICACC-S8-016-2016) Study of high photocatalytic performance β -carbon nitrides using in situ powder x-ray diffraction

J. Z. Tan^{*1}; R. Caruso¹; X. Wang²; 1. University of Melbourne, Australia; 2. Commonwealth Scientific and Industrial Research Organization (CSIRO), Australia

11:10 AM

(ICACC-S8-017-2016) Latest developments in Optical Dilatometry

A. Makitka^{*1}; C. Linseis¹; 1. Linsies, USA

11:30 AM

(ICACC-S8-018-2016) Improved impedance relations based on Curie-Weiss law fractal modification in doped BaTiO₃-ceramics

V. Mitic^{*1}; V. Paunovic²; L. Kocic²; 1. Serbian Academy of Sciences, Serbia; 2. Faculty of Electronic Engineering, Serbia

11:50 AM

(ICACC-S8-019-2016) Micro computed tomography characterization of isotropic filler distribution in magnetorheological elastomeric composite

S. Samal^{*1}; 1. Technical University of Liberec, Czech Republic

S10: Virtual Materials (Computational) Design and Ceramic Genome

Modeling of Innovative Ceramics for Functional Applications I

Room: Ponce DeLeon

Session Chair: Per Eklund, Linkoping University

8:30 AM

(ICACC-S10-010-2016) Thermodynamics and thermal behavior of lithium batteries and their materials (Invited)

H. J. Seifert^{*1}; 1. Karlsruhe Institute of Technology, Germany

9:00 AM

(ICACC-S10-011-2016) First-principles calculations of Li-ion migration behaviors at solid-solid interfaces in lithium-ion battery materials (Invited)

A. Kuwabara^{*1}; H. Yu¹; C. Fisher¹; H. Moriwake¹; H. Zhou³; Y. Ikuhara¹; 1. Japan Fine Ceramics Center, Japan; 2. University of Tokyo, Japan; 3. National Institute of Advanced Industrial Science and Technology (AIST), Japan; 4. Beijing University of Technology, China

9:30 AM

(ICACC-S10-012-2016) Catalyst Design for improving kinetic rate of oxygen evolution reactions in Li-O₂ Battery (Invited)

J. Liu^{*1}; 1. Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

10:00 AM

Break

Modeling of Innovative Ceramics for Functional Applications II

Room: Ponce DeLeon

Session Chair: Hans Seifert, Karlsruhe Institute of Technology

10:20 AM

(ICACC-S10-013-2016) Modelling thermal transport properties in complex thermoelectric materials from first principles (Invited)

G. A. Hug^{*1}; L. Andrea¹; L. Chaput²; 1. ONERA-CNRS, France; 2. University of Lorraine, France

10:50 AM

(ICACC-S10-014-2016) Development of novel thermoelectric thin film nitrides by an integrated theoretical-experimental approach (Invited)

P. Eklund^{*1}; 1. Linkoping University, Sweden

11:20 AM

(ICACC-S10-015-2016) Understanding the Materials Genomes for Good Thermoelectrics (Invited)

J. Yang^{*1}; W. Zhang¹; 1. Shanghai University, China

11:40 AM

(ICACC-S10-016-2016) Chemically Modified Carbon-based Nanomaterials in Energy Application: A First-Principles Computational Study (Invited)

T. Liao^{*1}; 1. University of Wollongong, Australia

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

Methods for Improving Damage Tolerance, Oxidation and Thermal Shock Resistance

Room: Tomoka B

Session Chair: Frederic Monteverde, CNR-ISTEC

8:30 AM

(ICACC-S12-010-2016) Creating ultra-high temperature ceramic matrix composites (Invited)

J. Binner^{*1}; 1. University of Birmingham, United Kingdom

9:00 AM

(ICACC-S12-011-2016) Improved ablation resistance up to 3000°C of hybrid TaC-TiC-SiC matrix C/C composites for severely aggressive environments

P. Makurunge^{*2}; L. Sigalas²; F. Monteverde¹; 1. CNR-ISTEC, Italy; 2. University of the Witwatersrand, South Africa

9:20 AM

(ICACC-S12-012-2016) Influence of ZrB₂/SiC Grain Size on the Oxidation Resistance of ZrB₂-SiC Ultra-High-Temperature Ceramic Composites

L. Zhang^{*1}; N. P. Padture¹; 1. Brown University, USA

9:40 AM

(ICACC-S12-013-2016) Fabrication and Properties of C_f/UHTC Composites by a Reactive Melt Infiltration Processing

K. Wada^{*2}; Y. Takazawa²; Y. Yano²; T. Aoki¹; T. Ogasawara¹; S. Iwamori¹; 1. Japan Aerospace Exploration Agency, Japan; 2. Tokai University, Japan

10:00 AM

Break

Structure Stability under Extreme Environments I

Room: Tomoka B

Session Chair: Jon Binner, University of Birmingham

10:20 AM

(ICACC-S12-014-2016) High heatflux laser testing of HfB₂ cylinders

L. Larrimbe^{*1}; L. Vandeperre²; P. Brown³; C. Hawkins³; J. DeCervo³; M. Pettina¹; 1. Imperial College London, United Kingdom; 2. Imperial College, United Kingdom; 3. Defence Science and Technology Laboratory, United Kingdom

10:40 AM

(ICACC-S12-015-2016) Processing and Testing of Ultrahigh Temperature Fiber-reinforced Ceramic and Metal Matrix Composites

J. Stiglich^{*1}; B. Williams¹; J. Brockmeyer¹; V. Arrieta¹; 1. Ultramet, USA

11:00 AM

(ICACC-S12-016-2016) A diffusion-based oxidation and creep crack growth model to predict damage in ultra-high temperature ceramics

M. Pettina^{*1}; L. Vandeperre²; P. Brown³; K. Nikbin¹; 1. Imperial College London, United Kingdom; 2. Imperial College, United Kingdom; 3. DSTL, United Kingdom

11:20 AM

(ICACC-S12-017-2016) Composite Ceramic Thermocouples for Harsh-Environment Temperature Measurements

R. C. Pillai^{*1}; G. A. Yakaboylu¹; K. Sabolsky¹; E. M. Sabolsky¹; J. Bogan²; J. Sayre²; 1. West Virginia University, USA; 2. HarbisonWalker International Technology Center, USA

11:40 AM

(ICACC-S12-018-2016) Damage study on a refractory material operating at high temperature in an aggressive environment

A. Kallel^{*1}; S. Romero Baivier¹; 1. Vesuvius, Belgium

S13: Advanced Materials for Sustainable Nuclear Fission and Fusion Energy

Accident Tolerant Fuels II and Fuel Ceramic Science

Room: St. John

Session Chairs: Kurt Terrani, Oak Ridge National Laboratory; Sosuke Kondo, Kyoto University

8:30 AM

(ICACC-S13-010-2016) Low Temperature Pressureless Sintering of Silicon Carbide Matrix for Fully Ceramic Microencapsulated Fuels (Invited)

Y. Kim^{*1}; J. Eom¹; Y. Seo¹; S. Lee²; K. Lim²; 1. University of Seoul, The Republic of Korea; 2. KEPCO Nuclear Fuel, The Republic of Korea

9:00 AM

(ICACC-S13-011-2016) Thermodynamic Analysis of U-Si compounds from U₃Si₅ to USi₂

M. Noordhoek^{*1}; T. Besmann¹; 1. University of South Carolina, USA

9:20 AM

(ICACC-S13-012-2016) High density UN microsphere fabrication for FCM fuel development

J. W. McMurray^{*1}; T. Lindemer²; R. Hunt²; J. Collins²; C. Silva²; J. Henry¹; K. Terrani²; 1. Oak Ridge National Lab, USA; 2. Oak Ridge National Laboratory, USA

9:40 AM

(ICACC-S13-013-2016) Used Fuel content verification using Lead Slowing Down Spectroscopy

M. Smith^{*1}; R. Kanakala¹; 1. University of Idaho, USA

10:00 AM

Break

10:20 AM

(ICACC-S13-014-2016) Multi-layer Ceramic Matrix Composite Silicon Carbide Cladding for Light Water Reactors (Invited)

K. Shirvan^{*1}; 1. Massachusetts Institute of Technology, USA

10:50 AM

(ICACC-S13-015-2016) Design, Analysis, and Validation of a SiC Cladding Irradiation Experiment with High Radial Heat Flux

C. Petrie^{*1}; J. McDuffee¹; K. Terrani¹; Y. Katoh²; 1. Oak Ridge National Lab, USA; 2. Oak Ridge National Laboratory, USA

11:10 AM

(ICACC-S13-016-2016) Quantifying radiation damage in silicon carbide with high-energy x-rays

D. Sproutster^{*1}; T. Koyanagi²; T. Watkins²; R. Barabash²; Y. Katoh²; L. Ecker¹; 1. Brookhaven National Laboratory, USA; 2. Oak Ridge National Laboratory, USA

11:30 AM

(ICACC-S13-017-2016) Laser-Printed Ceramic Fiber Ribbons: Properties and Applications

J. Pegna¹; S. Harrison^{*1}; E. G. Vaaler¹; J. L. Schneider¹; K. L. Williams¹; R. K. Goduguchinta¹; 1. Free Form Fibers, USA; 2. Solar Synergies, Inc., USA

S14: Crystalline Materials for Electrical, Optical and Medical Applications

Semiconductor I

Room: Tomoka C

Session Chairs: Takashi Taniguchi, National Institute for Materials Science (NIMS); Takashi Matsuoka, Institute for Materials Research, Tohoku University

8:30 AM

(ICACC-S14-009-2016) Silicon carbide ceramics as source in growth of SiC for optoelectronic and energy applications (Invited)

M. Syvajarvi^{*1}; V. Jokubavicius¹; X. Liu¹; J. Sun¹; P. Wellmann²; 1. Linköping University, Sweden; 2. University of Erlangen-Nürnberg, Germany

9:00 AM

(ICACC-S14-010-2016) In-situ observation of solution growth interface of SiC from Fe-Si solvent (Invited)

S. Kawanishi^{*1}; T. Yoshikawa¹; 1. The University of Tokyo, Japan

9:30 AM

(ICACC-S14-011-2016) Nitrogen incorporation during 4H-SiC bulk crystal growth (Invited)

D. Chaussende^{*1}; N. Tsavdaris¹; N. Valle²; E. Sarigiannidou¹; 1. CNRS, France; 2. LIST, Luxembourg

10:00 AM

Break

10:20 AM

(ICACC-S14-012-2016) From Sapphire to Silicon: experimental and numerical aspects of the adaptation of the Kyropoulos process (Invited)

G. Chichignoud^{*1}; A. Nouri¹; L. Lhomond¹; Y. Delannoy²; V. Brize³; M. Albaric³; F. Richard⁴; K. Zaidat²; 1. CNRS, France; 2. Grenoble INP, France; 3. CEA, France; 4. Cyberstar, France

10:50 AM

(ICACC-S14-013-2016) 3D-Mapping of Phase Distributions beneath Vickers Indentation on Silicon Wafers

S. Rogachev^{*1}; 1. University of Florida, USA

11:10 AM

(ICACC-S14-014-2016) Catalytic Combustion Type Gas Sensor With Novel Oxidation Catalysts Such Gases as Carbon Monoxide and Hydrogen (Invited)

N. Imanaka^{*1}; 1. Osaka University, Japan

11:40 AM

(ICACC-S14-015-2016) Polarity effects on the formation and physical properties of ZnO nanowires (Invited)

V. Consonni^{*1}; 1. Université Grenoble Alpes, CNRS, France

5th Global Young Investigator Forum

Applications: Ceramic Sensors and Actuators, Energy Generation and Storage and Processing

Room: Coquina Salon F

Session Chairs: Eva Hemmer, INRS; Surojit Gupta, University of North Dakota; Ken-ichi Mimura, National Institute of Advanced Industrial Science and Technology (AIST); Kathleen Shugart, UES, Inc.

8:30 AM

(ICACC-GYIF-011-2016) Non-Injection, Alkyl-thiol-Free Synthesis of CuInS₂ Quantum Dot (Invited)

R. Marin^{*1}; A. Migliori¹; V. Morandi¹; F. Enrichi⁴; P. Canton²; 1. INRS, Canada; 2. Università Ca' Foscari, Italy; 3. CNR-IMM, Italy; 4. Veneto Nanotech, Italy

9:00 AM

(ICACC-GYIF-012-2016) The Effect of Processing Conditions on the Thermal Regeneration of Fiber Bragg Gratings (FBG) for Space Applications

M. Celikin^{*1}; D. Barba¹; E. Haddad²; A. Ruediger¹; F. Rosei¹; 1. Institut National de recherche Scientifique, Canada; 2. MPB Communications Inc, Canada

9:20 AM

(ICACC-GYIF-013-2016) Focused Ion Beam Characterization of Polycrystalline YAG Fibers

K. Shugart^{*1}; H. Kim¹; 1. UES, Inc., USA

9:40 AM

(ICACC-GYIF-015-2016) Optimization of the fabrication conditions of microtubular Solid Oxide Fuel Cells by dip coating

C. I. Ramos Villegas^{*1}; H. J. Avila Paredes¹; 1. Universidad Autónoma Metropolitana, Mexico

10:00 AM

Break

10:20 AM

(ICACC-GYIF-016-2016) Sintering Kinetics of Bayer Process Alumina

T. Frueh^{*1}; E. Kupp¹; C. Compson²; J. Atria³; G. L. Messing¹; 1. Pennsylvania State University, USA; 2. Almatix, Inc., USA

10:40 AM

(ICACC-GYIF-017-2016) Densification and Microstructure of Hot-Pressed Boron Suboxide with Alumina and Silica Additives

P. E. O'Shannessy^{*3}; E. R. Shanholtz¹; J. LaSalvia¹; K. D. Behler⁴; K. A. Kuwelkar²; 1. Army Research Laboratory, USA; 2. Rutgers University, USA; 3. Drexel University, USA; 4. TKC Global, USA

Young Researchers' Funding, Mobility and Networks

Room: Coquina Salon F

Session Chairs: Ken-ichi Mimura, National Institute of Advanced Industrial Science and Technology (AIST); Kathleen Shugart, UES, Inc.

11:20 AM

(ICACC-GYIF-018-2016) Science in between Fun, Funding and Fundamentals

T. Fischer^{*1}; S. Mathur¹; 1. University of Cologne, Germany

FS2: Advanced Ceramic Materials and Processing for Photonics and Energy

Solar Energy II

Room: Coquina Salon G

Session Chairs: Isabella Concina, CNR-IDASC SENSOR Laboratory & Brescia University; Giovanni Fanchini, University of Western Ontario

8:30 AM

(ICACC-FS2-010-2016) Semiconducting perovskites and their applications (Invited)

R. Nechache^{*1}; 1. Ecole de Technologie Supérieure, Canada

9:00 AM

(ICACC-FS2-011-2016) Photostability under Uv-light of organic-Inorganic Halide Perovskites

D. Benetti^{*1}; H. Zhao¹; K. Basu¹; L. Jin¹; F. Rosei¹; A. Vomiero²; 1. INRS, Canada; 2. Institute of Metal Research, Italy

9:20 AM

(ICACC-FS2-012-2016) Photovoltaic Properties of Multiferroic Bi₂FeCrO₆ Based p-i-n Heterojunctions with p-Type and n-Type Oxides

W. Huang^{*1}; R. Nechache¹; C. Harnagea¹; J. Chakrabarty¹; M. Chaker¹; F. Rosei¹; 1. INRS, Canada

9:40 AM

(ICACC-FS2-013-2016) Lead-free Perovskite Solar Cells Having an Anatase TiO₂ Nanoparticle/Nanofiber Composite Electron Transport Layer

K. N. Nurpramesti*; J. Ting¹; 1. National Cheng Kung University, Taiwan

10:00 AM

Break

10:20 AM

(ICACC-FS2-014-2016) Pulsed laser deposition of metal-insulator transition materials for energy and photonic devices (Invited)

M. Chaker*; N. Emond¹; B. Torrisi¹; 1. INRS, Canada

10:50 AM

(ICACC-FS2-015-2016) Carbon-based composite materials with applications in batteries and fuel cells (Invited)

D. H. Chua*; 1. National University of Singapore, Singapore

11:20 AM

(ICACC-FS2-016-2016) Investigation of the electronic structure of interface junctions in CdTe based thin film solar cells grown by pulsed laser deposition

S. Chandra*; R. Nechache¹; C. Harnagea³; F. Rosei²; 1. Ecole de Technologie Supérieure, Canada; 2. INRS, Canada; 3. Institut National de la Recherche Scientifique, Canada

11:40 AM

(ICACC-FS2-017-2016) Effect of processing on the structure and properties of glass-ceramics materials for photonics applications

G. Gorní²; J. Velázquez²; Y. Castro²; A. Durán²; R. Balda¹; M. Pascual*; 1. Superior School of Engineering, Spain; 2. Institute of Ceramics and Glass, CSIC, Spain

40th Jubilee Symposium: Engineered Ceramics: Current Status and Future Prospects

Engineered Ceramics III

Room: Coquina Salon C

Session Chairs: Soshu Kirihaara, Osaka University; Dileep Singh, Argonne National Lab

1:30 PM

(ICACC-JUB-014-2016) Silicon Nitride Ceramics (Invited)

S. Hampshire*; 1. University of Limerick, Ireland

2:00 PM

(ICACC-JUB-015-2016) Design Silicon Nitride Ceramics with Reliability and Functionality (Invited)

H. Lin*; 1. Guangdong University of Technology, China

2:30 PM

(ICACC-JUB-016-2016) Microstructural Evolution and Mechanical/Thermal Properties of Silicon Nitride Ceramics (Invited)

T. Ohji*; K. Hirao¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

3:00 PM

Break

3:20 PM

(ICACC-JUB-017-2016) Additive Manufacturing of Silicon Carbide-Based Ceramic Matrix Composites: Technical Challenges and Opportunities (Invited)

M. Singh*; M. C. Halbig²; J. E. Grady²; 1. Ohio Aerospace Institute, USA; 2. NASA Glenn Research Center, USA

3:50 PM

(ICACC-JUB-018-2016) Joining and Integration of Silicon Carbide-Based Materials for High Temperature Applications (Invited)

M. C. Halbig*; M. Singh²; 1. NASA Glenn Research Center, USA; 2. Ohio Aerospace Institute, USA

4:20 PM

(ICACC-JUB-019-2016) Stereolithographic Additive Manufacturing of Ceramic Components with Functionally Modulated Geometries (Invited)

S. Kirihaara*; 1. Osaka University, Japan

S1: Mechanical Behavior and Performance of Ceramics & Composites

Processing - Microstructure - Mechanical Properties Correlation I

Room: Coquina Salon D

Session Chairs: Kevin Ewsuk, Sandia National Laboratories; Servet Turan, Anadolu University

1:30 PM

(ICACC-S1-021-2016) Strength improvements in clay-based ceramic reinforced with discontinuous basalt fiber

G. P. Kutyla¹; P. F. Keane¹; T. A. Carlson²; C. P. Marsh²; W. M. Kriven*; 1. University of Illinois at Urbana-Champaign, USA; 2. US Army Engineer Research and Development Center, USA

1:50 PM

(ICACC-S1-022-2016) Pressureless Infiltration of Al₂O₃ Preform Containing Aligned Two-Dimensional Channels with Al-Mg-Si Alloy

E. Hammel*; O. Okoli¹; 1. Florida State University, USA

2:10 PM

(ICACC-S1-023-2016) Comparison Of Dynamic Strength and Failure Mechanisms Between Boron Carbides Processed by Hot Pressing and Spark Plasma Sintering Techniques

A. K. Robinson*; L. Farbaniec¹; T. L. Munhollon²; K. Xie¹; M. Shaeffer¹; R. A. Haber²; K. Ramesh¹; 1. Johns Hopkins University, USA; 2. Rutgers University, USA

2:30 PM

(ICACC-S1-024-2016) Spark Plasma Sintered 4Y₂ZrO₂-La₂Zr₂O₇ composites for thermal barrier applications in aeronautics

G. Chevallier*; F. Aubert¹; Y. Beynet¹; R. Epherre¹; A. Weibel¹; C. Estournes¹; 1. CIRIMAT, France

2:50 PM

(ICACC-S1-025-2016) Synthesis of high quality TiB₂ from carbon coated titanium dioxide precursor and its pressureless sintering with cobalt

Z. Fu*; R. Koc¹; 1. Southern Illinois University Carbondale, USA

3:10 PM

Break

3:30 PM

(ICACC-S1-026-2016) Alternative Metallic Binder Systems for High Performance Cermets

K. P. Plucknett*; 1. Dalhousie University, Canada

3:50 PM

(ICACC-S1-027-2016) Synthesis of TiC-TiB₂ composite powders from carbon coated TiO₂ precursor with B₄C and their hot pressing properties

Z. Fu*; R. Koc¹; 1. Southern Illinois University Carbondale, USA

4:10 PM

(ICACC-S1-028-2016) Laser Shock Peening of Structural Ceramics: Microstructural Evolution and Mechanical Properties

B. Cui*; F. Wang¹; C. Zhang¹; Y. Lu¹; M. Nastasi¹; 1. University of Nebraska-Lincoln, USA

4:30 PM

(ICACC-S1-029-2016) Thermal conductivity and laser processing of AlN-GPLs composites

D. Kata*; P. Rutkowski¹; J. Lis¹; 1. AGH University of Science and Technology, Poland

4:50 PM

(ICACC-S1-030-2016) Investigation on microstructural and mechanical properties of ceramic-reinforced aluminum matrix composites prepared by microwave sintering approach

P. R. Matli^{*1}; 1. Qatar University, Qatar

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

CMAS-related TBC Degradation and Mitigation Strategies II

Room: Coquina Salon H

Session Chair: Peter Mechnich, German Aerospace Center (DLR)

1:30 PM

(ICACC-S2-019-2016) Low Thermal Conductivity Gadolinium Zirconate/YSZ Double-layer Coatings Made by Solution Precursor Plasma Spray and Tested for CMAS Resistance

C. Jiang^{*1}; E. Jordan²; A. Harris²; M. Gell²; 1. HiFunda LLC, USA; 2. University of Connecticut, USA

1:50 PM

(ICACC-S2-020-2016) Comparative study of the resistance of Yttrium Aluminum Garnet and Yttria Stabilized Zirconia coatings to calcium magnesium alumino- silicate

R. Kumar^{*1}; E. Jordan²; M. Gell²; 1. University of Connecticut, USA

2:10 PM

(ICACC-S2-021-2016) Calcium-magnesium aluminosilicate (CMAS) interactions with advanced environmental barrier coating material

V. L. Wiesner^{*1}; N. Bansal¹; 1. NASA Glenn Research Center, USA

2:30 PM

(ICACC-S2-022-2016) Gd₂O₃ solubility in a molten CAS: comparison between Gd-apatite precipitation kinetics and Nd-apatite as well as Ca₃Y₂(Si₃O₈)₂ formation kinetics

M. Vidal-Setif^{*1}; F. Perrudin¹; C. Rio¹; O. Lavigne¹; C. Petitjean²; P. Panteix²; M. Vilasi²; 1. ONERA, France; 2. IJL-UMR 7198, France

2:50 PM

(ICACC-S2-023-2016) Tailoring the EB-PVD columnar microstructure to mitigate the infiltration of CMAS in 7YSZ TBCs

R. Naraparaju^{*1}; U. Schulz²; P. Mechnich¹; 1. German Aerospace Center (DLR), Germany

3:10 PM

Break

Advanced Multifunctional Coatings

Room: Coquina Salon H

Session Chair: Douglas Wolfe, Pennsylvania State University

3:30 PM

(ICACC-S2-024-2016) Zirconia Toughened Alumina Ceramic Coating by Thermal Nanoparticle Spraying

S. Kiriha^{*1}; 1. Osaka University, Japan

3:50 PM

(ICACC-S2-025-2016) Mo₃N Supercapcitor Electrode Fabricated by Solution Precursor Plasma Spray Deposition

Y. Gazman¹; T. W. Coyle^{*1}; 1. University of Toronto, Canada

4:10 PM

(ICACC-S2-026-2016) Influence of Yb₂O₃ and Lu₂O₃ doping on microstructural and electrical characteristics of ZnO-Bi₂O₃ based varistor films

D. XU^{*1}; K. He¹; L. Jiao¹; X. Sun¹; Y. Yang¹; Z. Hu²; N. Sun²; 1. Jiangsu University & Northeastern University, China; 2. Northeastern University, USA

4:30 PM

(ICACC-S2-027-2016) Self-Assembled Multifunctional Nanostructured Coatings

H. Fan^{*1}; 1. Sandia National Labs, USA

4:50 PM

(ICACC-S2-028-2016) Nanotechnology for the development of functional coatings (Invited)

A. S. Khanna^{*1}; 1. IIT Bombay, India

S3: 13th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Oxygen Transport / Structure and Conductivity

Room: Crystal

Session Chairs: Kristen Brosnan, GE Global Research; Nicola Perry, Kyushu University

1:30 PM

(ICACC-S3-018-2016) Surface segregation in ceramic proton conducting niobate electrolytes (Invited)

S. Skinner^{*1}; C. Li¹; 1. Imperial College London, United Kingdom

2:00 PM

(ICACC-S3-019-2016) Application of Bilayer MIECs in Low Temperature SOFCs

A. Jaiswal^{*1}; K. Duncan¹; A. Hussain¹; E. D. Wachsman¹; L. Wang²; D. Ding²; B. Blackburn²; 1. University of Maryland, USA; 2. Redox Power Systems, USA

2:20 PM

(ICACC-S3-020-2016) Effects of fast elemental interdiffusion in highly defective Gd-doped ceria

V. Esposito^{*1}; D. W. Ni¹; F. Teocoli¹; D. Marani¹; D. Z. de Florio²; F. C. Fonseca³; 1. Technical University of Denmark, Denmark; 2. Universidade Federal do ABC, Brazil; 3. IPEN - CNEN / SP, Brazil

2:40 PM

(ICACC-S3-021-2016) Mechanical Damping and Dielectric Relaxation of 8 mol% YSZ

P. Gao^{*1}; K. An²; D. Yu³; E. Lara-Curzio²; A. Payzant²; G. Brankovic²; Z. Brankovic²; M. Radovic²; 1. Texas A&M University, USA; 2. Oak Ridge National Laboratory, USA; 3. Tianjin University, China; 4. University of Belgrade, Serbia

3:00 PM

Break

3:20 PM

(ICACC-S3-022-2016) Elastic Properties and Mechanical Loss of SOFC Materials under Electric Field and Low Oxygen Partial Pressure by Resonant Ultrasound Spectroscopy

A. M. Bolon^{*1}; M. Radovic¹; 1. Texas A&M University, USA

3:40 PM

(ICACC-S3-023-2016) Phase Interaction and distribution in Mixed Ionic Electronic Conducting Ceria-Spinel Composites

M. Ramasamy^{*1}; S. Baumann¹; F. Schulze-Kuppers¹; A. Opitz²; R. Iskander²; J. Mayer²; M. Bram¹; O. Guillon¹; 1. Forschungszentrum Juelich GmbH, Germany; 2. Vienna University of Technology, Austria; 3. Gemeinschaftslabor für Elektronenmikroskopie (GFE), Germany

4:00 PM

(ICACC-S3-024-2016) Structural and Conductivity Study of ZrO₂ doped with Yb₂O₃ and Sc₂O₃

V. Shukla¹; A. Rai¹; I. L. B.¹; K. Balani¹; A. Subramaniam¹; S. Omar^{*1}; 1. Indian Institute of Technology Kanpur, India

4:20 PM

(ICACC-S3-025-2016) High-Temperature ⁵⁷Fe Mössbauer Study of Mixed Ionic-Electronic Conducting (Ba_{0.5}Sr_{0.5})(Co_{0.8}Fe_{0.2})O_{3-δ}

P. Gaczynski¹; A. Harpf²; J. Boer²; R. Kirchsen²; R. Krieger²; K. D. Becker^{*1}; 1. TU Braunschweig, Germany; 2. Fraunhofer IKTS, Germany

S4: Armor Ceramics

Developments in Materials and Process Modeling II

Room: Coquina Salon E

Session Chair: Nitin Daphalapurkar, The Johns Hopkins University

1:20 PM

(ICACC-S4-022-2016) The Origin of Brittle Failure of Boron Carbide from First Principles Based Multiscale Simulations
Q. An¹; W. A. Goddard²; 1. Caltech, USA

Developments in Materials Characterization, Properties, and Response I

Room: Coquina Salon E

Session Chair: Jerry LaSalvia, Army Research Laboratory

1:40 PM

(ICACC-S4-023-2016) Investigation of the Structural and Physical Properties of Boron Carbide Across the Solubility Range
K. A. Kuwielkar¹; K. Behler²; V. Domnich¹; R. A. Haber¹; 1. Rutgers University, USA; 2. US Army Research Laboratory, USA

2:00 PM

(ICACC-S4-024-2016) Transmission Electron Microscopy of Amorphization Band Structure due to Rate-Dependent Indentation on Micro- and Nano-Grained Boron Carbide
G. Subhash¹; P. Jannotti¹; M. DeVries¹; J. Pittari¹; 1. University of Florida, USA

2:20 PM

(ICACC-S4-025-2016) Analysis of mechanical properties distribution in a hot-pressed boron carbide
L. Farbaniec¹; J. D. Hogan²; M. Shaeffer¹; K. Ramesh¹; 1. Johns Hopkins University, USA; 2. University of Alberta, Edmonton, Canada

2:40 PM

(ICACC-S4-026-2016) The effect of grain size on the indentation size effect in boron carbide and silicon carbide
C. Besnard¹; N. Al Nasiri¹; W. Montague¹; P. Brown²; F. Giuliani¹; L. Vandeperre¹; 1. Imperial College London, United Kingdom; 2. Defence Science and Technology Laboratory Porton Down, United Kingdom

3:00 PM

Break

3:20 PM

(ICACC-S4-027-2016) Compression strength of boron carbide
J. Swab¹; 1. Army Research Laboratory, USA

3:40 PM

(ICACC-S4-028-2016) TEM Characterization of the Deformed Region Beneath Knoop Indents in Boron Carbide
J. LaSalvia¹; S. D. Walck²; K. D. Behler²; 1. Army Research Laboratory, USA; 2. TKC Global, USA

4:00 PM

(ICACC-S4-029-2016) Characterizing Armor Ceramic Microstructures Non-Destructively Through Their Electrical Properties
M. Golt¹; K. Strawhecker²; M. Bratcher²; E. Warner²; 1. TKC Global Solutions, USA; 2. U.S. Army Research Laboratory, USA; 3. Bowhead Science and Technology, LLC, USA

4:20 PM

(ICACC-S4-030-2016) Comparison of Amorphized Zones Beneath Static and Dynamic Indentations in Boron Carbide
G. Parsard¹; G. Subhash¹; 1. University of Florida, USA

4:40 PM

(ICACC-S4-031-2016) Dynamic Electromechanical Behavior of Ferroelectric Ceramics in the Morphotropic Phase Boundary
L. E. Lamberson¹; L. Shannahan¹; 1. Drexel University, USA

5:00 PM

(ICACC-S4-032-2016) The Influence of Impurities on Alumina Microstructure
R. Moshe¹; W. D. Kaplan¹; 1. Technion - Israel Institute of Technology, Israel

S6: Advanced Materials and Technologies for Direct Thermal Energy Conversion and Rechargeable Energy Storage

Recent Developments on Lithium Batteries

Room: Tomoka A

Session Chairs: Naoaki Yabuuchi, Tokyo Denki University; Prabeer Barpanda, Indian Institute of Science

1:30 PM

(ICACC-S6-016-2016) Insights into the Structure and Performance of NMC Cathode Materials for Li-Ion Batteries (Invited)
M. Doeff¹; 1. Lawrence Berkeley National Lab, USA

2:00 PM

(ICACC-S6-017-2016) High Energy Density Li-rich Layered Oxides as Positive Electrode Materials for Li-ion Batteries (Invited)
L. Croguennec¹; H. Koga²; S. Pajot²; C. Genevois²; F. Weill¹; P. Feydi²; M. Ménétrier¹; C. Delmas¹; L. Simonin¹; 1. ICMCB-CNRS, France; 2. ICMCB-CNRS and CEA Tech Aquitaine, France; 3. ICMCB-CNRS and Toyota Motor Europe, France; 4. CEMHTI, France; 5. CEA Liten, France; 6. CEA Tech Aquitaine, France

2:30 PM

(ICACC-S6-018-2016) High-capacity electrode materials for rechargeable lithium batteries: Li₃NbO₄-based system with cation-disordered rocksalt structure (Invited)
N. Yabuuchi¹; 1. Tokyo Denki University, Japan

3:00 PM

Break

3:20 PM

(ICACC-S6-019-2016) Recent advances in positive electrode materials for Li-ion batteries (Invited)
G. Rousse¹; 1. College de France/UPMC, France

3:50 PM

(ICACC-S6-020-2016) Amorphous lithium manganate, a new matrix for high density Li ion batteries
M. Freire²; N. Kosova⁴; C. Jordy²; O. I. Lebedev³; D. Chateigner³; A. Maignan³; V. Pralong¹; 1. CNRS ENSICAEN, France; 2. cnrs saft, France; 3. CNRS CRISMAT, France; 4. Institute of Solid State Chemistry and Mechanochemistry, Russian Federation; 5. SAFT, France

4:10 PM

(ICACC-S6-021-2016) Facile route to develop CNT reinforced LiFePO₄ and Co₃O₄ with uniform CNT distribution, as superior electrode materials for Li-ion batteries
M. K. Satam¹; R. Natarajan¹; A. Chatterjee¹; Y. Krishnan¹; M. Jangid¹; S. Kobi¹; A. Mukhopadhyay¹; 1. IIT Bombay, India

4:30 PM

(ICACC-S6-022-2016) Preparation and battery performance of lithium-iron-fluorosilicate glass cathode
T. Togashi¹; K. Shinozaki¹; T. Honma¹; T. Komatsu¹; 1. Nagaoka University of Technology, Japan

4:50 PM

(ICACC-S6-023-2016) Unravelling the interplay of particle size and lithium ion transport in LiFePO₄
R. Shahid¹; S. Murugavel¹; B. Roling²; 1. University of Delhi, India; 2. Fachbereich Chemie Physikalische Chemie, Germany

S7: 10th International Symposium on Nanostructured Materials: Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental and Health Applications

Advanced Processing and Characterization of Nanomaterials I

Room: Coquina Salon A

Session Chairs: Lisong Xiao, University of Duisburg-Essen; Theodor Schneller, RWTH Aachen University

1:30 PM

(ICACC-S7-020-2016) Microcrystalline Sodium Tungsten Bronze Materials Applied in Photocatalysis (Invited)

B. Tang^{*}; 1. Shandong Normal University, China

2:00 PM

(ICACC-S7-021-2016) Carbon nanotube thin films for flexible electronics applications (Invited)

E. I. Kauppinen^{*}; 1. Aalto University School of Science, Finland

2:20 PM

(ICACC-S7-022-2016) Smart Powder Processing for Advanced Materials (Invited)

M. Naito^{*}; T. Kozawa¹; A. Kondo¹; M. Matsuoka¹; 1. JWRI, Osaka University, Japan

2:40 PM

(ICACC-S7-023-2016) Atomic scale STEM analysis of structure and dopant effects on grain boundary in oxide ceramics (Invited)

T. Tohei^{*}; M. Sakai¹; N. Shibata¹; Y. Ikuhara¹; 1. The University of Tokyo, Japan

3:00 PM

Break

Advanced Processing and Characterization of Nanomaterials II

Room: Coquina Salon A

Session Chairs: Esko Kauppinen, Aalto University School of Science; Makio Naito, JWRI, Osaka University

3:20 PM

(ICACC-S7-024-2016) Time dependent dispersion and gelation phenomena of fine alumina powder aqueous suspension for advanced gel casting process by using poly-isobutylene-alt-maleic anhydride (Invited)

H. Kamiya^{*}; Y. Okada¹; S. Shimai¹; 1. Tokyo University of Agriculture and Technology, Japan

3:50 PM

(ICACC-S7-025-2016) Controlled Formation of Nanoparticles from Gas-Phase Reactions for Energy Storage (Invited)

L. Xiao^{*}; Y. Sehlleier¹; C. Schulz²; H. Wiggers²; 1. University of Duisburg-Essen, Germany; 2. Center for Nanointegration Duisburg-Essen (CENIDE), Germany

4:10 PM

(ICACC-S7-026-2016) Nanostructured complex metal oxide thin films for energy applications manufactured and compositionally engineered by chemical solution deposition (Invited)

T. Schneller^{*}; 1. RWTH Aachen University, Germany

4:30 PM

(ICACC-S7-027-2016) Investigation of Magnetic Iron Oxide Nanosheets Synthesized by Hydrothermal Method

Y. Kamei^{*}; Y. Makinose¹; K. Wakayama¹; K. Katsumata²; N. Matsushita¹; 1. Tokyo Institute of Technology, Japan; 2. Tokyo University of Science, Japan

4:50 PM

Break

5:10 PM

(ICACC-S7-028-2016) 2-D carbon/NiO for use in supercapacitors

X. Nguyen Thi^{*}; J. Ting¹; 1. National Cheng Kung University, Taiwan

5:30 PM

(ICACC-S7-029-2016) Synthesis and characterization of V₂O₅-HfO_{2-x} core shell nanoparticles by precipitation method for visible light photodegradation

S. Lu^{*}; J. Ting¹; 1. National Cheng Kung University, Taiwan

5:50 PM

(ICACC-S7-030-2016) Latest Developments Organometallic Hybrid Perovskite Solar Cells

D. M. Gedamu^{*}; R. Nechache²; F. Rosei¹; 1. INRS, Canada; 2. INRS-EMT, Canada; 3. Ecole de technologie supérieure, Canada

6:10 PM

(ICACC-S7-031-2016) Solution synthesis of Al doped ZnO transparent electrodes: mission impossible or need for more insight

M. K. Van Bael^{*}; A. Hardy¹; K. Elen¹; 1. Hasselt University & imec, Belgium

S8: 10th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT10)

Novel Ceramic Processing I

Room: Coquina Salon B

Session Chairs: Tohru Suzuki, National Institute for Materials Science; Ralf Riedel, TU Darmstadt

1:30 PM

(ICACC-S8-020-2016) In situ formed SiC nano-inclusions in Si₃N₄ based ceramics - thermal shock resistance, wear behavior and oxidation resistance (Invited)

P. Sajgalik^{*}; 1. Institute of Inorganic Chemistry, Slovak Academy of Sciences, Slovakia

2:00 PM

(ICACC-S8-021-2016) Development of silicon nitride / multilayered graphene nanocomposites (Invited)

C. Balazsi^{*}; 1. Bay Zoltan Nonprofit Ltd. for Applied Research, Hungary

2:30 PM

(ICACC-S8-022-2016) Fracture-induced amorphization of polycrystalline SiO₂ stishovite: nanoscale transformation toughening in the hardest oxide

N. Nishiyama^{*}; F. Wakai²; H. Ohfuji²; Y. Tamenori⁴; H. Murata⁵; T. Taniguchi³; M. Matsushita³; E. Kulik¹; K. Yoshida²; T. Irifune¹; 1. Deutsches Elektronen-Synchrotron DESY, Germany; 2. Tokyo Institute of Technology, Japan; 3. Ehimu University, Japan; 4. Japan Synchrotron Radiation Research Institute, Japan; 5. National Institute for Materials Science (NIMS), Japan

2:50 PM

(ICACC-S8-023-2016) Mechanical and Thermal Properties of Pressureless Sintered Silicon Carbide Ceramics with Alumina-Yttria-Calcia-Strontia

Y. Seo^{*}; J. Eom¹; Y. Kim¹; 1. University of Seoul, The Republic of Korea

3:10 PM

Break

3:30 PM

(ICACC-S8-024-2016) Silicate ceramic materials with improved properties for technical applications prepared by controlled mullite crystallisation (Invited)

J. Lis^{*}; J. Partyka¹; M. Grandys¹; A. Tajdus¹; 1. AGH University of Science and Technology, Poland

3:50 PM

(ICACC-S8-025-2016) Fabrication of c-axis oriented Si_3N_4 ceramics by molding under low and static magnetic field using graphene / Si_3N_4 nanocomposite particles as seed particles (Invited)

J. Tatami^{*1}; N. Sugimoto¹; T. Takahashi²; M. Iijima¹; S. Tanaka²; 1. Yokohama National University, Japan; 2. Nagaoka University of Technology, Japan; 3. Kanagawa Academy of Science and Technology, Japan

4:10 PM

(ICACC-S8-026-2016) Manufacturing Complex-Shaped Silicon Nitride Components through Room-Temperature Injection Molding of Ceramic Suspension Gels (CeraSGels)

L. Rueschhoff^{*1}; J. Youngblood¹; R. Trice¹; 1. Purdue University, USA

4:30 PM

(ICACC-S8-027-2016) TEM Analysis of Interfaces in Diffusion-Bonded Silicon Carbide Ceramics Joined Using Metallic Interlayers

T. Ozaki^{*2}; Y. Hasegawa²; H. Tsuda³; S. Mori³; M. C. Halbig⁴; M. Singh¹; R. Asthana⁵; 1. Ohio Aerospace Institute, USA; 2. Technology Research Institute of Osaka Prefecture, Japan; 3. Osaka Prefecture University, Japan; 4. NASA Glenn Research Center, USA; 5. University of Wisconsin-Stout, USA

4:50 PM

(ICACC-S8-028-2016) Large-scale Fabrication of Nitrogen Vacancy Embedded Diamond Nanostructure Arrays: Method and Mechanism

C. Gu^{*1}; W. Li¹; Q. Jiang¹; 1. Beijing National Lab for Condensed Matter Physics, China

S10: Virtual Materials (Computational) Design and Ceramic Genome

Modeling of Innovative Ceramics for Functional Applications III

Room: Ponce DeLeon

Session Chair: Sean Smith, University of New South Wales

1:30 PM

(ICACC-S10-017-2016) Computational Design of SiCO Ceramics for Novel Li Batteries (Invited)

P. Kroll^{*1}; 1. UT Arlington, USA

2:00 PM

(ICACC-S10-018-2016) Comparison of Oxygen Diffusion Mechanisms in Ytterbium Disilicate from Kinetic Monte Carlo Simulation

B. S. Good^{*1}; 1. NASA Glenn Research Center, USA

2:20 PM

(ICACC-S10-019-2016) Complex defects study in Ga-, In-based skutterudites CoSb_3

L. Xi^{*2}; J. Yang¹; W. Zhang¹; 1. Shanghai University, China; 2. Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

2:40 PM

Break

Modeling of Innovative Ceramics for Functional Applications IV

Room: Ponce DeLeon

Session Chair: Peter Kroll, UT Arlington

3:00 PM

(ICACC-S10-020-2016) Computational studies on the stability of $\text{SrCoO}_{3-\delta}$ phases for electrocatalytic oxygen evolution (Invited)

H. Tahini¹; X. Tan¹; J. Zhu²; W. Zhou²; F. Kurnia¹; J. Hart¹; S. Smith^{*1}; 1. UNSW, Australia; 2. The University of Queensland, Australia

3:30 PM

(ICACC-S10-021-2016) Computational Materials Design of Novel Functional Oxides (Invited)

V. R. Cooper^{*1}; 1. Oak Ridge National Laboratory, USA

4:00 PM

(ICACC-S10-022-2016) Microstructure Design For Fast Oxygen Conduction (Invited)

D. S. Aidhy^{*1}; W. J. Weber²; 1. University of Wyoming, USA; 2. University of Tennessee, USA

4:20 PM

(ICACC-S10-023-2016) Molecular Mechanisms of dissolution and absorption in Alkaline and Acid Treatment of Zeolite (Invited)

Y. Liu^{*1}; 1. Shanghai University, China

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

Novel Processing Methods I

Room: Tomoka B

Session Chair: Zhengming Sun, Southeast University

1:30 PM

(ICACC-S12-019-2016) Synthesis and densification of nano-UHTC powders and UHTC-SiC nano composites (Invited)

S. Lee^{*1}; L. Feng¹; H. Kim¹; 1. Korea Institute of Materials Science, The Republic of Korea

2:00 PM

(ICACC-S12-020-2016) Melt Formed Hafnium Carbide-Carbon Eutectics for Ultrahigh Temperature Applications

L. Bracamonte^{*1}; S. Pickard¹; J. Withers¹; 1. Materials & Electrochemical Research Corporation, USA

2:20 PM

(ICACC-S12-021-2016) Preparation and optimization of ultra-refractory ZrB_2 - MoSi_2 -based dual composite ceramics for high temperature structural use

F. Monteverde^{*1}; D. Sciti¹; S. Failla¹; R. J. Grohsmeyer²; G. Hilmas²; W. Fahrenholtz²; 1. CNR-ISTEC, Italy; 2. Missouri University of Science and Technology, USA

2:40 PM

(ICACC-S12-022-2016) Fabrication and Characterization of Thermal Protection Systems with Hybrid Ceramic-Polymer Matrix Composites

H. Yang¹; J. Gou¹; C. Harris^{*1}; 1. University of Central Florida, USA

3:00 PM

Break

New Precursors for Powders, Coatings, and Matrix or Fibers of Composites

Room: Tomoka B

Session Chair: Sea-Hoon Lee, Korea Institute of Materials Science

3:20 PM

(ICACC-S12-023-2016) Spontaneous metal whisker growth on MAX phases, the phenomenon, the mechanism (Invited)

Z. Sun^{*1}; P. Zhang¹; Y. Zhang¹; Y. Liu¹; B. An²; T. Iijima²; 1. Southeast University, China; 2. National Institute of Advanced Industrial Science and Technology (AIST), Japan

3:50 PM

(ICACC-S12-024-2016) *In-situ* borothermic route to Group 4 nanosized metal borides particles

L. Zoli^{*1}; P. Pinasco¹; D. Sciti¹; 1. ISTEC-CNR, Italy

4:10 PM

(ICACC-S12-025-2016) Single-Source-Precursor Synthesis and Properties of Hf-Containing Ultrahigh-Temperature Ceramic Nanocomposites (UHTC-NCs)

J. Yuan¹; Q. Wen¹; E. Ionescu^{*1}; 1. Technical University Darmstadt, Germany

4:30 PM

(ICACC-S12-026-2016) Synthesis of Sinterable Titanium Diboride (TiB₂) powders

A. M. Celik^{*1}; R. A. Haber¹; 1. Rutgers University, USA

S13: Advanced Materials for Sustainable Nuclear Fission and Fusion Energy

Accident Tolerant Fuels III and Nuclear Graphite

Room: St. John

Session Chairs: Koroush Shirvan, Massachusetts Institute of Technology; Takaaki Koyanagi, Oak Ridge National Laboratory

1:30 PM

(ICACC-S13-018-2016) Fabrication and Characterization of SiC-SiC Composite-based Accident Tolerant Cladding for Light Water Reactor (Invited)

C. Deck^{*1}; H. Khalifa¹; G. Jacobsen¹; J. Sheeder¹; J. Zhang¹; O. Gutierrez¹; J. Stone¹; C. A. Back¹; 1. General Atomics, USA

2:00 PM

(ICACC-S13-019-2016) Characterization of Strength and Toughness of Complex TEP SiC-SiC Composites Structures

H. Zhao¹; W. Housley¹; K. Shapovalov¹; H. Khalifa²; X. Huang^{*1}; 1. University of South Carolina, USA; 2. General Atomics, USA

2:20 PM

(ICACC-S13-020-2016) Performance evaluation of SiC/SiC Cladding for LWR Applications

G. Singh^{*1}; K. Terrani¹; Y. Katoh²; 1. Oak Ridge National Lab, USA; 2. Oak Ridge National Laboratory, USA

2:40 PM

(ICACC-S13-021-2016) Effort Towards Correlation Between SiC-SiC Composite Mechanical Strength and Architecture and Microstructure Measured using X-Ray Computed Tomography

J. Sheeder^{*1}; C. Deck¹; H. Khalifa¹; G. Jacobsen¹; J. Zhang¹; C. Back¹; 1. General Atomics, USA

3:00 PM

Break

3:20 PM

(ICACC-S13-022-2016) Hot water corrosion behavior of ion irradiated high purity SiC (Invited)

S. Kondo^{*1}; M. Lee¹; T. Hinoki¹; 1. Kyoto University, Japan

3:50 PM

(ICACC-S13-023-2016) Proton irradiation of joints of silicon carbide

M. Gentile^{*1}; T. Abram¹; 1. The University of Manchester, United Kingdom

4:10 PM

(ICACC-S13-024-2016) Property evaluation and microstructure characterization of the A3-3 matrix graphite for the Chinese HTR-PM pebble-style fuel elements

X. Zhou^{*1}; A. A. Campbell²; Y. Katoh²; B. Liu¹; 1. Tsinghua University, Beijing, China, China; 2. Oak Ridge National Laboratory, USA

4:30 PM

(ICACC-S13-025-2016) Microstructural Evolution in Neutron Irradiated Fine-Grained Graphite

A. A. Campbell^{*1}; Y. Katoh¹; 1. Oak Ridge National Laboratory, USA

S14: Crystalline Materials for Electrical, Optical and Medical Applications

Optical Material II

Room: Tomoka C

Session Chair: Edith Bourret, Lawrence Berkeley National Laboratory

1:30 PM

(ICACC-S14-016-2016) Single-crystal fiber optics: a review (Invited)

J. A. Harrington^{*1}; 1. Rutgers University, USA

2:00 PM

(ICACC-S14-017-2016) Cladded Doped Single Crystals Fibers for High Power Laser and Amplifier Applications (Invited)

G. Maxwell^{*1}; 1. Shasta Crystals Inc, USA

2:30 PM

(ICACC-S14-018-2016) Some aspects of the growth of borate-based crystals by the micro-pulling down technique (Invited)

M. Ferriol^{*1}; F. Assi¹; M. Cochez¹; M. Aillerie¹; 1. Université de Lorraine, France

3:00 PM

Break

New Direction II

Room: Tomoka C

Session Chair: Qiang Li, Tsinghua University

3:20 PM

(ICACC-S14-019-2016) A new mechanism of piezoresponse in ferrielectric single crystals: Polarization Twist (Invited)

Y. Noguchi^{*1}; Y. Kitanaka¹; M. Miyayama¹; 1. The University of Tokyo, Japan

3:50 PM

(ICACC-S14-020-2016) Crystal growth methods as a tool for manufacturing metamaterials and plasmonic materials (Invited)

D. A. Pawlak^{*1}; M. Gajc¹; K. Sadecka¹; P. Osewski¹; B. Surma¹; K. Wyszumek¹; J. Sar¹; 1. Institute of Electronic Materials Technology, Poland

4:20 PM

(ICACC-S14-021-2016) Preparation of Transparent Phosphors using Melt Synthesis Method

K. Toda^{*1}; 1. Niigat University, Japan

5th Global Young Investigator Forum

Advanced Ceramic Materials Prediction, Design and Novel Processing

Room: Coquina Salon F

Session Chairs: David Poerschke, University of California Santa Barbara; Erica Corral, The University of Arizona; Jesse Angle, Exponent Inc.

1:30 PM

(ICACC-GYIF-019-2016) Microstructure and Mechanical Properties of Ultra-High Purity ZrB₂ Using Thermodynamic Assisted Models and Spark Plasma Sintering (Invited)

E. L. Corral^{*1}; 1. The University of Arizona, USA

2:00 PM

(ICACC-GYIF-020-2016) Investigation of the role of carbon ZrO₂ mixing in ZrN powder synthesis

S. Naim Katea^{*1}; 1. Uppsala University, Sweden

2:20 PM**(ICACC-GYIF-021-2016) The Use of Concrete Admixtures to Disperse Highly Loaded Silicon Nitride Ceramic Suspension Gels (CeraSGels) for Room-Temperature Processing**L. Rueschhoff^{*1}; J. Youngblood¹; R. Trice¹; 1. Purdue University, USA**2:40 PM****(ICACC-GYIF-022-2016) Wet oxidation behavior of silicide and SiC-fiber-reinforced composites fabricated by melt infiltration using Si-Hf and Si-Ti alloy**T. Tsunoura^{*2}; Y. Okubo²; K. Yoshida²; T. Yano²; T. Aoki¹; T. Ogasawara¹; 1. Japan Aerospace Exploration Agency, Japan; 2. Tokyo Institute of Technology, Japan**3:00 PM****Break****3:20 PM****(ICACC-GYIF-023-2016) Mixing and thermal decomposition investigations in blend of preceramic polymers**K. Kita^{*1}; M. Fukushima¹; Y. Yoshizawa¹; N. Kondo¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan**3:40 PM****(ICACC-GYIF-024-2016) Formation of micro-textured alumina bodies under applied magnetic field using novel, water-soluble polymer gelling system**C. A. Moorehead^{*1}; V. L. Blair¹; R. E. Brennan¹; 1. US Army Research Laboratory, USA**4:00 PM****(ICACC-GYIF-025-2016) Morphology and engineering properties of cellular ceramics prepared by gelation and freezing method**M. Fukushima^{*1}; C. Matsunaga¹; T. Ohji¹; Y. Yoshizawa¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan**4:20 PM****(ICACC-GYIF-026-2016) Direct ink-writing of a preceramic polymer and fillers to produce hardystonite (Ca₂ZnSi₂O₇) bioceramic scaffolds**G. Franchin^{*1}; A. Zocca¹; H. Elsayed¹; E. Gioffredi²; P. Colombo¹; 1. University of Padova, Italy; 2. Turin Polytechnic, Italy**4:40 PM****(ICACC-GYIF-027-2016) Manufacture of complex-shaped ceramic components with highly oriented reinforcing phase by horizontal dip-spin casting**V. L. Wiesner^{*1}; L. Rueschhoff¹; M. Acosta²; J. Youngblood²; R. Trice²; 1. NASA Glenn Research Center, USA; 2. Purdue University, USA; 3. GE Aviation, USA**5:00 PM****(ICACC-GYIF-028-2016) Micro/nano-indentation and scratching of Si₃N₄ based nanocomposites**C. Lee^{*1}; H. Lu²; J. Huang¹; 1. National Cheng Kung University, Taiwan; 2. National Chin-Yi University of Technology, Taiwan**5:20 PM****(ICACC-GYIF-029-2016) Nitridation behavior of silicon powder compacts doped with Y₂O₃ and MgO additives**C. Matsunaga^{*1}; Y. Zhou¹; D. Kusano²; H. Hyuga¹; Y. Yoshizawa¹; K. Hirao¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan; 2. Japan Fine Ceramics Co., Ltd., Japan**FS2: Advanced Ceramic Materials and Processing for Photonics and Energy****Multi-functional Materials**

Room: Coquina Salon G

Session Chairs: Clara Santato, Ecole Polytechnique de Montreal; Oussama Moutanabbir, Ecole Polytechnique de Montreal

1:30 PM**(ICACC-FS2-018-2016) Solution processing of thin- and ultra-thin Fe-containing oxide and nano-composite films (Invited)**G. Westin^{*1}; 1. Uppsala University, Sweden**2:00 PM****(ICACC-FS2-019-2016) Observation of in-plane charge transport in monolayer hexagonal boron nitride (Invited)**M. Sijaj^{*1}; F. Mahvash¹; T. Szkopek²; 1. UQAM, Canada; 2. McGill University, Canada**2:30 PM****(ICACC-FS2-020-2016) Solution-based Bio-inspired Growth of Photocatalytically Active Nanoporous Membranes and Oriented Nanowires for Water Purification and Splitting (Invited)**D. Kisailus^{*1}; 1. UC Riverside, USA**3:00 PM****Break****3:20 PM****(ICACC-FS2-021-2016) From Thin Films to Nanocrystals: Assorted WO₃ Gas-Sensing Materials from Multifaceted Wet Chemical Processing (Invited)**M. Epifani^{*1}; 1. CNR-IMM, Italy**3:50 PM****(ICACC-FS2-022-2016) Structuring of Nanoporous Powders into Hierarchically Porous Nanostructured Adsorbents for Clean Energy (Invited)**F. Akhtar^{*1}; 1. Division of Materials Science, Sweden**4:20 PM****(ICACC-FS2-023-2016) Stretchable organic bioelectronics (Invited)**F. Cicoira^{*1}; 1. Polytechnique Montreal, Canada**4:50 PM****(ICACC-FS2-024-2016) Conductive Ceramic Composites for Fabricating High Temperature and Harsh Environment Sensors: Thermal Processing, Stability and Properties**G. A. Yakaboylu^{*1}; R. Chockalingam¹; B. Armour¹; K. Sabolsky¹; E. M. Sabolsky¹; 1. West Virginia University, USA**Posters****Poster Session A**

Room: Ocean Center Arena

5:30 PM**(ICACC-FS2-P001-2016) Consolidation and characterization of calcium lanthanum sulfide infrared optical materials**Y. Li^{*1}; Y. Wu¹; 1. Alfred University, USA**(ICACC-FS2-P002-2016) Effects of Oxygen Partial Pressure on the Structural and Electrical Properties of Sputtered SnO_x Thin Films**S. Han^{*1}; H. Kim¹; 1. Seoul National University, The Republic of Korea**(ICACC-FS2-P003-2016) Development of Low Temperature Glass Systems for High Efficiency Lighting Devices**J. Liao¹; Y. Chung¹; F. Wu^{*1}; 1. National United University, Taiwan

(ICACC-FS2-P004-2016) Stability of Semiconductor Core Optical Fibers

J. Guo^{*1}; M. Ordu¹; J. Bird¹; S. Ramachandran¹; S. Basu^{*1}; 1. Boston University, USA

(ICACC-S1-P005-2016) Shear/tensile tests on joined glass-to-steel components

M. Ferraris^{*1}; S. Delapierre¹; T. Scalici²; A. Valenza²; C. Fichera¹; M. Avale¹; 1. Politecnico di Torino, Italy; 2. Universita' di Palermo, Italy

(ICACC-S1-P006-2016) Joining of Cf/SiC ceramic composite to itself and Ti64 for aerospace applications

P. Gianchandani¹; M. Bangash¹; V. Casalegno¹; M. Ferraris^{*1}; 1. Politecnico di Torino, Italy

(ICACC-S1-P007-2016) Long Term Durability Results From Ceramic Matrix Composites: Comparison Across Multiple Material Systems

G. Ojard^{*1}; A. Calomino¹; B. Flandermeyer²; J. Brennan¹; D. Jarmon¹; D. Brewer²; 1. United Technologies Research Center, USA; 2. NASA Langley, USA; 3. Pratt & Whitney, USA

(ICACC-S1-P008-2016) Influence of Curvature on High Velocity Impact of SiC/SiC Composites

R. Mansour^{*1}; M. Kannan¹; M. Presby¹; G. Morscher¹; F. Abdi²; C. Godines²; J. Shi³; S. Choi⁴; 1. The University of Akron, USA; 2. AlphaSTAR Corporation, USA; 3. Rolls Royce Corporation, USA; 4. NAVAIR, USA

(ICACC-S1-P009-2016) Si₃N₄-based Ceramics Fabricated with a Mixture of Si₃N₄-Si Powders

R. Huang^{*1}; Y. Wu¹; S. Ye¹; Y. Long¹; H. Lin¹; 1. Guangdong University of Technology, China

(ICACC-S1-P010-2016) High temperature electrical behavior of melt-infiltrated SiC/SiC composites

M. P. Appleby^{*2}; G. Morscher²; D. Zhu²; E. Mailliet¹; 1. GE Global Research, USA; 2. The University of Akron, USA; 3. NASA Glenn Research Center, USA

(ICACC-S1-P011-2016) Creep Properties of Lutetium Oxide Containing SiAlON Ceramics

D. Turan^{*1}; 1. Anadolu University, Turkey

(ICACC-S1-P012-2016) The effect of BN volume fraction on BN particle dispersion SiC composites

S. Yanagawa^{*1}; T. Hinoki¹; K. Shimoda²; 1. Kyoto University, Japan; 2. National Institute for Materials Science (NIMS), Japan

(ICACC-S1-P013-2016) Experimental verification of continuum damage mechanics model for SiC/SiC composites using digital image correlation technique

S. Ogihara¹; T. Kikuta^{*2}; R. Maeno²; T. Aoki¹; T. Ogasawara¹; R. Kitamura²; 1. Japan Aerospace Exploration Agency, Japan; 2. Tokyo University of Science, Japan; 3. Tokyo University of Science undergraduate school, Japan

(ICACC-S1-P014-2016) Degradation evaluation of Si₃N₄ ceramic surface in contact with molten aluminum by using microcantilever beam specimens

S. Fujita^{*1}; J. Tatami¹; M. Iijima¹; 1. Yokohama National University, Japan

(ICACC-S1-P015-2016) Modified asymmetric four-point bend test method for in-plane shear properties of ceramic matrix composites at elevated temperatures

I. Hisato^{*1}; M. Takanashi¹; T. Nakamura¹; T. Aoki²; T. Ogasawara²; 1. IHI Corporation, Japan; 2. Japan Aerospace Exploration Agency, Japan

(ICACC-S1-P016-2016) Fracture Analysis of the Encapsulation Layer for Flexible OLED by Using Electrical Method

E. Park^{*1}; S. Kim¹; H. Kim¹; 1. Seoul National University, The Republic of Korea

(ICACC-S1-P017-2016) Lithium disilicate glass-ceramics fabricated by heat treatment of lithium metasilicate glass-ceramics obtained by hot-pressing

H. Zhang^{*1}; J. Yang¹; 1. Xi'an Jiaotong University, China

(ICACC-S1-P018-2016) Infrared spectral emissivity of SiC fiber / SiC matrix composites at elevated temperatures

T. Ogasawara^{*1}; T. Aoki¹; 1. Japan Aerospace Exploration Agency, Japan

(ICACC-S1-P019-2016) Effect of BaO addition on the properties of glass-ceramic materials from the SiO₂-Al₂O₃-CaO-MgO-Na₂O-K₂O system

J. Partyka^{*1}; M. Sitarz¹; K. Pasiut¹; M. Lesniak¹; M. Gajek¹; 1. AGH University of Science and Technology, Poland

(ICACC-S1-P020-2016) Effect of the M-A bonds on the Mechanical Properties in MAX phases

W. Son^{*2}; T. Duong²; A. Talapatra²; H. Gao¹; M. Radovic²; R. Arroyave²; 1. Texas A&M, USA; 2. Texas A&M University, USA

(ICACC-S1-P021-2016) Development of transthickness tension test method for ceramic matrix composites at elevated temperatures

I. Hisato^{*1}; M. Takanashi¹; T. Nakamura¹; 1. IHI Corporation, Japan

(ICACC-S1-P022-2016) Microstructure and mechanical properties of mullite-whiskers reinforced lithium disilicate glass-ceramic matrix composites for dental restoration

Y. Zhang^{*1}; J. Yang¹; 1. Xi'an Jiaotong University, China

(ICACC-S1-P023-2016) Effect of chemical diffusion between Si₃N₄ ceramics and Stainless Steel on cutting performances of the ceramics cutting tools

Y. Long^{*2}; J. Zhang²; R. Huang²; H. Lin¹; 1. Guangdong University of Technology, China; 2. School of Electromechanical Engineering, China

(ICACC-S1-P024-2016) Fabrication and characterization of joined single-end type RBSC radiant tube

H. Shin^{*1}; B. Yun¹; Y. Kim¹; 1. Inocera inc., The Republic of Korea

(ICACC-S1-P025-2016) The Study on Variables of SiC Granule Prepared from Solar Cell Wafer Sludge

B. Yun^{*1}; H. Shin¹; Y. Kim¹; 1. Inocera inc., The Republic of Korea

(ICACC-S1-P026-2016) Effects of plasma-treated glass fiber on mechanical properties of glass fiber-reinforced epoxy concrete

Y. Kim^{*1}; W. Seo¹; M. Kim²; 1. Hanbat National University, The Republic of Korea; 2. Hansoo Road Industry, The Republic of Korea

(ICACC-S1-P027-2016) Modeling of Crack Arrest Process of Discontinuous Carbon Fiber/SiC Matrix Composites: For Design of Optimum Microstructure

Y. Atsumi^{*1}; K. Kajihara¹; K. Yonekura¹; Y. Kagawa¹; 1. The University of Tokyo, Japan

(ICACC-S1-P028-2016) Effect of short artificial crack on deformation and fracture behavior of discontinuous carbon fiber-dispersed SiC matrix composite

K. Kajihara^{*2}; Y. Atsumi¹; K. Yonekura²; Y. Kagawa²; 1. The University of Tokyo, Japan; 2. The university of Tokyo, Japan

(ICACC-S1-P029-2016) International Standards for Properties and Performance of Advanced Ceramics – 30 years of Excellence

M. G. Jenkins¹; J. Salem^{*2}; G. D. Quinn⁴; J. Helfinstine³; S. Gonczy²; 1. Bothell Engineering and Science Technologies, USA; 2. NASA Glenn Research Center, USA; 3. Consultant, USA; 4. Consultant/Retiree, USA; 5. Gateway Materials Technology, USA

(ICACC-S1-P030-2016) Effect of Sintering Additive and Temperature on Densification and Physical Property of Sintered Silicon Carbides

S. Kim^{*1}; Y. Oh¹; S. Lee¹; S. Lee¹; Y. Han¹; C. Park²; Y. Kim³; 1. Korea Institute of Ceramic Engineering and Technology (KICET), The Republic of Korea; 2. Seoul National University, The Republic of Korea; 3. Inocera Inc., The Republic of Korea

(ICACC-S1-P031-2016) Super-Low Friction Mechanism of Carbon Nitride Thin Films by Tight-Binding Quantum Chemical Molecular Dynamics Simulations

M. Nakamura^{*1}; S. Sato¹; J. Chida¹; H. Murabayashi¹; T. Tsuruda¹; Y. Wang¹; S. Bai¹; Y. Higuchi¹; N. Ozawa¹; K. Adachi¹; M. Kubo¹; 1. Tohoku University, Japan

(ICACC-S1-P032-2016) Chemical Reaction Process of Si₃N₄ under Water Lubrication by Tight-Binding Quantum Chemical Molecular Dynamics Method

J. Chida^{*1}; T. Tsuruda¹; H. Murabayashi¹; W. Yang¹; S. Bai²; T. Nishimatsu¹; Y. Higuchi¹; N. Ozawa¹; K. Adachi¹; M. Kubo¹; 1. Institute for Materials Research, Tohoku University, Japan; 2. New Industry Creation Hatchery Center, Tohoku University, Japan; 3. Graduate School of Engineering, Tohoku Univ, Japan

(ICACC-S1-P033-2016) Microstructure and Phase Relationship of Aluminum Boride/Carbide Composites

S. Salamone^{*1}; M. Aghajanian¹; S. E. Horner²; J. Q. Zheng²; 1. M Cubed Technology, Inc., USA; 2. PM-Soldier Protection and Individual Equipment, USA

(ICACC-S1-P034-2016) Removal of methomyl insecticide from wastewater using new synthesized anodes

M. El Hajji^{*1}; 1. IBN ZOHR University, France

(ICACC-S1-P035-2016) Dynamic Compressive Response of Boron Carbide With Carbon Additive Prepared By Spark Plasma Sintering

A. K. Robinson^{*2}; T. L. Munhollon³; L. Farbaniec²; M. Shaeffer²; J. Swab¹; M. Bratcher¹; R. A. Haber²; K. Ramesh²; 1. Army Research Laboratory, USA; 2. Johns Hopkins University, USA; 3. Rutgers University, USA

(ICACC-S2-P036-2016) Effect of composition on microstructure development in MgO–CaO–Al₂O₃–SiO₂–(K₂O, ZnO) glass-ceramic glazes

M. Gajek^{*1}; J. Partyka¹; J. Lis¹; 1. AGH University of Science and Technology, Poland

(ICACC-S2-P037-2016) Evaluation of invisible changes in BSAS/BSAS/Mullite Si/SiC/SiC environmental barrier coating system

Y. Arai^{*1}; Y. Aoki¹; Y. Kagawa¹; 1. The University of Tokyo, Japan

(ICACC-S2-P038-2016) Measurement of Delamination Toughness in Mullite/Si/(SiC/SiC) Model Environmental Barrier Coating System

Y. Aoki^{*1}; Y. Arai¹; Y. Kagawa¹; 1. University of Tokyo, Japan

(ICACC-S4-P039-2016) Characterization of Boron Carbide Fragments Subjected to Dynamic and Static Loading

K. A. Kuwelkar^{*1}; V. Domnich¹; J. D. Hogan²; D. Mallick²; R. A. Haber¹; 1. Rutgers University, USA; 2. University of Alberta, Edmonton, Canada; 3. Johns Hopkins University, USA

(ICACC-S4-P040-2016) Improved Method for Preparing TEM Specimens of the Deformation Zones Beneath Knoop Indents in Boron Carbide and Silicon Carbide

S. D. Walck^{*2}; J. LaSalvia¹; K. Behler²; S. G. Hirsch¹; 1. Army Research Laboratory, USA; 2. TKC Global, USA

(ICACC-S4-P041-2016) Low temperature fabrication of reaction bonded composites

N. Frage^{*1}; H. Dilman¹; E. Oz²; E. Ionash¹; S. Hayun¹; 1. Ben-Gurion University of the Negev, Israel

(ICACC-S4-P042-2016) SPS sintered silicon carbide-boron carbide composites

Z. Ayguzer Yasar^{*1}; R. A. Haber¹; 1. Rutgers University, USA

(ICACC-S4-P043-2016) Simulation of Dwell-to-penetration Transition Velocity for SiC Ceramics

J. Yuan^{*1}; G. Tan¹; W. Goh¹; 1. Nanyang Technological University, Singapore

(ICACC-S4-P044-2016) Rate-dependent Hardness and Amorphization Response of Nano-grained Boron Carbide

M. DeVries^{*1}; J. Pittari¹; P. Jannotti¹; G. Subhash¹; 1. University of Florida, USA

(ICACC-S4-P045-2016) Chemical Interactions in B₄C/WC-Co and B₆O/WC-Co Powder Mixtures Heated Under Inert and Oxidizing Atmosphere

J. LaSalvia¹; E. R. Shanholzt^{*3}; S. D. Walck⁴; K. D. Behler⁴; K. A. Kuwelkar²; 1. Army Research Laboratory, USA; 2. Rutgers University, USA; 3. ORISE, USA; 4. TKC Global, USA

(ICACC-S10-P046-2016) Elastic constants of binary nitride epitaxial thin films MeN (Me= Ti, Zr, V, Nb AND Ta) grown by reactive magnetron sputter deposition

G. Abadias²; P. Djemia^{*1}; L. Belliard²; 1. LSPM-CNRS, France; 2. Institut P², France; 3. UPMC-INSP, France

(ICACC-S10-P047-2016) First Principles Study of Defect Formation in Bulk Boron Suboxide

J. S. Dunn^{*1}; M. A. Tschopp¹; S. P. Coleman¹; 1. U.S. Army Research Laboratory, USA

(ICACC-S10-P048-2016) First principle calculation of crystal structure, electronic structure, and optical properties of rare earth element doped Ba(Zr,Mg,Ta)O₃

L. Wang^{*1}; Y. Wu¹; 1. Alfred University, USA

(ICACC-S10-P049-2016) Simulations of Anisotropic Texture Evolution on Paramagnetic and Diamagnetic Materials Subject to a Magnetic Field Using Q-State Monte Carlo

J. Allen^{*1}; 1. ERDC, USA

(ICACC-S10-P050-2016) Crystal Growth Simulation of MgO Thin Film on SiO₂ Substrate by Molecular Dynamics Simulation

S. Kawagishi^{*1}; T. Kuwahara¹; J. Xu¹; T. Nishimatsu¹; Y. Higuchi¹; N. Ozawa¹; M. Kubo¹; 1. Institute for Materials Research, Tohoku University, Japan

(ICACC-S12-P051-2016) Effect of carbon fiber and boron carbide particle on the distribution and content of residual silicon of reaction bonded silicon carbide composites

S. Song^{*1}; C. Bao¹; J. Yang²; 1. State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, P.R.China, China; 2. Xi'an Jiaotong University, China

(ICACC-S12-P052-2016) TEM and XPS Investigations of Ordered MAX Phases: Mo₂TiAlC₂ and Mo₂Ti₂AlC₃

J. Halim^{*1}; B. Anasori¹; M. Dahlqvist²; E. Moon¹; J. Lu³; B. Hosler¹; E. Caspi⁴; S. May¹; L. Hultman³; P. Eklund²; J. Rosen²; M. Barsoum¹; 1. Drexel University, USA; 2. Linköping University, Sweden; 3. Linköping University, Sweden; 4. Nuclear Research Centre, Israel

(ICACC-S13-P053-2016) Plasma Spray Coating on the Graphite between Ceramic and Uranium Alloy Compatibility

S. Oh^{*1}; S. Kulk¹; H. Jun¹; K. Kim¹; C. Lee¹; 1. Korea Atomic Energy Research Institute, The Republic of Korea

(ICACC-S13-P054-2016) Effect of Yttria-Scandia Addition on Thermal Properties of Particle Based Accident Tolerant Fuel

L. Kwang-Young^{*2}; S. Lee²; Y. Na²; Y. Kim¹; 1. University of Seoul, The Republic of Korea; 2. KEPKO NF, The Republic of Korea

(ICACC-S13-P055-2016) Fabrication and corrosion behavior of graphite foil-bonded commercial graphite

C. Ju^{*1}; T. Fang¹; H. Lin¹; K. Lee²; J. Chern Lin¹; 1. National Cheng-Kung University, Taiwan; 2. I-Shou University, Taiwan

(ICACC-S13-P056-2016) Synthesis of Li₂AlO₄ powder by using Li₂CO₃ and Al₂O₃ and atmosphere controlled calcination method

S. Ogawa^{*1}; K. Shin-mura¹; Y. Otani¹; T. Hoshino²; K. Sasaki¹; 1. Tokai University, Japan; 2. Rokkasho Fusion Institute, Sector of Fusion Research and Development, Japan Atomic Energy Agency, Japan

(ICACC-S14-P057-2016) Spark-Plasma Sintered Translucent Mullite Ceramics with Anisotropic Grains

A. Kocjan^{*1}; M. Cesnovar¹; D. Vengust¹; A. Dakskobler²; T. Kosmac¹; 1. Jozef Stefan Institute, Slovenia; 2. Vallcer d.o.o., Slovenia

(ICACC-S14-P058-2016) Electrical and microstructural properties of NiMn₂O₄ NTC thermistors by doping 0.1 mol B₂O₃ without calcination

G. Hardal¹; B. Yuksel Price^{*1}; 1. Istanbul University, Engineering Faculty, Turkey

(ICACC-S14-P059-2016) Investigation of microstructure properties in Al₂O₃ and Al₂O₃-B₂O₃ doped ZnO ceramics

G. Hardal¹; B. Yuksel Price^{*1}; 1. Istanbul University, Engineering Faculty, Turkey

(ICACC-S14-P060-2016) Attempts to improve the optical transmission on spark plasma sintered YAG ceramics

R. Moronta Perez^{*1}; F. J. Cambier¹; L. Boilet¹; P. Aubry¹; V. Lardot¹; P. Palmero²; L. Henrard³; O. Deparis³; 1. BCRC, Belgium; 2. Politecnico di Torino, Italy; 3. University of Namur, Belgium

(ICACC-S14-P061-2016) The thermoelectric properties of STO crystals grown by the EFG technique using Mo crucibles

T. Tokairin^{*1}; V. Garcia²; K. Shimamura²; U. Haruhiko¹; 1. Ibaraki University, Japan; 2. National Institute for Materials Science, Japan

(ICACC-S14-P062-2016) NaNbO₃/PVDF composite: a flexible functional material

G. F. Teixeira¹; R. A. Ciola¹; M. A. Zaghete¹; E. Longo¹; J. A. Varela^{*1}; 1. UNESP-Institute od Chemical, Brazil

(ICACC-S14-P063-2016) Tunable Eu/Mn-Coactivated Mg₂Al₄Si₂O₁₈ phosphor prepared in air via valence state-controlled and energy transfer

J. Chen¹; Y. Liu^{*1}; Y. Xia¹; B. Wang¹; 1. China University of Geoscience Beijing, China

(ICACC-S14-P064-2016) Enhanced Dielectric and Ferroelectric Characteristics in Ca-Modified BaTiO₃ Ceramics

X. Chen^{*1}; X. Zhu¹; W. Zhang¹; 1. Zhejiang University, China

Wednesday, January 27, 2016

40th Jubilee Symposium: Engineered Ceramics: Current Status and Future Prospects

Engineered Ceramics IV

Room: Coquina Salon C

Session Chair: Andrew Wereszczak, The Pennsylvania State University

8:30 AM

(ICACC-JUB-020-2016) Oxide ceramics: the role of surface and grain boundary for reliable applications (Invited)

J. A. Varela*; M. O. Orlandi¹; 1. UNESP, Brazil

9:00 AM

(ICACC-JUB-021-2016) Engineering Diffraction: Multiscale Characterization of Electroceramics (Invited)

E. Ustundag*; 1. Istanbul Technical University, Turkey

9:30 AM

(ICACC-JUB-022-2016) Phonon Engineering in Advanced Ceramics: Challenges and Opportunities (Invited)

J. Wang*; 1. Shenyang National Laboratory for Materials Science, Institute of Metal Research, China

10:00 AM

Break

10:20 AM

(ICACC-JUB-023-2016) Fused Silica and Other Transparent Window Materials (Invited)

J. Salem*; 1. NASA Glenn Research Center, USA

10:50 AM

(ICACC-JUB-024-2016) Graphite Foam/Phase Change Material Composite as a High-Efficiency Thermal Energy Storage System for Solar Applications (Invited)

D. Singh*; 1. Argonne National Lab, USA

11:20 AM

(ICACC-JUB-025-2016) Processing and morphology control of porous ceramics for thermal management (Invited)

M. Fukushima*; T. Ohji¹; N. Kondo²; Y. Yoshizawa¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

S1: Mechanical Behavior and Performance of Ceramics & Composites

Processing - Microstructure - Mechanical Properties Correlation II

Room: Coquina Salon D

Session Chairs: Kevin Plucknett, Dalhousie University

8:30 AM

(ICACC-S1-031-2016) Microstructure-Property-Performance Relationship to Develop Better Silicon Nitride Based Ceramics for Different Applications (Invited)

S. Turan*; 1. Anadolu University, Turkey

9:00 AM

(ICACC-S1-032-2016) Ceramic turbo charger of silicon nitride - material development and fabrication

H. Klemm*; W. Kunz¹; J. Abel¹; E. Zschippang¹; J. Stockmann¹; 1. FHG IKTS Dresden, Germany

9:20 AM

(ICACC-S1-033-2016) Composites in the aluminum oxynitride - MeN (Me=Ti, Ta, Cr) system prepared from SHS-derived powders

M. M. Bucko*; 1. AGH University of Science and Technology, Poland

9:40 AM

(ICACC-S1-034-2016) Thermal and Mechanical Properties of Silicon Carbide-Zirconium Nitride Composites

S. Jang*; Y. Kim¹; 1. University of Seoul, The Republic of Korea

10:00 AM

Break

10:20 AM

(ICACC-S1-035-2016) Experimental investigation of refractory powders compaction and identification of the constitutive behavior

A. Kallel*; S. Romero Baivier¹; 1. Vesuvius, Belgium

10:40 AM

(ICACC-S1-036-2016) Exploring the morphological factors behind ferroelastic toughening

C. S. Smith¹; J. A. Krogstad*; 1. University of Illinois at Urbana-Champaign, USA

11:00 AM

(ICACC-S1-037-2016) Simulation and Experimental Validation of the Stress Evolution during Constrained Sintering of Ceramic Laminated Composites

S. E. van Kempen*; U. A. Ozden¹; A. Bezdol¹; C. Broeckmann¹; 1. RWTH Aachen University, Germany

11:20 AM

(ICACC-S1-038-2016) AC field-induced metastable phase in Na_{0.5}Bi_{0.5}TiO₃-KNbO₃ piezoceramics detected by high-resolution synchrotron x-ray diffraction

G. Wang*; D. Hall¹; 1. University of Manchester, United Kingdom

11:40 AM

(ICACC-S1-039-2016) The fatigue behavior and failure mechanism of a needed C/SiC composite under tension-compression cyclic loading

G. Fang*; X. Gao¹; Y. Song¹; 1. Nanjing University of Aeronautics and Astronautics, China

12:00 PM

(ICACC-S1-040-2016) Comprehensive investigations on the mechanical and thermal properties of X₂-RE₂SiO₅ (RE = Tb, Dy, Ho, Er, Tm, Yb, Lu, and Y) for ETBC materials

Z. Tian*; L. Zheng¹; J. Wang¹; P. Wan¹; J. Wang¹; 1. Institute of Metal Research, Chinese Academy of Sciences, China; 2. Imperial College London, United Kingdom

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

Environmental Barrier Coatings

Room: Coquina Salon H

Session Chairs: Dongming Zhu, NASA Glenn Research Center; Bryan Harder, NASA Glenn Research Center

8:30 AM

(ICACC-S2-029-2016) High-Temperature Resistant SiC/HfC_xN_{1-x}/C Nanocomposites: Microstructure and Application (Invited)

Z. Yu*; 1. Xiamen University, China

9:00 AM

(ICACC-S2-030-2016) Microstructural Stability of Aerosol Deposited Mullite Coating for EBCs under High Temperature Exposure

T. Mizuno*; S. Sato¹; A. Iuchi¹; M. Hasegawa¹; 1. Yokohama National University, Japan

9:20 AM

(ICACC-S2-031-2016) First-principles calculation of thermodynamic phase stability of rare earth disilicate RE₂Si₂O₇

T. Yokoi*; A. Ioki¹; M. Yoshiya¹; 1. Osaka University, Japan

9:40 AM

(ICACC-S2-032-2016) Development Status and Performance Comparisons of Environmental Barrier Coating Systems for SiC/SiC Ceramic Matrix Composites

D. Zhu^{*1}; B. J. Harder¹; 1. NASA Glenn Research Center, USA

10:00 AM

Break

10:20 AM

(ICACC-S2-033-2016) Hot corrosion behaviors of BSAS Environmental Barrier Coatings (Invited)

Y. Wang^{*1}; X. Huang¹; 1. Northwestern Polytechnical University, China

10:50 AM

(ICACC-S2-034-2016) Advanced Environmental Barrier Coating Systems Deposited via Plasma Spray- Physical Vapor Deposition

B. J. Harder^{*1}; D. Zhu¹; 1. NASA Glenn Research Center, USA

11:10 AM

(ICACC-S2-035-2016) Microstructure Development of Dense Alumina Coating for Advanced EBCs under Heat Exposure

M. Hasegawa^{*1}; S. Sato¹; M. Komuro¹; M. Tanaka²; S. Kitaoka²; Y. Kagawa³; 1. Yokohama National University, Japan; 2. Japan Fine Ceramics Center, Japan; 3. The University of Tokyo, Japan

11:30 AM

(ICACC-S2-036-2016) Control of Structural Stability of Mullite Layer under Oxygen Potential Gradients at High Temperatures

S. Kitaoka^{*1}; T. Matsudaira¹; M. Takata¹; 1. Japan Fine Ceramics Center, Japan

S3: 13th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Electrode Materials / Transport and Reaction Mechanisms

Room: Crystal

Session Chairs: Nguyen Minh, University of California, San Diego; Enrico Traversa, King Abdullah University of Science and Technology

8:30 AM

(ICACC-S3-026-2016) Ce(Mn,Fe)O₂ dense anode for tubular type Solid Oxide Fuel Cells using LaGaO₃ electrolyte film (Invited)

T. Ishihara^{*1}; K. Hosoi¹; S. Ida¹; 1. Kyushu University, Japan

9:00 AM

(ICACC-S3-027-2016) Strontium and vanadium co-doped NaNbO₃ as Ceramic Anode Material for LT-SOFC

K. Pan^{*1}; A. Hussain¹; E. D. Wachsman¹; 1. University of Maryland, USA

9:20 AM

(ICACC-S3-028-2016) Direct utilization of ethanol as fuel in a solid oxide fuel cell: Ceramic synthesis, anode fabrication and performance (Invited)

P. Miranda^{*1}; S. Venancio¹; 1. Coppe-Federal University of Rio de Janeiro, Brazil

9:50 AM

(ICACC-S3-029-2016) Understanding the Impacts of H₂S and CO₂ as Fuel Contaminants on the Performance of Proton Conducting SOFCs

S. Sun^{*1}; Z. Cheng¹; 1. Florida International University, USA

10:10 AM

Break

10:30 AM

(ICACC-S3-030-2016) Evaluating Thin Film Defect Equilibria and Kinetics by *In Situ* Optical Transmission: Application to Sr(Ti,Fe)O_{3-α} Electrodes (Invited)

N. H. Perry^{*1}; J. Kim²; H. L. Tuller²; 1. Kyushu University, Japan; 2. Massachusetts Institute of Technology, USA

11:00 AM

(ICACC-S3-031-2016) The electrode reaction mechanism analysis and electrode design on SOFC cathode (Invited)

S. Hashimoto^{*1}; R. Budiman¹; Y. Uzumaki¹; H. Kudo¹; I. Susuta¹; S. Noda¹; T. Hoshi¹; K. Yashiro¹; T. Kawada¹; 1. Tohoku University, Japan

11:30 AM

(ICACC-S3-032-2016) Anion and Cation Diffusion Properties of Grain Boundary Engineered Sr-doped LaMnO₃

T. M. Huber¹; E. Navickas^{*2}; G. Harrington¹; D. Mendler¹; H. Tellez¹; J. Druce¹; K. Sasaki¹; J. Fleig³; B. Yildiz²; H. L. Tuller²; 1. Kyushu University, Japan; 2. Massachusetts Institute of Technology, USA; 3. Vienna University of Technology, Austria; 4. IZCNER, Japan

11:50 AM

(ICACC-S3-033-2016) Visualizing Oxygen Defect Equilibria and Transport Kinetics in Oxide Thin Films

J. Kim¹; S. Bishop¹; S. N. Cook¹; D. Chen¹; H. L. Tuller^{*1}; 1. Massachusetts Institute of Technology, USA

S4: Armor Ceramics

Developments in Materials Characterization, Properties, and Response II

Room: Coquina Salon E

Session Chair: Jerry LaSalvia, Army Research Laboratory

8:00 AM

(ICACC-S4-033-2016) Update: Robust Nondestructive Testing Tools for Ceramic Armor

K. Schmidt^{*1}; J. Little¹; R. Goltia¹; W. Ellingson²; W. Green³; L. Prokurat Franks⁴; 1. Evisive, Inc., USA; 2. ERC Company, USA; 3. US Army Research Laboratory, USA; 4. US Army, USA

Developments in Ballistic Behavior I

Room: Coquina Salon E

Session Chair: Tyrone Jones, US Army Research Laboratory

8:20 AM

(ICACC-S4-035-2016) Effects of layered plate materials on the ballistic performance of alumina armor plate

J. Lo^{*1}; R. Santos¹; R. Zhang¹; D. Walsh¹; R. Bowes¹; C. Craciun¹; H. Jin¹; J. Saragosa¹; F. Fazeli¹; C. Scott¹; 1. CanmetMATERIALS, Canada

8:40 AM

(ICACC-S4-036-2016) Microstructure-Based Design of Advanced Ceramics for Light-Weight Protection Systems

J. D. Hogan^{*2}; L. Farbaniec⁴; D. Mallick³; B. Schuster³; T. Sano³; J. W. McCauley¹; K. Ramesh⁵; 1. Johns Hopkins University/Army Research Laboratory, USA; 2. University of Alberta, Edmonton, Canada; 3. US Army Research Laboratory, USA; 4. Johns Hopkins University, USA; 5. Hopkins Extreme Materials Institute, USA

9:00 AM

(ICACC-S4-037-2016) Performance of Nano Zirconia Toughened Alumina Ceramics under Dynamic Impact Conditions

Y. Zhu^{*1}; H. Shuo¹; H. Wu¹; J. Binner²; B. Vaidhyanathan¹; 1. Loughborough University, United Kingdom; 2. University of Birmingham, United Kingdom

9:20 AM

(ICACC-S4-038-2016) Ballistic testing of small 3D printed Alumina disks with the energy method

E. Carton^{*1}; J. Weerheijm¹; 1. TNO, Netherlands

9:40 AM

Break

Developments in Ballistic Behavior II

Room: Coquina Salon E

Session Chair: Sikhanda Satapathy, Army Research Laboratory

10:20 AM

(ICACC-S4-040-2016) A Comparison of Damage in Glass and Ceramic Targets

B. Aydelotte^{*}; P. Jannotti¹; M. Andrews¹; B. Schuster¹; 1. US Army Research Laboratory, USA

10:40 AM

(ICACC-S4-041-2016) Effect of surface layer on elastic waves and cracking in brittle materials

J. R. McDonald^{*}; 1. US Army Research Laboratory, USA

11:00 AM

(ICACC-S4-042-2016) Phenomenological Mechanochemistry of Fracture of Polarizable Solids

M. Greenfield^{*}; 1. The US Army Research Laboratory, USA

11:20 AM

(ICACC-S4-043-2016) The First Static And Dynamic Analysis of 3-D Printed Sintered Ceramics for Body Armor Applications

T. Jones^{*}; 1. US Army Research Laboratory, USA

S5: Next Generation Bioceramics and Biocomposites

Bioceramics I

Room: Coquina Salon F

Session Chairs: Akiyoshi Osaka, Okayama University; Jacqueline Johnson, UTSI

8:30 AM

(ICACC-S5-001-2016) Nanohybrids formed with photon upconverting nanoparticles for photodynamic therapy by near infrared irradiation (Invited)

K. Katagiri^{*}; 1. Hiroshima University, Japan

8:50 AM

(ICACC-S5-002-2016) γ -ray and neutron imaging enhancement using nanoscience (Invited)

J. A. Johnson^{*}; R. Leonard¹; 1. UTSI, USA

9:10 AM

(ICACC-S5-003-2016) Healing of Bone Defects in a Rat Calvarial Defect Model Using Strong Porous Silicate 13-93 Bioactive Glass Scaffolds Doped with Copper or Loaded with Bone Morphogenetic Protein-2 (Invited)

M. N. Rahaman^{*}; 1. Missouri University of Science & Technology, USA

9:40 AM

(ICACC-S5-004-2016) The Use of Bioceramic Dental Cements - an Overview (Invited)

L. Hermansson^{*}; J. Loof¹; 1. Doxa Dental AB, Sweden

10:00 AM

Break

10:20 AM

(ICACC-S5-005-2016) Nanoscale structure and modification of Biomaterials (Invited)

F. Rosei^{*}; 1. INRS, Canada

10:40 AM

(ICACC-S5-006-2016) Delivery of CpG-ODN with Chitosan-derived Nanoparticles (Invited)

S. Chen¹; A. Osaka^{*}; N. Hanagata²; 1. Okayama University, Japan; 2. National Institute for Materials Science (NIMS), Japan; 3. Taiyuan University of Technology, China

11:00 AM

(ICACC-S5-007-2016) Ion release kinetics from melt-derived bioactive silicate glasses (Invited)

L. Hupa^{*}; 1. Åbo Akademi University, Finland

11:20 AM

(ICACC-S5-008-2016) Tantalum and Tantalum-Based Ceramic Coatings for Increasing the Biocompatibility of Conventional Metal Implant Alloys (Invited)

J. Stiglich^{*}; B. Williams¹; 1. Ultramet, USA

S6: Advanced Materials and Technologies for Direct Thermal Energy Conversion and Rechargeable Energy Storage

Supercapacitors

Room: Tomoka A

Session Chairs: Daniel Belanger, Université du Québec à Montréal; Yury Gogotsi, Drexel University

8:30 AM

(ICACC-S6-024-2016) Energy Storage Properties of Two-Dimensional Materials (Invited)

B. Dunn^{*}; 1. UCLA, USA

9:00 AM

(ICACC-S6-025-2016) Two-Dimensional Materials and Electrode Architectures for Capacitive and Pseudocapacitive Energy Storage (Invited)

Y. Gogotsi^{*}; 1. Drexel University, USA

9:30 AM

(ICACC-S6-026-2016) Manganese dioxide electrode: attempts to increase the electrochemical utilization (Invited)

D. Belanger^{*}; 1. Université du Québec à Montréal, Canada

10:00 AM

Break

10:20 AM

(ICACC-S6-027-2016) A biopolymer gel decorated cobalt molybdate nanowafers with improved energy storage: In-situ cross-linked electrode from Chitosan (Invited)

M. Minakshi^{*}; R. Ramkumar¹; M. Ionescu²; 1. Murdoch University, Australia; 2. ANSTO, Australia

10:50 AM

(ICACC-S6-028-2016) Pseudocapacitive transition metal oxides for energy storage and conversion (Invited)

V. Augustyn^{*}; 1. North Carolina State University, USA

S7: 10th International Symposium on Nanostructured Materials: Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental and Health Applications

Synthesis, Functionalization & Assembly of Nanostructures I

Room: Coquina Salon A

Session Chairs: An Hardy, Hasselt University; Bart Michielsens, Flemish Institute for Technological Research

8:30 AM

(ICACC-S7-032-2016) Growing Integration Layer [GIL] Strategy: Fabrication of Compositionally, Structurally and Functionally Graded Nanostructured Oxide Coatings and/or Films on Metallic Materials in Solution (Invited)

M. Yoshimura^{*1}; 1. National Cheng Kung University, Taiwan

9:00 AM

(ICACC-S7-033-2016) Synthesis and Functionalization of Metal Oxide and Graphene Nanomaterials and Their Applications for Solar Cells (Invited)

Y. Hahn^{*1}; 1. Chonbuk National University, The Republic of Korea

9:30 AM

(ICACC-S7-034-2016) Solid State 3D Li-ion Batteries (Invited)

M. Mees^{*1}; 1. IMEC, Belgium

9:50 AM

(ICACC-S7-035-2016) From nano to macro: Assembly and processing of nanoparticles into 2D and 3D geometries over several length scales (Invited)

M. Niederberger^{*1}; 1. ETH Zurich, Switzerland

10:10 AM

Break

Synthesis, Functionalization & Assembly of Nanostructures II

Room: Coquina Salon A

Session Chairs: Markus Niederberger, ETH Zurich; Masahiro Yoshimura, National Cheng Kung Univ.

10:30 AM

(ICACC-S7-036-2016) Characteristics of SnO₂:Ga powder prepared continuously in a micro drop fluidized reactor for chemical sensing (Invited)

D. Lim¹; D. Yoo²; C. Lee²; G. Kang²; Y. Kang^{*1}; 1. Chungnam National University, The Republic of Korea; 2. Institute for Advanced Engineering, The Republic of Korea; 3. Gentec Co., The Republic of Korea

11:00 AM

(ICACC-S7-037-2016) Towards a solution deposited 3D thin-film Li-ion battery

A. Hardy^{*1}; 1. Hasselt University, Belgium

11:20 AM

(ICACC-S7-038-2016) Healthy indoor environment control utilizing novel photocatalytic materials (Invited)

G. Kiriakidis^{*1}; 1. Univ. of Crete and IESL/FORTH, Greece

11:50 AM

(ICACC-S7-039-2016) Development of Oxygen-Separation Perovskite Membranes for High-Temperature Applications (Invited)

B. Michielsens^{*1}; 1. Flemish Institute for Technological Research, Belgium

12:10 PM

(ICACC-S7-040-2016) Solution carbothermal nitridation of nano phase ZrN powder

S. Naim Katea^{*1}; 1. Uppsala University, Sweden

S8: 10th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT10)

Novel Ceramic Processing II

Room: Coquina Salon B

Session Chairs: Junichi Tatami, Yokohama National University; Csaba Balazsi, Bay Zoltan Nonprofit Ltd. for Applied Research

8:30 AM

(ICACC-S8-029-2016) Fundamental aspects of the steric stabilization of aqueous dispersions by anion and cation type comb copolymers (Invited)

T. Graule^{*1}; 1. Empa, Switzerland

9:00 AM

(ICACC-S8-030-2016) Characterization of Anisotropic Properties of Textured Lanthanum Silicate Oxyapatite Ceramics Fabricated by Magnetic Field-Assisted Colloidal Processing (Invited)

T. S. Suzuki^{*1}; T. S. Suzuki¹; K. Kobayashi¹; 1. National Institute for Materials Science (NIMS), Japan

9:30 AM

(ICACC-S8-031-2016) Fabrication of textured ceramics using magnetic field assisted forming and subsequent sintering

S. Tanaka^{*1}; 1. Nagaoka University of Technology, Japan

9:50 AM

Break

10:10 AM

(ICACC-S8-032-2016) Anisotropic properties of c-axis oriented SiC prepared by slip casting in strong magnetic field and SPS

T. S. Suzuki^{*1}; K. Kobayashi¹; T. Uchikoshi¹; T. Nishimura¹; Y. Sakka¹; 1. National Institute for Materials Science, Japan

10:30 AM

(ICACC-S8-033-2016) High temperature interaction of MgO single crystalline substrates with liquid Ni alloys

J. J. Sobczak^{*1}; N. Sobczak¹; R. Purgert²; R. Asthana³; R. Nowak¹; M. Homa¹; J. Morgiel⁴; 1. Foundry Research Institute, Poland; 2. Energy Industries of Ohio, USA; 3. University of Wisconsin, USA; 4. Polish Academy of Sciences, Poland

10:50 AM

(ICACC-S8-034-2016) Preparation of Passivated Magnesium Submicron Powders by Pulsed Wire Discharge

H. Suematsu^{*1}; K. Tanaka¹; K. Sugashima¹; K. Suzuki¹; T. Suzuki¹; T. Nakayama¹; K. Niihara¹; 1. Nagaoka University of Technology, Japan

11:10 AM

(ICACC-S8-035-2016) Polymer-Derived (Carbo)Nitride Nanocomposites with multifunctionality

S. Bernard^{*1}; 1. European Membrane Institute, France

11:30 AM

(ICACC-S8-036-2016) Low Temperature Densification of Ceramics and Cermet by the Intermediary Stage Activated Sintering Method

T. A. Restivo^{*1}; S. R. Mello-Castanho²; J. A. Tenorio³; 1. UNISO, Brazil; 2. IPEN, Brazil; 3. Escola Politecnica USP, Brazil

11:50 AM

(ICACC-S8-037-2016) Size and Temperature Dependent Single Photon Properties of Nitrogen Vacancy Embedded Diamond Nanopillars

W. Li^{*1}; C. Gu¹; Q. Jiang¹; Z. Liu¹; H. Ye²; J. Li¹; 1. Beijing National Lab for Condensed Matter Physics, China; 2. Aston University, United Kingdom

S10: Virtual Materials (Computational) Design and Ceramic Genome

Modeling of Point Defects, Grain Boundaries and Interfaces I

Room: Ponce DeLeon

Session Chair: Haixuan Xu, Oak Ridge National Lab

8:30 AM

(ICACC-S10-024-2016) Challenges of Atomistic Manipulation at Grain Boundaries Based on Detailed Mechanisms of Grain Boundary Segregation of Point Defect Species (Invited)

M. Yoshiya^{*1}; T. Yokoi¹; 1. Osaka University, Japan

9:00 AM

(ICACC-S10-025-2016) Predicting Grain Boundary Structures and Transitions (Invited)

S. Yang¹; N. Zhou¹; J. Luo^{*1}; 1. UCSD, USA

9:30 AM

Break

Modeling of Point Defects, Grain Boundaries and Interfaces II

Room: Ponce DeLeon

Session Chair: William Weber, University of Tennessee

10:20 AM

(ICACC-S10-027-2016) Ionization Effects in Silicon Carbide (Invited)

Y. Zhang^{*1}; R. Sachan¹; O. Pakarinen¹; M. Chisholm¹; P. Liu²; H. Xue³; W. J. Weber²; 1. Oak Ridge National Laboratory, USA; 2. University of Tennessee, USA; 3. The University of Tennessee, USA

10:50 AM

(ICACC-S10-028-2016) Defect Transport in Perovskite Oxide Superlattice from Density Functional Theory Defect Transport in Perovskite Oxide Superlattice from Density Functional Theory (Invited)

H. Xu^{*1}; 1. The University of Tennessee, USA

11:20 AM

(ICACC-S10-029-2016) On the competition between bulk fracture and interface debonding along wavy interfaces

S. Seher^{*1}; W. Pro¹; M. Begley¹; 1. University of California, Santa Barbara, USA

11:40 AM

(ICACC-S10-030-2016) Computational Design of Nanograin Engineered SiC-Diamond Multiphase Ceramics for Improved Toughness

A. Adnan^{*1}; J. Bhatia¹; 1. University of Texas, USA

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

Novel Characterization Methods and Lifetime Assessment

Room: Tomoka B

Session Chair: Diletta Sciti, ISTEC-CNR

8:30 AM

(ICACC-S12-027-2016) TEM study on UHTCs and composites (Invited)

L. Silvestroni^{*1}; D. Sciti¹; S. Lauterbach²; H. Kleebe²; 1. CNR, Italy; 2. Technical University Darmstadt, Germany

9:00 AM

(ICACC-S12-028-2016) Oxygen Diffusion Pathways During High Temperature Oxidation of ZrB₂-SiC

K. Shugart^{*1}; E. Opila²; 1. UES, Inc., USA; 2. University of Virginia, USA

9:20 AM

(ICACC-S12-029-2016) Analysis of dynamic Young's modulus and damping behavior of ZrB₂-SiC composites by the impulse excitation technique

A. K. Swarnakar^{*1}; S. Ran²; J. Vleugels¹; 1. KU Leuven, Belgium; 2. Anhui University of Technology, China

9:40 AM

Break

Materials Design, New Composition and Composites II

Room: Tomoka B

Session Chair: Laura Silvestroni, CNR

10:20 AM

(ICACC-S12-030-2016) Fabrication and high temperature characterization of UHTC-CMCs with SiC or C fibers (Invited)

D. Sciti^{*2}; L. Zoli¹; 1. CNR ISTEC, Italy; 2. ISTEC-CNR, Italy

10:50 AM

(ICACC-S12-031-2016) Synthesis and Performance Optimization of ZrB₂-MoSi₂ Dual-Scale Composite Architectures for High Temperature Structural Applications

R. J. Grohsmeyer^{*1}; G. Hilmas¹; W. Fahrenholtz¹; S. Faille²; F. Monteverde²; L. Pienti²; D. Sciti²; 1. Missouri University of Science and Technology, USA; 2. National Research Council of Italy - Institute of Science and Technology for Ceramics, Italy

11:10 AM

(ICACC-S12-032-2016) Synthesis of Nanocrystalline Ultrahigh Temperature Tantalum Hafnium Complex Carbide (Ta_xHf_{1-x}C_y) Powders

P. Foroughi^{*1}; Z. Cheng¹; 1. Florida International University, USA

11:30 AM

(ICACC-S12-033-2016) Thermal shock of refractories undergoing severe temperature changes

F. Dal Corso^{*1}; T. Papathanasiou¹; 1. University of Trento, Italy

S13: Advanced Materials for Sustainable Nuclear Fission and Fusion Energy

Standard, Testing, and Joining

Room: St. John

Session Chairs: Chuck Henager, Pacific Northwest National Lab;
Monica Ferraris, Politecnico di Torino

8:30 AM

(ICACC-S13-026-2016) Composition, Structure, Manufacture, and Properties of SiC-SiC CMCs for Nuclear Applications: Informational Chapters in the ASME BPV Code Section III (Invited)

M. G. Jenkins^{*1}; S. Gonczy²; Y. Katoh³; 1. Bothell Engineering and Science Technologies, USA; 2. Oak Ridge National Laboratory, USA; 3. Gateway Materials Technology, USA

9:00 AM

(ICACC-S13-027-2016) An ASTM C28 Standard Guide for the High Temperature Oxidation Exposure Testing of Advanced Ceramics at Atmospheric Pressures and Low Gas Velocities

S. T. Gonczy^{*1}; Y. Katoh²; 1. Gateway Materials Technology, USA; 2. Oak Ridge National Laboratory, USA

9:20 AM

(ICACC-S13-028-2016) Hoop Tensile Strength of Composite Tubes for LWR Applications Using Internal Pressurization: Two ASTM Test Methods

M. G. Jenkins^{*1}; J. Salem²; J. E. Gallego¹; 1. Bothell Engineering and Science Technologies, USA; 2. NASA Glenn Research Center, USA

9:40 AM

(ICACC-S13-029-2016) Failure of SiC Composite-Based Fuel Cladding: Definition and Approach to Probabilistic Assessment

Y. Katoh^{*1}; L. L. Snead²; K. Terrani¹; 1. Oak Ridge National Laboratory, USA; 2. Independent, USA

10:00 AM

Break

10:20 AM

(ICACC-S13-030-2016) Joining SiC for Nuclear Applications: Dual Phase and Single Phase Joint

C. Henager^{*1}; B. Nguyen¹; 1. Pacific Northwest National Lab, USA

10:50 AM

(ICACC-S13-031-2016) Improving the damage-tolerance of Zircaloy cladding materials by MAX phase coatings

J. Zhang^{*1}; Z. Tian¹; J. Wang¹; 1. Institute of Metal Research, China

11:10 AM

(ICACC-S13-032-2016) Low Temperature Air Braze Process for Joining Silicon Carbide Components Used in Heat Exchangers, Fusion and Fission Reactors, and other Energy Production and Chemical Synthesis Systems

J. Fellows^{*1}; C. Lewinsohn¹; Y. Katoh²; T. Koyanagi²; 1. Ceramtec, Inc., USA; 2. Oak Ridge National Laboratory, USA

11:30 AM

(ICACC-S13-033-2016) Joining of Silicon Carbide Composite Tubes for Nuclear Fuel Applications using Selective Area Laser Deposition

R. Neall^{*1}; T. Abram¹; 1. University of Manchester, United Kingdom

S14: Crystalline Materials for Electrical, Optical and Medical Applications

New Direction III

Room: Tomoka C

Session Chair: Frederic Mercier, CNRS-SIMAP

8:30 AM

(ICACC-S14-022-2016) Preparation of compositionally graded hollow spherical particles by spray drying (Invited)

T. Toyama^{*1}; 1. Nihon University, Japan

9:00 AM

(ICACC-S14-023-2016) Synthesis of spinon thermal conductivity materials by ordering process in Sr-Cu-O inhomogeneous system for thermal management materials (Invited)

N. Terakado^{*1}; Y. Takahashi¹; T. Fujiwara¹; 1. Tohoku University, Japan

9:30 AM

(ICACC-S14-024-2016) Novel single crystals for electro-optical applications (Invited)

K. Shimamura^{*1}; V. Garcia¹; N. Ohashi²; 1. National Institute for Materials Science (NIMS), Japan; 2. Tokyo Institute of Technology, Japan

10:00 AM

Break

Semiconductor II

Room: Tomoka C

Session Chair: Nobuhito Imanaka, Osaka University

10:20 AM

(ICACC-S14-025-2016) Control of extended defects in diamond single crystals grown by PACVD (Invited)

A. Tallaire^{*1}; 1. LSPM-CNRS, France

10:50 AM

(ICACC-S14-026-2016) Impurity control in high pressure synthesis / Realization of promising potentials of boron nitride crystals as a wide bandgap material (Invited)

T. Taniguchi^{*1}; 1. National Institute for Materials Science (NIMS), Japan

11:20 AM

(ICACC-S14-027-2016) Ultra-high pressure synthesis, stability, crystal chemistry and properties of metal nitrides (Invited)

M. Hasegawa^{*1}; 1. Nagoya University, Japan

11:50 AM

(ICACC-S14-028-2016) Solution processed zinc-tin oxide (ZTO) charge-trapping memory

J. Li¹; L. Liu¹; J. Jeng²; J. Chen^{*1}; 1. National Cheng Kung University, Taiwan; 2. National Tainan University, Taiwan

FS2: Advanced Ceramic Materials and Processing for Photonics and Energy

Photonics, Electronics, Sensing

Room: Coquina Salon G

Session Chair: Farid Akhtar, Stockholm University

8:30 AM

(ICACC-FS2-025-2016) Bottom-up approach for the synthesis of graphene-oxide nanosheet interfaces (Invited)

A. Baraldi^{*1}; 1. University of Trieste, Italy

9:00 AM

(ICACC-FS2-026-2016) Electrolyte gating of metal oxides: materials, interfaces and devices (Invited)

C. Santato^{*1}; 1. Ecole Polytechnique de Montreal, Canada

9:30 AM

(ICACC-FS2-027-2016) Integration of III-V Semiconductors on Graphene (Invited)

O. Moutanabbir^{*1}; 1. Ecole Polytechnique de Montreal, Canada

10:00 AM

Break

Bioimaging and Thermal Sensing

Room: Coquina Salon G

Session Chair: TOBE ANNOUNCED, NONE

10:20 AM

(ICACC-FS2-028-2016) Nanoparticles Emitting in the NIR: The Next Frontier for Bioimaging? (Invited)

F. Vetrone^{*1}; 1. INRS, Canada

10:50 AM

(ICACC-FS2-029-2016) Heating, Thermal Mapping and Temperature-Sensing in the Terahertz Regime (Invited)

R. Naccache^{*2}; A. Mazhorova¹; M. Clerici³; L. Razzari¹; F. Vetrone¹; R. Morandotti¹; 1. INRS, Canada; 2. Institut National de la Recherche Scientifique, Canada; 3. Heriot-Watt University, United Kingdom

11:20 AM

(ICACC-FS2-030-2016) From Bioprobes to Potential Players in Energy Conversion Technologies - Multifunctional Lanthanide-Nanophosphors (Invited)

E. Hemmer^{*1}; F. Legaré¹; F. Vetrone¹; 1. INRS, Canada

11:50 AM

(ICACC-FS2-031-2016) Synthesis and spectroscopic behavior of RE:Y₂O₃ & MgO nanocomposites for mid-infrared solid-state lasers

V. L. Blair^{*1}; N. Ku¹; Z. D. Fleischman¹; L. D. Merkle¹; 1. US Army Research Laboratory, USA

S1: Mechanical Behavior and Performance of Ceramics & Composites

Processing - Microstructure - Mechanical Properties Correlation III

Room: Coquina Salon D

Session Chair: Hagen Klemm, FhG IKTS Dresden

1:30 PM

(ICACC-S1-041-2016) Understanding the Toughening Mechanisms in Ceramic/Carbon Nanotubes Nanocomposites

Y. Liu^{*1}; L. Zhang¹; W. Wu¹; N. P. Padture¹; 1. Brown University, USA

1:50 PM

(ICACC-S1-042-2016) Fabrication and characterization of alumina nanofibers with ultra-high strength

W. Sun^{*1}; H. Yan¹; A. Barber²; 1. Queen Mary, University of London, United Kingdom; 2. University of Portsmouth, United Kingdom

2:10 PM

(ICACC-S1-043-2016) Functional Properties of MWCNT-Alumina Composites Prepared by Novel Approach

O. Hanzel^{*1}; J. Sedláček¹; P. Šajgalík¹; 1. Institute of Inorganic Chemistry, Slovak Academy of Sciences, Slovakia

2:30 PM

(ICACC-S1-044-2016) Multifunctional SiC ceramics by adding graphene-based fillers

B. Román-Manso¹; J. Llorente¹; A. Nistal¹; M. I. Osendi¹; P. Miranzo¹; M. Belmonte^{*1}; 1. Institute of Ceramics and Glass (ICV-CSIC), Spain

2:50 PM

Break

3:10 PM

(ICACC-S1-045-2016) Processing and Properties of Tyranno ZMI Fiber/TiSi₂-Si Matrix Composites

T. Aoki^{*1}; T. Ogasawara¹; 1. Japan Aerospace Exploration Agency, Japan

3:30 PM

(ICACC-S1-046-2016) Development of CNTs reinforced bulk polycrystalline ceramics, possessing uniform CNTs distribution, via engineered sol-gel based processing route

M. K. Satam^{*1}; S. Vishwanathe¹; T. Bhandari¹; P. Joseph¹; S. Galaveen¹; L. Gurnani¹; K. Ravikanth²; P. Patro²; T. Mahata²; A. Mukhopadhyay¹; 1. IIT Bombay, India; 2. BARC, India

3:50 PM

(ICACC-S1-047-2016) Hertzian indentation response of TiC/316-L stainless steel cermets

K. P. Plucknett^{*1}; 1. Dalhousie University, Canada

4:10 PM

(ICACC-S1-048-2016) Pre-sliding Effect on Friction Mechanism of Diamond-like Carbon in Water: A Theoretical Study

S. Bai^{*1}; J. Xu²; Y. Higuchi²; N. Ozawa²; K. Adachi³; S. Mori¹; K. Kurihara⁴; M. Kubo²; 1. New Industry Creation Hatchery Center, Tohoku University, Japan; 2. Institute for Materials Research, Tohoku University, Japan; 3. Graduate School of Engineering, Tohoku University, Japan; 4. Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan

4:30 PM

(ICACC-S1-049-2016) High porosity of 4A zeolite/magnesium phosphate material with uniform open-pore structures

L. Liu^{*1}; J. Li¹; X. Li²; X. Wang¹; 1. China University of Geosciences(Beijing), China; 2. Bohai Petroleum Research Institute. CNOOC, China

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

Coatings to Resist Oxidation, Corrosion, and Erosion

Room: Coquina Salon H

Session Chairs: Eugene Medvedovski, Consultant; Peter Mechnich, German Aerospace Center (DLR)

1:30 PM

(ICACC-S2-037-2016) Boride-Based Thermal Diffusion Coatings for Tribo-Corrosion Applications (Invited)

E. Medvedovski^{*1}; J. Jiang²; M. Robertson²; 1. Endurance Technologies Inc., Canada; 2. NRC Canada, Canada

2:00 PM

(ICACC-S2-038-2016) Evaluating the Effectiveness of Coatings for Interconnections in Solid Oxide Fuel Cells: A Diffusion Model

S. Basu^{*1}; U. Pal¹; S. Gopalan¹; 1. Boston University, USA

2:20 PM

(ICACC-S2-039-2016) Erosion resistance characteristics of advanced atmospheric plasma spray thermal barrier coatings

D. Shin^{*1}; A. Hamed¹; 1. University of Cincinnati, USA

2:40 PM

(ICACC-S2-040-2016) Novel coatings for superheater tubes for waste-to-energy plants

S. Molin^{*1}; M. Chen¹; L. Mikkelsen²; P. Hendriksen¹; 1. Technical University of Denmark, Denmark; 2. Babcock and Wilcox Vølund A/S, Denmark

3:00 PM

Break

3:20 PM

(ICACC-S2-041-2016) Self-healing glass coating for high temperature applications

T. Carlier^{*1}; F. Mear¹; R. Podor³; J. Blach²; S. Saitzek²; A. Ferri²; L. Montagne¹; 1. Université Lille Nord de France, UCCS UMR CNRS 8181, France; 2. Université d'Artois, UCCS UMR CNRS 8181, France; 3. Institut de Chimie Séparative de Marcoule, UMR 5257 CEA-CNRS-UM2-ENSCM, France

3:40 PM

(ICACC-S2-042-2016) Structure features of reaction-cured glass-ceramic coatings in system (SiO₂-B₂O₃)-SiB₄

V. Denisova^{*1}; S. S. Solntsev¹; M. R. Orlov¹; P. N. Medvedev¹; 1. Federal State Unitary Enterprise All-Russian Institute of Aviation Materials, Russian Federation

S3: 13th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Electrode Materials / Sealing Materials

Room: Crystal

Session Chairs: Ayhan Sarikaya, Saint-Gobain; Federico Smeacetto, Politecnico di Torino

1:30 PM

(ICACC-S3-034-2016) Using Precursor Solution Desiccation, Nano-Ceria Pre-Infiltration, and/or Organic Precursor Solution Additives to Improve the Electrochemical Performance and Stability of Infiltrated Solid Oxide Fuel Cell Cathodes (Invited)

T. E. Burye¹; B. J. Bocklund¹; J. D. Nicholas^{*1}; 1. Michigan State University, USA

2:00 PM

(ICACC-S3-035-2016) Effects of copper dopant on the characteristics of cathode materials for intermediate temperature solid oxide fuel cells (Invited)

S. Wang^{*1}; Y. Hsu¹; Y. Liu¹; 1. National Taipei University of Technology, Taiwan

2:30 PM

(ICACC-S3-036-2016) Role of Cr : Fe variation on the chemical and structural stability of (La_{0.8}Sr_{0.2})_{0.95}Cr_{1-x}Fe_xO₃ - 10Sc1CeSZ composite

S. Gupta^{*1}; P. Singh¹; 1. University of Connecticut, USA

2:50 PM

(ICACC-S3-037-2016) Evaluation of A-site Non-stoichiometry Lanthanum Strontium Cobalt Ferrite as Cathode Material for Intermediate Temperature Solid-Oxide Fuel Cell

L. Ge^{*1}; A. L. Lipson¹; J. Carter¹; B. Ingram¹; 1. Argonne National Lab, USA

3:10 PM

Break

3:30 PM

(ICACC-S3-038-2016) Autonomic self-repairing glassy materials for high temperature applications (Invited)

F. O. Mear^{*1}; S. Castanié¹; T. Carlier²; R. Podor³; L. Montagne¹; 1. Lille 1 University, France; 2. University Lille, France; 3. Marcoule Institute for Separative Chemistry, France

4:00 PM

(ICACC-S3-039-2016) Electrical and Mechanical Properties of Phologpita mica/BaO-Al₂O₃-B₂O₃-SiO₂-Based Glass Sealants for Solid Oxide Fuel Cell

C. Liu^{*1}; W. Shong¹; R. Lee¹; 1. Institute of Nuclear Energy Research, Taiwan

4:20 PM

(ICACC-S3-040-2016) New Ba-free glass-ceramic sealant for SOCs application: characterization and performance

A. Sabato^{*1}; G. Cempura²; D. Montinaro³; A. Chrysanthou⁴; M. Salvo¹; M. Ferraris¹; F. Smeacetto¹; 1. Politecnico di Torino, Italy; 2. AGH University of Science and Technology, Poland; 3. SOLID POWER, Italy; 4. University of Hertfordshire, United Kingdom

4:40 PM

(ICACC-S3-041-2016) High temperature mechanical properties of glass-ceramics sealants for SOFC

S. Rodríguez-López²; J. Wei¹; N. H. Menzler¹; S. Gross-Barsnick¹; J. Malzbender¹; M. Pascual^{*2}; 1. Forschungszentrum Jülich GmbH, 52425, Germany; 2. Institute of Ceramics and Glass, CSIC, Spain

S5: Next Generation Bioceramics and Biocomposites

Bioceramics II

Room: Coquina Salon F

Session Chairs: Jeremy Soulie, Institut National Polytechnique de Toulouse; Alastair Cormack, Alfred University; Mohamed Rahaman, Missouri University of Science & Technology

1:30 PM

(ICACC-S5-009-2016) Development of Bioactive Glass Scaffolds with Improved Flexural Strength for Bone Repair

M. N. Rahaman^{*1}; W. Xiao¹; M. A. Zaeem¹; 1. Missouri University of Science & Technology, USA

1:50 PM

(ICACC-S5-010-2016) Medical Initiatives from the Nuclear Community: Porous Wall Hollow Glass Microspheres (PWHGMs) (Invited)

G. Wicks^{*1}; 1. Applied Research Center, USA

2:20 PM

(ICACC-S5-011-2016) Using Light to Measure Temperature: Lanthanide-doped Nanoparticles for Nanothermometry (Invited)

E. Hemmer^{*1}; F. Legaré¹; F. Vetrone¹; 1. INRS, Canada

2:40 PM

(ICACC-S5-012-2016) Exciton dynamics between quantum dots and metal oxide semiconductors (Invited)

A. Vomiero^{*1}; 1. Lulea University of Technology, Sweden

3:00 PM

Break

3:20 PM

(ICACC-S5-014-2016) Using Molecular Dynamics to Probe the Structure and Reactivity of Bioactive Glasses (Invited)

A. Cormack^{*1}; 1. Alfred University, USA

3:40 PM

(ICACC-S5-015-2016) New bioactive, bioresorbable magnetic nanoparticles: A new platform for theranostics (Invited)

A. Tampieri^{*1}; A. Adamiano¹; S. Sprio¹; M. Sandri¹; M. Iafisco¹; M. Montesil¹; S. Panseri¹; 1. National Research Council of Italy, Italy

4:00 PM

(ICACC-S5-013-2016) Molecular Biomimetic Approaches for Hard-to-Soft Interfaces (Invited)

C. Tamerler^{*1}; 1. UNIVERSITY OF Kansas, USA

4:20 PM

(ICACC-S5-016-2016) Sol-gel elaboration of new calcium pyrophosphate glasses for bone regeneration (Invited)

J. Soulie^{*1}; P. Gras¹; D. Laurencin²; O. Marsan¹; O. Varlet¹; C. Charvillat¹; C. Rey¹; C. Combes¹; 1. INPT, France; 2. Université de Montpellier, France

S6: Advanced Materials and Technologies for Direct Thermal Energy Conversion and Rechargeable Energy Storage

Direct Thermal Energy Conversion

Room: Tomoka A

Session Chairs: Hua-Tay Lin, Guangdong University of Technology;
Gabi Schierning, University of Duisburg-Essen

1:30 PM

(ICACC-S6-029-2016) Energy Conversion and Storage Requirements for Hybrid Electric Aircraft (Invited)

A. Misra^{*1}; 1. NASA Glenn Research Center, USA

2:00 PM

(ICACC-S6-030-2016) Nanocrystalline bulk silicon for direct thermal energy conversion (Invited)

G. Schierning^{*1}; 1. University of Duisburg-Essen, Germany

2:30 PM

(ICACC-S6-031-2016) Black nano-ceramics as high-temperature solar absorbing material for next-generation concentrating solar power (Invited)

R. Chen^{*1}; 1. University of California, San Diego, USA

3:00 PM

Break

3:20 PM

(ICACC-S6-032-2016) Enhanced thermal conductivity of polyethylene glycol/ expanded vermiculite shape-stabilized composite phase change materials with multi-wall carbon nanotubes for thermal energy storage

Y. Deng^{*1}; J. Li¹; T. Qian¹; W. Guan¹; 1. China University of Geosciences, China

3:40 PM

(ICACC-S6-033-2016) High temperature solar selective absorber coatings consisting of alternating W and HfO_{2-x} nanolayers

C. Hsueh¹; C. Chen¹; I. Chang¹; J. Ting^{*1}; 1. National Cheng Kung University, Taiwan

4:00 PM

(ICACC-S6-034-2016) Electrical and Thermal Effects of Contacts in Thermoelectric Characterization by Harman Method

B. Kwon^{*1}; I. Roh¹; D. Hyun¹; C. Park²; J. Kim¹; 1. Korea Institute of Science and Technology, The Republic of Korea; 2. Seoul National University, The Republic of Korea

4:20 PM

(ICACC-S6-035-2016) Wettability Study of Borosilicate Glass Over Metal Substrates for Development of Glass-Metal Joints

R. Chhibber^{*2}; R. Joshi¹; 1. IIT Jodhpur, India; 2. Indian Institute of Technology Jodhpur, India

S7: 10th International Symposium on Nanostructured Materials: Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental and Health Applications

Synthesis, Functionalization & Assembly of Nanostructures III

Room: Coquina Salon A

Session Chairs: Csaba Balazsi, Bay Zoltan Nonprofit Ltd. for Applied Research; Roger Narayan, UNC/NCSU Joint Dept of Biomedical Engineering

1:30 PM

(ICACC-S7-041-2016) Molecular self-assembly of ultrathin 2D metal oxide nanosheets – a bottom-up approach on graphene analogues synthesis (Invited)

Z. Sun^{*1}; 1. Queensland University of Technology, Australia

2:00 PM

(ICACC-S7-042-2016) Utilizing chemical nanotechnologies in Improving consolidation and thermal conductivity of the adsorbent layer for absorption heat pump

S. Cho¹; T. Hwang^{*1}; 1. Korea Institute of Industrial Technology, The Republic of Korea

2:20 PM

(ICACC-S7-043-2016) Shape-Induced Advancement of Nanocubes for Miniaturization of High Performance Devices (Invited)

K. Kato^{*1}; K. Mimura¹; Q. Ma¹; M. Osada²; H. Imai²; S. Wada³; H. Haneda⁴; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan; 2. National Institute for Materials Science, Japan; 3. Keio University, Japan; 4. University of Yamanashi, Japan

2:40 PM

(ICACC-S7-044-2016) Scalable low-cost routes to complex thin and ultra-thin metal - oxide nanocomposite coatings

G. Westin^{*1}; 1. Uppsala University, Sweden

3:00 PM

Break

Synthesis, Functionalization & Assembly of Nanostructures IV

Room: Coquina Salon A

Session Chairs: Gunnar Westin, Uppsala University; Kazumi Kato, National Institute of Advanced Industrial Science and Technology

3:20 PM

(ICACC-S7-045-2016) Biology Enabled Nanotechnology: From Surfaces to Biologically Integrated Hybrid Materials (Invited)

C. Tamerler^{*1}; 1. University of Kansas, USA

3:50 PM

(ICACC-S7-046-2016) Engineered bioactive hydroxyapatite nanostructured composites (Invited)

C. Balazsi^{*1}; K. Balazsi²; 1. Bay Zoltan Nonprofit Ltd. for Applied Research, Hungary; 2. Centre for Energy Research HAS, Hungary

4:10 PM

(ICACC-S7-047-2016) Additive Manufacturing of Small-Scale Systems for Medical Applications (Invited)

R. Narayan^{*1}; 1. North Carolina State University, USA

4:30 PM

(ICACC-S7-048-2016) Self-Assembled Graphitizing Coatings for the Rational Design of Photocatalysts (Invited)

J. Claverie^{*1}; J. Zhang¹; L. Hong²; 1. University of Quebec at Montreal (UQAM), Canada; 2. Beijing Institute of Nanoenergy and Nanosystems, China

4:50 PM

(ICACC-S7-049-2016) Laser desorption/ionization (LDI) mass spectrometry based on nanomaterials for biomedical applications (Invited)

J. Pyun*; 1. Yonsei Univ, The Republic of Korea

5:10 PM

(ICACC-S7-050-2016) Zinc Oxide Based Materials: Preparation, Characterization, Properties and Application (Invited)

Z. Crnjak Orel*; 1. National Institute of Chemistry, Slovenia

5:30 PM

(ICACC-S7-051-2016) Current challenges in zeolite synthesis (Invited)

M. T. Wolberg*; C. Kirschhock; J. Martens; 1. KULeuven, Belgium

5:50 PM

(ICACC-S7-052-2016) Synthesis and Characterization Of ZnO Nanorods and CdSe Quantum Dots for Optoelectronic Applications

D. K. Choi*; E. A. Mgbemeje; S. Y. Lee; 1. Chonbuk National University, The Republic of Korea

S8: 10th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT10)

Novel Ceramic Processing III

Room: Coquina Salon B

Session Chairs: Olivier Guillon, Forschungszentrum Juelich; Hisayuki Suematsu, Nagaoka University of Technology

1:30 PM

(ICACC-S8-038-2016) Polymer-Derived Advanced Ceramics — Synthesis and Microstructure-Property Relation (Invited)

R. Riedel*; 1. TU Darmstadt, Germany

2:00 PM

(ICACC-S8-039-2016) Novel MAX-Polymer Multifunctional Composites

S. Ghosh*; R. Dunnigan; M. Habib; S. Gupta; 1. University of North Dakota, USA

2:20 PM

(ICACC-S8-040-2016) In-situ X-ray Computed Micro-tomography of Defect Evolution in Polymer Impregnation and Pyrolysis Derived Ceramic Matrix Composites

N. M. Larson*; C. G. Levi; F. W. Zok; 1. University of California, Santa Barbara, USA

2:40 PM

(ICACC-S8-041-2016) Electrical Conductivity of Dense, Bulk SiOC Ceramics

J. Eom*; Y. Kim; K. Kim; 1. University of Seoul, The Republic of Korea; 2. Kunkuk University, The Republic of Korea

3:00 PM

Break

3:20 PM

(ICACC-S8-042-2016) Defect Control of SiC Polycrystalline Fiber Aiming for Higher Strength (Invited)

T. Ishikawa*; H. Oda; 1. Tokyo University of Science, Yamaguchi, Japan; 2. Ube Industries, Ltd., Japan

3:50 PM

(ICACC-S8-043-2016) Facile obtainment of luminescent glass-ceramics by direct firing of a preceramic polymer and oxide fillers

E. Bernardo*; L. Fiocco; Z. Babakhanova; 1. University of Padova, Italy; 2. Tashkent Chemical-Technological Institute, Uzbekistan

4:10 PM

(ICACC-S8-044-2016) On the Development of MAX Reinforced Metal Matrix Composites

M. Habib; R. Dunnigan; S. Ghosh*; S. Gupta; 1. University of North Dakota, USA

4:30 PM

(ICACC-S8-045-2016) Fabrication of SiC/SiC composites using electrophoretic deposition combined with ultrasonication followed by hot pressing

D. Yoon; P. Fitriani; S. Chae; K. Raju; A. Sharma*; 1. Yeungnam University, The Republic of Korea

4:50 PM

(ICACC-S8-046-2016) Study on thermal properties of Al₂O₃ ceramic substrate composite reinforced by Si₃N₄

S. Wang*; D. Zhang; W. Wang; X. Ouyang; 1. Shantou university, China

S9: Porous Ceramics: Novel Developments and Applications

Innovative Characterization Methods for Porous Ceramics

Room: Coquina Salon G

Session Chair: Gian Soraru, University of Trento

1:30 PM

(ICACC-S9-001-2016) Gaining novel Insights into transport paths within porous Materials: Combining the powerful NMR and X-CT Tomography Techniques (Invited)

K. Rezwan*; 1. University of Bremen, Germany

2:00 PM

(ICACC-S9-002-2016) Evaluating Porosity in Cordierite Diesel Particulate Filter Materials: Advanced X-ray Techniques and New Statistical Analysis Methods (Invited)

G. Bruno*; A. Kupsch; A. Staudel; A. Lange; Y. Onell; K. Ehrig; B. Mueller; M. Hentschel; 1. BAM Federal Institute for Materials Research and Testing, Germany

2:30 PM

(ICACC-S9-003-2016) Characterization of Three-Dimensionally Networked Porous Carbon Material

Y. Kogo*; R. Inoue; E. Kojyo; G. Li; 1. Tokyo University of Science, Japan

2:50 PM

(ICACC-S9-004-2016) Observation of internal structures in porous ceramics by micro x-ray CT (Invited)

S. Tanaka*; K. Yasuda; H. Kita; M. Takahashi; Y. Takahashi¹⁰; S. Honda²; T. Mitsuoka⁹; H. Muto⁶; S. Yamamoto⁵; Y. Yoshizawa; 1. Nagaoka University of Technology, Japan; 2. Nagoya Institute of Technology, Japan; 3. Tokyo Institute of Technology, Japan; 4. Toyohashi University of Technology, Japan; 5. Nagoya University, Japan; 6. Ehime University, Japan; 7. AIST, Japan; 8. Asuzac, Japan; 9. NGK Sparck Plug Co. Ltd., Japan; 10. Noritake Co. Ltd., Japan

3:20 PM

Break

Innovations in Processing Methods & Synthesis of Porous Ceramics I

Room: Coquina Salon G

Session Chair: Paolo Colombo, University of Padova

3:40 PM

(ICACC-S9-005-2016) Preparation and Properties of Recrystallized Silicon Carbide with Nano-sized SiC Additives Synthesized via Carbothermal Reduction Processing (Invited)

J. Yang^{*}; Y. Deng¹; 1. Xi'an Jiaotong University, China

4:10 PM

(ICACC-S9-006-2016) Polymer Derived Ceramic Foams by a New Replica Method

G. Soraru^{*}; E. Zera¹; P. Jana¹; 1. University of Trento, Italy

4:30 PM

(ICACC-S9-007-2016) Hierarchical and interconnected high porosity mullite ceramics with sericite induced textured structures

X. Wang^{*}; J. Li¹; W. Guan¹; L. Liu¹; 1. China University of Geosciences, China

S10: Virtual Materials (Computational) Design and Ceramic Genome

Modeling of Point Defects, Grain Boundaries and Interfaces III

Room: Ponce DeLeon

Session Chair: Yanwne Zhang, Oak Ridge National Laboratory

1:30 PM

(ICACC-S10-031-2016) Computer Simulation of Ionization-Induced Formation of Amorphous Tracks in Ceramics (Invited)

W. J. Weber^{*}; E. Zarkadoulas¹; 1. University of Tennessee, USA; 2. Oak Ridge National Lab, USA

2:00 PM

(ICACC-S10-032-2016) Defect chemistry of $Y_2Ti_2O_7$ pyrochlore from first principles calculations

T. Ogawa^{*}; A. Kuwabara¹; C. Fisher¹; H. Moriwake¹; S. Kitaoka¹; 1. Japan Fine Ceramics Center, Japan

2:20 PM

(ICACC-S10-033-2016) Theoretical modeling of the low energy recoil events of Ti_3AlC_2

J. Wang^{*}; J. Wang¹; 1. Institute of Metal Research, Chinese Academy of Sciences, China

2:40 PM

(ICACC-S10-034-2016) Numerical Simulation of Nano-Porous Network Formation due to Point Defect Accumulation

E. Hernandez^{*}; V. Tikare¹; L. Wang¹; 1. UM, USA; 2. SNL, USA; 3. U.S. ARL, USA

3:00 PM

Break

Ceramic Genome and Integrated Materials Computational Engineering I

Room: Ponce DeLeon

Session Chair: Masato Yoshiya, Osaka University

3:20 PM

(ICACC-S10-035-2016) Structural and elastic properties of binary and ternary metal nitride alloys films: experimental study and first-principles calculations (Invited)

P. Djemia^{*}; Q. Hu²; L. Belliard¹; G. Abadias³; 1. LSPM-CNRS, Université Paris 13, France; 2. Institute of Metal Research, Chinese Academy of Sciences, China; 3. Institut P², CNRS-Université de Poitiers-ENSMA, France; 4. UPMC, France

3:50 PM

(ICACC-S10-036-2016) Structural and elastic properties of Ta_{1-x}ZrxN and Ti_{1-x}AlxN from first-principles calculations (Invited)

Q. Hu^{*}; P. Djemia²; C. Li²; R. Yang¹; 1. Institute of Metal Research, Chinese Academy of Sciences, China; 2. LSPM-CNRS, France

4:20 PM

(ICACC-S10-037-2016) Strain triggered self-stiffening in anti-perovskite compounds (Invited)

J. Wang^{*}; 1. Institute of Metal Research, China

4:40 PM

(ICACC-S10-038-2016) How ICME and MGI fruition benefits the MAX community: A case study on the calculation of (Ti,Cr)2AlC phase diagram

T. Duong^{*}; A. Talapatra¹; W. Son¹; H. Gao¹; M. Radovic¹; R. Arroyave¹; 1. Texas A&M University, USA

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

Structure Stability under Extreme Environments II

Room: Tomoka B

Session Chair: Sylvain Dubois, PPRIME Institute

1:30 PM

(ICACC-S12-034-2016) MAX phase materials for nuclear applications (Invited)

K. Lambrinou^{*}; T. Lapauw²; J. Vleugels²; 1. SCK-CEN, Belgium; 2. KU Leuven, Belgium

2:00 PM

(ICACC-S12-035-2016) Towards a better understanding of Ti_3AlC_2 tensile creep properties

E. Drouelle^{*}; V. Gauthier¹; A. Joulain¹; J. Cormier¹; P. Villechaise¹; S. Dubois¹; P. Sallot²; 1. Institut PPRIME, France; 2. Safran Tech, France

2:20 PM

(ICACC-S12-036-2016) Room Temperature Stress-Strain Hysteresis in Ti_3AlC Revisited

R. Benitez²; W. Kan³; H. Gao¹; M. O'Neal²; G. Proust³; M. Radovic²; 1. Texas A&M, USA; 2. Texas A&M University, USA; 3. University of Sydney, Australia

2:40 PM

(ICACC-S12-037-2016) The stability of V_2AlC with Al in the 800 to 1000 °C temperature range and the *in situ* synthesis of V_2AlC/Al composites

M. T. Agne^{*}; M. Radovic²; M. Barsoum¹; 1. Drexel University, USA; 2. Texas A&M University, USA

3:00 PM

Break

Novel Processing Methods II

Room: Tomoka B

Session Chair: Konstantina Lambrinou, SCK-CEN

3:20 PM

(ICACC-S12-038-2016) Densification and Phase Evolution of SHS Derived Ti_3AlN Active Precursor Powders During Hot Pressing Processes

L. Chlubny^{*}; J. Lis¹; C. Kapusta¹; K. Chabior¹; P. Chachlowska¹; K. Zielenska¹; 1. AGH University of Science and Technology, Poland

3:40 PM

(ICACC-S12-039-2016) MAX phases thin films synthesis by thermal annealing of multi layers deposition at RT

D. Magne^{*}; V. Mauchamp¹; P. Guerin¹; T. Cabioc'h¹; 1. Institut PPRIME, France

4:00 PM

(ICACC-S12-040-2016) Ceramics at high temperature modelled through elastoplasticity

D. Bigoni^{*1}; F. Dal Corso¹; M. Penasa¹; S. Gregoire²; S. Romero Baivier²; 1. University of Trento, Italy; 2. Vesuvius Group S.A., Belgium

S13: Advanced Materials for Sustainable Nuclear Fission and Fusion Energy

Accident Tolerant Fuels IV

Room: St. John

Session Chairs: Christina Back; Anne Campbell, Oak Ridge National Laboratory

1:30 PM

(ICACC-S13-034-2016) Development of Caulked Joint between Zircaloy and SiC/SiC Composite Tubes By Using Diode Laser (Invited)

H. Serizawa^{*1}; Y. Asakura¹; H. Motoki²; J. Park²; H. Kishimoto⁴; A. Kohyama²; 1. Osaka University, Japan; 2. OASIS, Muroran Institute of Technology, Japan; 3. School of Engineering, Osaka University, Japan; 4. College of Design and Manufacturing Technology, Muroran Institute of Technology, Japan

2:00 PM

(ICACC-S13-035-2016) Fabrication and Hydrothermal Corrosion of NITE-SiC with Various Sintering Additives

K. Terrani^{*1}; Y. Katoh¹; C. Parish¹; Y. Kim²; 1. Oak Ridge National Laboratory, USA; 2. GE, USA

2:20 PM

(ICACC-S13-037-2016) Hydrothermal corrosion behavior of silicon carbide joints

T. Koyanagi^{*1}; K. Terrani¹; J. Kiggans¹; Y. Kim²; T. Hinoki²; Y. Katoh¹; 1. Oak Ridge National Laboratory, USA; 2. GE Global Research Center, USA; 3. Kyoto University, Japan

2:40 PM

(ICACC-S13-038-2016) SiC Composite for BWR Channel Applications

K. Yueh^{*1}; P. Cantonwine²; D. Carpenter²; S. Johnson⁴; Y. Katoh³; G. Kohse²; K. Terrani³; 1. Electric Power Research Institute, USA; 2. Massachusetts Institute of Technology, USA; 3. Oak Ridge National Laboratory, USA; 4. Westinghouse Electric Company, USA; 5. Global nuclear fuel, USA

3:00 PM

Break

3:20 PM

(ICACC-S13-039-2016) SiC Composite Claddings with Metallic Seal Coatings for Improved LOCA Tolerance

J. S. O'Dell^{*1}; L. L. Snead²; 1. Plasma Processes, LLC, USA; 2. Nuclear Materials Consulting, USA

3:40 PM

(ICACC-S13-040-2016) Electrochemical chromium-based environmental barrier coatings for SiC composites in LWR systems

C. Ang^{*1}; J. Kiggans¹; B. Jolly¹; C. Kemery²; J. Thomson¹; K. Terrani²; Y. Katoh²; 1. Oak Ridge National Lab, USA; 2. Oak Ridge National Laboratory, USA; 3. NEO Industries, USA

4:00 PM

(ICACC-S13-041-2016) Discussion of potential fuel cladding chemical interactions in LWR designs utilizing SiC/SiC cladding

T. J. Gerczak^{*1}; 1. Oak Ridge National Lab, USA

4:20 PM

(ICACC-S13-042-2016) Design and Manufacturing of SiC Wrapped Zircaloy Hybrid Cladding for Accident Tolerant Fuels

P. Xu^{*1}; J. Choi¹; E. J. Lahoda¹; K. Sridharan²; B. Maier²; A. Yacout³; M. Pellin³; G. Markham⁴; D. E. Wolfe³; 1. Westinghouse Electric Company, USA; 2. University of Wisconsin, USA; 3. Argonne National Laboratory, USA; 4. Ceramic Tubular Products, LLC, USA; 5. Pennsylvania State University, USA

S14: Crystalline Materials for Electrical, Optical and Medical Applications

Optical Material III

Room: Tomoka C

Session Chairs: Gisele Maxwell, Shasta Crystals Inc; James Harrington, Rutgers University

1:30 PM

(ICACC-S14-029-2016) Crystal Growth of Novel Scintillators (Invited)

E. Bourret^{*1}; 1. Lawrence Berkeley National Laboratory, USA

2:00 PM

(ICACC-S14-030-2016) Halide Elpasolite Structure Crystal Materials (Invited)

J. M. Frank^{*1}; P. Menge¹; V. Ouspenski²; J. Lejay²; 1. Saint-Gobain Crystals, USA; 2. Saint-Gobain Recherche, France

2:30 PM

(ICACC-S14-031-2016) Sintering and Optical Performance of Eu:BaCl₂ Transparent Ceramic Scintillators

T. Shoulders^{*2}; C. Piriou³; E. Bourret¹; G. Bizarri¹; R. Gaume²; 1. Lawrence Berkeley National Laboratory, USA; 2. University of Central Florida, USA; 3. University of Limoges, France

2:50 PM

Break

3:10 PM

(ICACC-S14-032-2016) Morphology control of ceramic materials by novel soft chemical synthesis methods (Invited)

K. Toda^{*1}; 1. Niigat University, Japan

3:40 PM

(ICACC-S14-033-2016) Discovery of New Phosphor Hosts via Unit Replacement Strategies (Invited)

Z. Xia^{*1}; 1. University of Science and Technology Beijing, China

4:10 PM

(ICACC-S14-034-2016) Fabrication of transparent and luminescent SiAlON bulk ceramics (Invited)

J. Tatami^{*1}; T. Takahashi²; 1. Yokohama National University, Japan; 2. Kanagawa Academy of Science and Technology, Japan

4:40 PM

(ICACC-S14-035-2016) Lanthanide-doped LaSi₃N₅ based phosphors: Ab initio study of electronic structures, band gaps and energy level locations

Z. Lences^{*1}; I. Ibrahim¹; P. Sajgalik¹; 1. Institute of Inorganic Chemistry, Slovak Academy of Sciences, Slovakia

FS1: Geopolymers, Chemically Bonded Ceramics, Eco-friendly and Sustainable Materials

Synthesis, Processing and Microstructure

Room: Coquina Salon E

Session Chair: Waltraud Kriven, University of Illinois at Urbana-Champaign

1:30 PM

(ICACC-FS1-001-2016) Rheological properties of zeolite-seeded geopolymers (Invited)

M. Pernechele^{*1}; T. Troczynski¹; M. Pawlik¹; 1. University of British Columbia, Canada

2:00 PM

(ICACC-FS1-002-2016) Geopolymer based from brick clays: effect of the alkali cations on the geopolymerization reaction and on the alkaline earth releasing (Invited)

J. Peyne^{*1}; S. Rossignol¹; E. Joussein²; J. Gautron³; 1. Laboratoire SPCTS, France; 2. GRESE, France; 3. Bouyer Leroux, France

2:30 PM

(ICACC-FS1-003-2016) Metakaolin-based geopolymer cements from commercial sodium waterglass and sodium waterglass from rice husk ash: A comparative study

H. Tchakoute Kouamo^{*1}; C. H. Rüschert²; 1. Université of Yaoundé I/Leibniz University, Hannover, Germany; 2. Leibniz Universität Hannover, Germany

3:00 PM

Break

3:20 PM

(ICACC-FS1-005-2016) Influence of Mix Design Parameters on Geopolymer Mechanical Properties and Microstructure

M. Lahoti^{*1}; E. Yang¹; K. Tan¹; 1. Nanyang Technological University, Singapore

Mechanical Properties

Room: Coquina Salon E

Session Chair: Yiannis Pontikes, KULeuven

3:40 PM

(ICACC-FS1-006-2016) Thermal performance of Metakaolin-Based Geopolymers: Volume Stability and Residual Mechanical Properties

M. Lahoti^{*1}; E. Yang¹; K. Tan¹; 1. Nanyang Technological University, Singapore

4:00 PM

(ICACC-FS1-007-2016) IR-spectroscopic investigation of geopolymer-binder and CSH-phase stability on heating temperature in post-fired cements (Invited)

C. Rüschert^{*1}; K. Unterderweide²; E. Rigo²; 1. Leibniz University Hannover, Germany; 2. Materialprüfanstalt fuer das Bauwesen, Germany

FS4: Additive Manufacturing and 3D Printing Technologies

Ink Jet Printing

Room: Coquina Salon C

Session Chairs: Soshu Kirihaara, Osaka University; Elizabeth Kupp, The Pennsylvania State University

1:30 PM

(ICACC-FS4-001-2016) Enabling Direct Digital Manufacturing using 3D Printing for next generation complex heterogeneous devices (Invited)

K. Church^{*1}; 1. nScript, USA

2:00 PM

(ICACC-FS4-002-2016) Additive Manufacturing with an Inorganic Binder

P. Colombo^{*1}; G. Franchin¹; H. Elsayed¹; A. Conte¹; P. Scanferla¹; A. De Marzi¹; A. Beretta²; A. Italiano¹; 1. University of Padova, Italy; 2. Desamanager srl, Italy

2:20 PM

(ICACC-FS4-003-2016) Additive Manufacturing of Ceramics Using Polymer Jetting

E. R. Kupp^{*1}; G. L. Messing¹; 1. The Pennsylvania State University, USA

2:40 PM

(ICACC-FS4-004-2016) Fabrication of titania nano layer by inexpensive inkjet printing via sol-gel route

C. Gadea^{*1}; D. Marani¹; S. Ramousse¹; V. Esposito¹; 1. Technical University of Denmark, Denmark

3:00 PM

Break

Fused Deposition Modeling

Room: Coquina Salon C

Session Chair: Michael Halbig, NASA Glenn Research Center

3:20 PM

(ICACC-FS4-005-2016) Additive Manufacturing and Characterization of Polylactic Acid (PLA) Composites Containing Metallic Reinforcements

L. Kuentz^{*1}; A. Salem²; M. Singh²; M. C. Halbig⁴; J. Salem⁴; 1. Lake Ridge Academy, USA; 2. Hawken School, USA; 3. Ohio Aerospace Institute, USA; 4. NASA Glenn Research Center, USA

3:40 PM

(ICACC-FS4-006-2016) Additive Manufacturing of Light Weight, High Strength Polymer Composite Materials and Structures

A. Salem^{*1}; B. Hausmann²; L. Kuentz²; M. Singh⁴; M. C. Halbig⁵; B. A. Lerch⁵; 1. Hawken School, USA; 2. Case Western Reserve University, USA; 3. Lake Ridge Academy, USA; 4. Ohio Aerospace Institute, USA; 5. NASA Glenn Research Center, USA

4:00 PM

(ICACC-FS4-007-2016) Additive Manufacturing of Optically Transparent Glass

G. Franchin^{*1}; J. Klein²; M. Stern²; M. Kayser²; C. Inamura²; S. Dave²; J. Weaver²; P. Houk²; P. Colombo¹; M. C. Yang²; N. Oxman²; 1. University of Padova, Italy; 2. Massachusetts Institute of Technology, USA; 3. Harvard University, USA

4:20 PM

(ICACC-FS4-008-2016) Rapid Manufacturing of Ceramic Parts

W. Xiufeng^{*1}; W. Jia¹; Y. Chenglong¹; F. Xiaopu¹; J. Hongtao¹; Y. Yang¹; L. Hui¹; 1. Shaanxi University of Science and Technology, China

Posters

Poster Session B

Room: Ocean Center Arena

5:00 PM

(ICACC-EMERG-P001-2016) X-ray Photoelectron Spectroscopy Analysis of Select Two-dimensional Transition Metal Carbides (MXenes)

J. Halim^{*1}; K. M. Cook³; M. Naguib⁴; P. Eklund²; Y. Gogotsi¹; J. Rosen²; M. Barsoum¹; 1. Drexel University, USA; 2. Linköping University, Sweden; 3. Naval Air Systems Command, USA; 4. Oak Ridge National Lab, USA

(ICACC-EMERG-P002-2016) Graphene as a heat sink of ultrasound probe

Y. Kim^{*1}; W. Seo¹; B. Choi²; 1. Hanbat National University, The Republic of Korea; 2. FC Ultrasound, The Republic of Korea

(ICACC-EMERG-P003-2016) Thermal analysis and calorimetry applied to the studies of 2D carbon-based nanomaterials

K. Lilova^{*1}; L. Brown¹; 1. Setaram Inc., USA

(ICACC-FS1-P004-2016) Effect of phyllosilicate type on the microstructure and properties of kaolin-based ceramic tapes

G. Lecomte^{*1}; K. Lebdioua¹; M. Laffort¹; N. Houta¹; N. Tessier-Doyen¹; Y. Abouliatim²; C. Peyratout¹; 1. ENSCI, France; 2. ENSA, Morocco

(ICACC-FS1-P005-2016) Geopolymers as Adsorbent for Heavy Metals Removal From Wastewaters

I. Kara^{*1}; D. YILMAZER²; S. T. Akar²; 1. Anadolu University, Turkey; 2. Eskisehir Osmangazi University, Turkey

(ICACC-FS5-P064-2016) Combining Flash Sintering / Sinterforging with Hybrid FAST/SPS Technology for Oxide and Non-Oxide Materials

J. Hennicke^{*1}; T. Kessel¹; J. Raethel²; 1. FCT Systeme GmbH, Germany; 2. Fraunhofer IKTS, Germany

(ICACC-FS6-P006-2016) FEM crystal plasticity simulation analysis for a microcompressed single crystal

J. Jung^{*}; C. Kyung Mox^{*}; I. Park^{*}; Y. Choi^{*}; 1. Pusan National University, The Republic of Korea

(ICACC-FS6-P007-2016) First principles study of thermal stability of LiNiO₂ materials coated with ultrathin amorphous Al₂O₃ layers

J. Kang^{*}; B. Han^{*}; 1. DGIST, The Republic of Korea; 2. Yonsei University, The Republic of Korea

(ICACC-S3-P008-2016) Production of Li₂O-doped-GDC dense electrolyte at 950°C by water based tape casting

V. De Marco^{*}; V. M. Sglavo^{*}; A. Grazioli^{*}; N. Zampini^{*}; 1. University of Trento, Italy

(ICACC-S3-P010-2016) Current collection apparatus to improve the electrochemical measurement reliability for the solid oxide fuel cell

J. Chang^{*}; M. Lee^{*}; R. Yang^{*}; T. Lin^{*}; Y. Chang^{*}; W. Kao^{*}; L. Lee^{*}; R. Lee^{*}; 1. Institute of Nuclear Energy Research, Taiwan

(ICACC-S3-P011-2016) Densification and Electrical Conductivity of Gadolinia-Doped Ceria Solid Electrolyte

R. M. Batista^{*}; E. N. Muccillo^{*}; 1. Energy and Nuclear Research Institute, Brazil

(ICACC-S3-P012-2016) Development of SOFC Stack Materials with NH₃ as Fuel

H. Iwai^{*}; M. Saito^{*}; Y. Yamamoto^{*}; K. Inaoka^{*}; S. Suzuki^{*}; Y. Takahashi^{*}; 1. Noritake Co., Ltd, Japan

(ICACC-S3-P013-2016) La-doped BaSnO₃ as Anode Material for Low Temperature-Solid Oxide Fuel cells

M. Abdul Jabbar^{*}; K. Pan^{*}; A. Jaiswal^{*}; I. Robinson^{*}; E. D. Wachsman^{*}; 1. University of Maryland, USA

(ICACC-S3-P014-2016) Ceria coatings for the hydrogen side of the interconnects for SOFC/SOEC applications

D. Szymczewska^{*}; P. Z. Jasinski^{*}; M. Chen^{*}; S. Molin^{*}; P. Hendriksen^{*}; 1. Technical University of Denmark, Denmark; 2. Gdansk University of Technology, Poland

(ICACC-S3-P015-2016) Synthesis of Sr₂MgMoO₆ by Atmosphere-Controlled Calcination method and Characterization for Solid Oxide Fuel Cells

M. Kinoshita^{*}; K. Hara^{*}; T. Onozawa^{*}; K. Shin-mura^{*}; Y. Otani^{*}; S. Ogawa^{*}; E. Niwa^{*}; T. Hashimoto^{*}; K. Sasaki^{*}; 1. Tokai University, Japan; 2. Nihon University, Japan

(ICACC-S5-P016-2016) Effect of CNTs as fillers on the mechanical properties of kenaf-polypropylene composites

R. Paskaramoorthy^{*}; 1. University of the Witwatersrand, South Africa

(ICACC-S5-P017-2016) Pulse electric current sintering of hydroxyapatite/ β -tricalcium phosphate composites

S. Kobayashi^{*}; T. Izawa^{*}; 1. Tokyo Metropolitan University, Japan

(ICACC-S5-P065-2016) Chromatic silica sol-gel/ polydiacetylene composites for biological and medical applications

S. Kolusheva^{*}; M. Ritenberg^{*}; R. Jelinek^{*}; 1. Ben-Gurion University, Israel

(ICACC-S6-P018-2016) New Rock Salt type Structure from Chemical or Electrochemical insertion

V. Pralong^{*}; M. Freire^{*}; O. I. Lebedev^{*}; A. Maignan^{*}; 1. CNRS CRISMAT, France; 2. SAFT, France

(ICACC-S6-P019-2016) Thermoelectric Properties of *n* - type Bi₂Te_{3-x}Se_x Prepared by Hot Extrusion

S. Jung^{*}; H. Park^{*}; C. Park^{*}; B. Kwon^{*}; S. Kim^{*}; D. Hyun^{*}; J. Kim^{*}; S. Baek^{*}; 1. Korea Institute of Science and Technology, The Republic of Korea; 2. Yonsei University, The Republic of Korea; 3. Seoul National University, The Republic of Korea

(ICACC-S6-P020-2016) Structural and Microwave Dielectric Properties of (1-x)Li₂TiO₃ + xMgO Ceramics Prepared by Solid State Reaction Method

E. Izci^{*}; 1. Anadolu University, Turkey

(ICACC-S6-P021-2016) Dielectric, Structural and Spectroscopic Properties of Mg- doped CaCu₃Ti₄O₁₂ Ceramics by Solid State Reaction Method

E. Izci^{*}; 1. Anadolu University, Turkey

(ICACC-S6-P022-2016) Solid state synthesis of geikielite and karrooite

E. Izci^{*}; 1. Anadolu University, Turkey

(ICACC-S6-P023-2016) Thermal conductivity changes in WO₃ films caused by hydrogen intercalation/deintercalation

A. Nakamura^{*}; K. Aoyagi^{*}; S. Harada^{*}; M. Tagawa^{*}; T. Ujihara^{*}; 1. Nagoya University, Japan

(ICACC-S6-P024-2016) Temperature-dependent density of states (DOS) effective mass and related thermoelectric properties of Bi_{2-x}Sb_xTe₃ compounds

T. An^{*}; Y. Lim^{*}; M. Park^{*}; J. Tak^{*}; W. Seo^{*}; H. Cho^{*}; J. Cho^{*}; J. Kim^{*}; B. Kwon^{*}; C. Park^{*}; 1. Seoul National University, The Republic of Korea; 2. Pukyong National University, The Republic of Korea; 3. Korea Institute of Ceramic Engineering and Technology, The Republic of Korea; 4. Sungkyunkwan University, The Republic of Korea; 5. Korea Institute of Science and Technology, The Republic of Korea

(ICACC-S6-P025-2016) Anisotropic properties of higher manganese silicide prepared via arc melting and hot press

Y. Sadia^{*}; Z. Aminov^{*}; D. Mogilianski^{*}; Y. Gelbstein^{*}; 1. Ben-Gurion University of the Negev, Israel

(ICACC-S7-P026-2016) Applications of Cu₂O Particles with Modulated Size and Morphology in Sensing 4-Nitrophenol

Y. Chen^{*}; M. Wang^{*}; 1. National Taiwan University of Science & Technology, Taiwan

(ICACC-S7-P027-2016) Surface enhancement of 3D printed thermoplasts via plasma assisted vapor deposition approaches for unmanned aerial vehicles

K. Schoulen^{*}; R. Mathur^{*}; J. Huenermann^{*}; F. Biradli^{*}; I. Ahrens^{*}; T. Ludwig^{*}; S. Mathur^{*}; 1. Apostelgymnasium Koeln-Lindenthal, Germany; 2. Institute of Inorganic Chemistry, Germany

(ICACC-S7-P028-2016) Thin Film silicon solar cells on graphite substrates

H. Chang^{*}; K. Cho^{*}; D. Lee^{*}; 1. Chungnam National University, The Republic of Korea; 2. NewPower Plasma, The Republic of Korea

(ICACC-S7-P029-2016) The synthesis of metal(Ti/Cr/Mo/B) alloying DLC coating for the application on bipolar plates in fuel cell

K. Moon^{*}; N. Lee^{*}; J. Sle^{*}; H. Lee^{*}; C. Lee^{*}; 1. KITECH, The Republic of Korea; 2. Hanyang University, The Republic of Korea

(ICACC-S7-P030-2016) Characterization and structure-properties studies of metal oxide nanomaterials using thermal analysis and calorimetry

K. Lilova^{*}; 1. Setaram Inc., USA

(ICACC-S7-P031-2016) Relationship between surface excess and changes in the nanoparticles' macroscopic properties

D. C. Rosário^{*}; G. Douglas^{*}; 1. University of São Paulo, Brazil

(ICACC-S7-P032-2016) Structure and Bonding in Polyiodide Ions in f-Element Crown-Ether Complexes

I. Pantenburg^{*}; G. Meyer^{*}; S. Mathur^{*}; 1. University of Cologne, Germany; 2. Iowa State University, USA

(ICACC-S7-P033-2016) Al/V-doped TiO₂ Nanotube Array as Wide-range Hydrogen Sensor

Q. Liu^{*}; Z. Li^{*}; D. Ding^{*}; C. Ning^{*}; X. Wang^{*}; 1. Shanghai jiao Tong University, China; 2. Shanghai Institute of Ceramics, Chinese Academy of Sciences, China; 3. East China University of Science and Technology, China

(ICACC-S7-P034-2016) Magnetic Heating of Iron Oxide and Strontium Ferriet Nanoparticles Embedded in Agar

M. Wendt^{*}; N. Öztürk^{*}; C. Ergun^{*}; E. Alveroglu^{*}; M. Nejatpour^{*}; 1. Istanbul Technical University, Turkey

(ICACC-S7-P035-2016) Abundant Metal Oxide Photocatalysts for Solar Hydrogen Production

T. Fischer^{*}; L. Mayrhofer^{*}; M. Niederberger^{*}; J. Augustynski^{*}; J. R. Morante¹⁰; H. Lemmetyinen^{*}; D. Barreca^{*}; F. Heinrichsdorff^{*}; R. Becker^{*}; S. Mathur^{*}; 1. University of Cologne, Germany; 2. University of Cologne, Germany; 3. Tampere University, Finland; 4. Padova University, Italy; 5. University of Warsaw, Poland; 6. Fraunhofer IWM, Germany; 7. Siemens AG, Germany; 8. Huntsman Pigments and Additives, Germany; 9. ETH Zürich, Switzerland; 10. IREC, Spain

(ICACC-S7-P066-2016) An Integrated Approach Towards in-situ Diagnostics of On-Surface and Gas Phase Reactions: Direct On-Chip Fabrication of Gas Sensing Materials via Chemical Vapor Deposition

T. Fischer^{*}; S. Mathur^{*}; 1. University of Cologne, Germany

(ICACC-S7-P036-2016) Nanoindentation and SEM study of Silicon Carbide Systems

N. Tian^{*}; J. Greene^{*}; 1. Nanoscience Instruments, USA

(ICACC-S7-P037-2016) High Efficient Photocatalytic Hydrogen Evolution on Decorated Graphene Nanohybrid

G. Lu^{*1}; 1. Lanzhou Institute of Chemical Physics, China

(ICACC-S7-P038-2016) Deposition and Characterization of Nanostructure ZnO:Sb Films

Y. Caglar^{*1}; M. Caglar¹; S. Ilcan¹; 1. Anadolu University, Turkey

(ICACC-S7-P039-2016) XRD studies and microstructure of hexagonal nanotube Mg doped ZnO films deposited by MW-CBD

S. Ilcan^{*1}; K. Gorgun²; Y. Caglar¹; M. Caglar¹; 1. Anadolu University, Turkey; 2. Eskisehir Osmangazi University, Turkey

(ICACC-S7-P040-2016) Synthesis of ZnO:Ni Nanopowders by Microwave Assisted Hydrothermal Method

S. Aksoy^{*1}; Y. Caglar¹; S. Ilcan¹; M. Caglar¹; 1. Anadolu University, Turkey

(ICACC-S7-P041-2016) Polymer/SiO₂ Bilayer Dielectrics for CuPc-based OFETs and their Electrical Characteristics

M. Caglar^{*1}; S. Ruzgar¹; S. Ilcan¹; Y. Caglar¹; 1. Anadolu University, Turkey

(ICACC-S7-P066-2016) Gas sensing characteristics and mechanisms of lyophilized TiO₂ quantum dots

B. Mwakikunga^{*1}; 1. National Centre for Nano-Structured Materials - CSIR, Zimbabwe

(ICACC-S7-P067-2016) Investigation of Gas Sensing Properties of a-Fe₂O₃ Thin Films Prepared by Plasma Enhanced Chemical Vapour Deposition

B. Mwakikunga^{*1}; 1. National Centre for Nano-Structured Materials - CSIR, Zimbabwe

(ICACC-S8-P042-2016) Ceramic Nitride powders - specialized development for high purity AlN and Si₃N₄

T. Schmidt^{*1}; R. Jensen²; 1. H.C. Starck GmbH, Germany; 2. H.C. Starck NA Trading LLC, USA

(ICACC-S8-P043-2016) Near net shape processing of ZnS materials by slip casting and sintering

J. Yin^{*1}; A. Garcia¹; Y. Wu¹; 1. Alfred University, USA

(ICACC-S8-P044-2016) Novel Particulate Reinforced Multifunctional Composites

M. Bahmer^{*1}; R. Georgeson¹; D. Ferguson¹; S. Gupta¹; 1. University of North Dakota, USA

(ICACC-S8-P045-2016) Heywang model and corrected impedance relations based on doped BaTiO₃-ceramics fractal nature

V. Mitic^{*1}; L. Kocić¹; V. Paunovic¹; 1. Serbian Academy of Sciences, Serbia; 2. Faculty of Electronic Engineering, Serbia; 3. Faculty of Electronic Engineering, Serbia

(ICACC-S8-P046-2016) Thermal Fatigue of Cu Metallized Ceramic Substrates for Power Modules under Severe Thermal Cycling Condition

H. Miyazaki^{*1}; S. Iwakiri²; K. Hirao¹; Y. Yoshizawa¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan; 2. Denki Kagaku Kogyo Kabushiki Kaisha, Japan

(ICACC-S8-P047-2016) Round-Robin Test on Fracture Toughness of Ceramic Thin Plate Performed Through Single-Edge Pre-cracked Plate method

H. Miyazaki^{*1}; Y. Yoshizawa¹; K. Hirao¹; T. Ohji¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

(ICACC-S8-P048-2016) Pulverization of Y₂O₃ nanoparticles through nanocomposite particles prepared by mechanical treatment

K. Jeong^{*1}; J. Tatami¹; M. Iijima¹; T. Takahashi²; 1. Yokohama National University, Japan; 2. Kanagawa Academy of Science and Technology, Japan

(ICACC-S8-P049-2016) Effect of cold rolling on structure and properties of cast Ti-7.5Mo alloy

J. Chern Lin^{*1}; Y. Chen¹; C. Ju¹; 1. National Cheng Kung University, Taiwan

(ICACC-S9-P050-2016) 3D mapping of density and crack propagation through sintering of catalysis pellets by X-ray tomography

H. S. Jacobsen^{*1}; A. P. Molina²; N. Dalskov²; H. L. Frandsen¹; 1. Technical University of Denmark, Denmark; 2. Haldor Topsoe A/S, Denmark

(ICACC-S9-P051-2016) Ceramic Nanofibers and Porous Nanofibrous Structures by Electrospinning

A. Stanishevsky^{*1}; A. Brayer¹; P. Pokorny²; D. Lukas²; 1. University of Alabama at Birmingham, USA; 2. Technical University of Liberec, Czech Republic

(ICACC-S9-P052-2016) The Development of Melting Gels Toward Porous Materials

J. Wang^{*1}; 1. NSYSU, Taiwan

(ICACC-S9-P053-2016) Porosity control of porous alumina prepared by alumina and aluminum

K. Kita^{*1}; N. Kondo¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

(ICACC-S9-P054-2016) Open Cell Geopolymer foam

C. Bai¹; P. Colombo^{*1}; 1. University of Padova, Italy

(ICACC-S9-P055-2016) Light ceramic proppants: Effect of addition of selected waste materials on the mechanical properties and pores distribution evaluation

J. Partyka^{*1}; M. M. Bucko¹; 1. AGH University of Science and Technology, Poland

(ICACC-S9-P056-2016) Superhydrophobic porous carbon nanoparticle materials with potential use in water-oil separation

W. Dai^{*1}; R. Huang¹; 1. Guangdong University of Technology, China

(ICACC-S9-P057-2016) Porous Titanium Carbide Ceramics Prepared by Pore Forming Agent Process

Y. Ma¹; C. Bao^{*1}; 1. Xi'an Jiaotong University, China

(ICACC-S9-P058-2016) First-Principles Calculation on Degradation of Pt-Co/C Nano-Particle Catalyst in Polymer Electrolyte Fuel Cell

T. Kaji^{*1}; T. Nishimatsu¹; Y. Higuchi¹; N. Ozawa¹; M. Kubo¹; 1. IMR Tohoku University, Japan

(ICACC-S11-P059-2016) Corrosion behavior of AlN and secondary phase grains in AlN ceramics by CF₄/O₂ plasma

K. Watanabe^{*1}; J. Tatami¹; M. Iijima¹; R. Fujimi¹; A. Mikumo²; 1. Yokohama National University, Japan; 2. Sumitomo Electric Industries, Ltd., Japan

(ICACC-S11-P060-2016) Preform design for Improving the Coefficient of Utilization of Light-Weight Material with High strength

H. Choi^{*1}; Y. Shin¹; S. Oh²; B. Park²; 1. KITECH, The Republic of Korea; 2. FORMETAL Co. Ltd., The Republic of Korea

(ICACC-S11-P061-2016) The Influence of Different Pt Substrates on Crystallization Behavior of Lead Zirconate Titanate (PZT) Thin Films

S. Mhin^{*1}; J. Jones²; K. Nittala³; 1. Korea Institute of Industrial Technology, The Republic of Korea; 2. North Carolina State University, USA; 3. Iam research corporation, USA

(ICACC-S11-P062-2016) The properties of ternary Mo-Cu-X-N, (X= Ni, Cr, B) coating synthesized by magnetron sputtering process with single alloying targets

H. Lee^{*1}; P. Shin¹; S. Shin¹; K. Moon¹; 1. KITECH, The Republic of Korea; 2. Inha University, The Republic of Korea

(ICACC-S11-P063-2016) Chemical interactions between SiAlON and Inconel 718 superalloy

F. Kara^{*1}; A. Celik²; M. Sert Alagac³; S. Turan¹; 1. Anadolu University, Turkey; 2. MDA Advanced Ceramics Ltd., Turkey; 3. Alp Havacilik AS, Turkey

Thursday, January 28, 2016

S1: Mechanical Behavior and Performance of Ceramics & Composites

Ceramic Matrix Composites I

Room: Coquina Salon D

Session Chairs: Marina Ruggles-Wrenn, Air Force Institute of Technology; Rajesh Kumar, United Technologies Research Center

8:30 AM

(ICACC-S1-050-2016) Progress and Plans for CMC Research at NASA Glenn in 2016 (Invited)

J. E. Grady^{*1}; 1. NASA Glenn Research Center, USA

9:00 AM

(ICACC-S1-051-2016) Investigation of the statistical distributions of fracture strengths for various fibers using the tow testing approach

J. L. Lamon^{*1}; M. R'Mili²; 1. CNRS, France; 2. CNRS/Institut National des Sciences Appliquées, France

9:20 AM

(ICACC-S1-052-2016) Quantifying Amorphous Content in Commercially Available SiC Fibers

I. Wolford^{*1}; T. Key²; M. O'Malley¹; M. Cinibulk¹; 1. Air Force Research Lab, USA; 2. UES, Inc, USA

9:40 AM

(ICACC-S1-053-2016) Formation of Boron Nitride Interphase on SiC Fibers for SiC/SiC Composites by Electrophoretic Deposition Method and Their Mechanical Properties

K. Yoshida¹; N. Mizuta¹; T. Yano¹; M. Kotani²; T. Aoki^{*2}; T. Ogasawara²; 1. Tokyo Institute of Technology, Japan; 2. Japan Aerospace Exploration Agency (JAXA), Japan

10:00 AM

Break

10:20 AM

(ICACC-S1-054-2016) Model for Strength of Hi-Nicalon™-S SiC Fiber after Oxidation in Dry and Wet Air

R. Hay^{*1}; P. Mogilevsky¹; R. Krishnamurthy¹; 1. Air Force Research Laboratory, USA

10:40 AM

(ICACC-S1-055-2016) Thermal and Mechanical Stability and Performance of SiC Fibers for SiC-SiC CMC's

E. B. Callaway^{*1}; F. W. Zok¹; 1. University of California, Santa Barbara, USA

11:00 AM

(ICACC-S1-056-2016) BN Interphase Oxidation in SiC/SiC CMCs

M. Wilson^{*1}; E. Opila¹; 1. University of Virginia, USA

11:20 AM

(ICACC-S1-057-2016) Enhanced oxidation resistance of SiC/SiC minicomposites via slurry infiltration

J. Zhou^{*2}; A. S. Almansour¹; G. G. Chase²; G. Morscher¹; 1. The University of Akron, USA; 2. University of Akron, USA

11:40 AM

(ICACC-S1-058-2016) Tension-compression fatigue of an oxide/oxide ceramic composite at 1200°C in air and in steam

R. Lanser¹; M. Ruggles-Wrenn^{*1}; 1. Air Force Institute of Technology, USA

S3: 13th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Degradation and Lifetime Prediction / Surface and Interfacial Interactions

Room: Crystal

Session Chairs: Vincenzo Esposito, Technical University of Denmark; Anil Virkar, University of Utah

8:30 AM

(ICACC-S3-042-2016) Factors limiting performance and lifetime of SOFCs (Invited)

N. H. Menzler^{*2}; D. Roehrens²; J. Szasz²; T. Keuter²; A. Beez²; Q. Fang²; M. Bram²; E. Ivers-Tiffée²; O. Guillon¹; 1. Forschungszentrum Juelich, Germany; 2. Forschungszentrum Juelich GmbH, Germany; 3. Karlsruhe Institute of Technology, Germany

9:00 AM

(ICACC-S3-043-2016) Ageing of ceramic materials during solid oxide cells operation (Invited)

D. Montinaro^{*1}; 1. SOLIDpower SpA, Italy

9:30 AM

(ICACC-S3-044-2016) Fundamental Study on Degradation of SOFC materials in AIST (Invited)

K. Yamaji^{*1}; 1. AIST, Japan

10:00 AM

Break

10:20 AM

(ICACC-S3-045-2016) Structure Optimization of Ni/YSZ Electrodes for Durable Solid Oxide Electrolysis Cells (Invited)

A. Hauch^{*1}; K. Brodersen¹; M. Chen¹; A. Hagen¹; K. Hansen¹; P. Hendriksen¹; J. Hjelm¹; P. Jørgensen¹; M. Mogensen¹; T. Ramos¹; 1. Technical University of Denmark, Denmark

10:50 AM

(ICACC-S3-046-2016) Mitigation of Chromium Poisoning in SOFC

C. Liang¹; B. Hu¹; M. Mahapatra¹; P. Singh^{*1}; 1. University of Connecticut, USA

11:10 AM

(ICACC-S3-047-2016) Contribution of grain boundary segregation of impurity and oxygen vacancy to local grain boundary diffusion in aliovalent cation doped ZrO₂

T. Yokoi^{*1}; M. Yoshiya¹; 1. Osaka University, Japan

11:30 AM

(ICACC-S3-048-2016) 1000+ h In-Operando XRD Tests of LSM/YSZ SOFC Cathodes in Combined H₂O and CO₂

J. S. Hardy^{*1}; C. A. Coyle¹; N. Canfield¹; J. W. Stevenson¹; 1. Pacific Northwest National Laboratory, USA

11:50 AM

(ICACC-S3-049-2016) Stability and performance issues of BSCF as oxygen electrode material for intermediate temperature proton-conducting SOEC/SOFC

S. Sun^{*1}; Z. Cheng¹; 1. Florida International University, USA

S5: Next Generation Bioceramics and Biocomposites

Bioceramics III

Room: Coquina Salon F

Session Chairs: Thierry Azaïs, University Paris 6; Stephan Wolf, Friedrich-Alexander-University Erlangen-Neurnberg; Laurie Gower, University of Florida

8:30 AM

(ICACC-S5-017-2016) A Biomimetic Approach to Remineralization of Dental Caries (Invited)

N. Saxena^{*1}; L. Gower¹; G. Marshall²; S. Habelitz²; 1. University of Florida, USA; 2. University of California, San Francisco, USA

8:50 AM

(ICACC-S5-018-2016) Solid state NMR characterization of surface species from biominerals (Invited)

T. Azaïs^{*1}; 1. University Paris 6, France

9:10 AM

(ICACC-S5-019-2016) Textural Clues about the Formation Mechanism of Nacreous-Type Biominerals (Invited)

L. Gower^{*1}; 1. University of Florida, USA

9:40 AM

(ICACC-S5-021-2016) Mineralization by Colloid Attachment and Transformation allows for Simple Generation of Nanogranular Composite Materials with Complex Crystallinity (Invited)

S. E. Wolf^{*1}; 1. Friedrich-Alexander-University Erlangen-Nürnberg, Germany

10:00 AM

Break

10:20 AM

(ICACC-S5-022-2016) An in-vitro model system to study the role of acidic biopolymers in idiopathic stone formation (Invited)

A. Lovett*; D. Rodriguez; S. Khan; L. Gower; 1. University of Florida, USA

10:40 AM

(ICACC-S5-023-2016) Preceramic Polymer-derived Spene bioceramic coating on cpTi Substrates for Orthopaedic Implants

H. Elsayed; L. Biasetto; F. Bonollo; P. Colombo; E. Bernardo*; 1. University of Padova, Italy; 2. Università di Padova, Italy

11:00 AM

(ICACC-S5-024-2016) Biomimetic Bone: Reproducing Nature's Hierarchical Composite (Invited)

B. Wingender*; P. Bradley; J. Ruberti; L. Gower; 1. University of Florida, USA; 2. Northeastern University, USA

S6: Advanced Materials and Technologies for Direct Thermal Energy Conversion and Rechargeable Energy Storage

Lithium Batteries and Beyond

Room: Tomoka A

Session Chairs: Valerie Pralong, CNRS ENSICAEN; Kisuk Kang, Seoul National University

8:30 AM

(ICACC-S6-036-2016) Composite Cathodes with LiF/NaF for Li/Na-ion Batteries (Invited)

S. Okada*; A. Kitajou; H. Hori; N. Dimov; T. Yamashita; D. Tsunoe; P. Barpanda; 1. Kyushu University, Japan; 2. Indian Institute of Science, India

9:00 AM

(ICACC-S6-037-2016) Olivine with zero anti-site defect and three dimensional lithium diffusion paths (Invited)

K. Kang*; K. Park; 1. Seoul National University, The Republic of Korea

9:30 AM

(ICACC-S6-038-2016) Silicon anodes and electrolyte interactions (Invited)

K. Edstrom*; C. Xu; F. Lindgren; M. Yue; T. Gustafsson; F. Bjorefors; 1. Uppsala University, Sweden

10:00 AM

Break

10:20 AM

(ICACC-S6-039-2016) Design of metal oxide nanoparticles to the control the electrochemical properties (Invited)

S. Cassaignon*; 1. UPMC, France

10:50 AM

(ICACC-S6-040-2016) Challenges in magnesium ion batteries (Invited)

M. Matsui*; 1. Japan Science and Technology Agency, Japan

11:20 AM

(ICACC-S6-041-2016) Thermal loss analysis in graphite anode based 18650 type lithium ion cells

M. Balasundaram*; C. Yap; V. Ramar; L. Lu; A. Tay; P. Balaya; 1. National University of Singapore, Singapore

S7: 10th International Symposium on Nanostructured Materials: Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental and Health Applications

Nanomaterials for Sensing Applications I

Room: Coquina Salon A

Session Chairs: Yakup Gönüllü, University of Cologne; Shiping Song, Shanghai Institute of Applied Physics, Chinese Academy of Sciences

8:30 AM

(ICACC-S7-053-2016) Silicon Nano-Biotechnology for Biosensing and Bioimaging (Invited)

Y. He*; 1. Institute of Functional Nano & Soft Materials (FUNSOM), Soochow University, China

9:00 AM

(ICACC-S7-054-2016) Activating-with and activated vanadia. Semiconductor nanocrystals embedded in V₂O₅-like layers: solvothermal synthesis and gas-sensing enhancement (Invited)

M. Epifani*; 1. CNR-IMM, Italy

9:30 AM

(ICACC-S7-055-2016) Graphene and reduced graphene oxide decorated nanoparticles for electrochemical detection and electrogeneration of hydrogen peroxide (Invited)

M. Siaz*; 1. UQAM, Canada

9:50 AM

(ICACC-S7-056-2016) Rapid detoxification of water using organic-inorganic heterogeneous photocatalysts under visible irradiation via chemical approach

R. C. Pawar; S. Kang; C. Lee*; 1. Hanyang University ERICA campus, The Republic of Korea

10:10 AM

Break

Nanomaterials for Sensing Applications II

Room: Coquina Salon A

Session Chairs: Mohamed Siaz, UQAM; Thomas Fischer, University of Cologne

10:30 AM

(ICACC-S7-057-2016) Functional Nanomaterials with Rare-Earth Doped Ceramics for Biomedical Applications (Invited)

K. Soga*; M. Kamimura; 1. Tokyo Univ. of Science, Japan

11:00 AM

(ICACC-S7-058-2016) A novel miRNA biosensor based on the electrochemical catalysis triggered by the hybridization on a Nanotip electrode

Y. Wen; L. Wang; L. Li; L. Xu; Q. Xu; G. Liu*; N. Jia; 1. Shanghai Normal University, China; 2. Shanghai Institute of Measurement and Testing Technology, China

11:20 AM

(ICACC-S7-059-2016) DNA-mediated metal nanoprobe with SERS-active nanogaps for multiplex biosensing

S. Song*; S. Mathur; 1. Shanghai Institute of Applied Physics, Chinese Academy of Sciences, China; 2. University of Cologne, Germany

11:40 AM

(ICACC-S7-060-2016) Highly Selective p-n heterostructured TiO₂ nanotubes for gas sensing application

Y. Gönüllü*; B. Saruhan-Brings; S. Mathur; 1. University of Cologne, Germany; 2. DLR - German Aerospace Center, Germany

12:00 PM

(ICACC-S7-061-2016) Silicon nanowire field-effect transistor based biosensors for biomolecular detection and medical diagnostics (Invited)

A. Gao¹; N. Lu¹; Y. Wang¹; T. Li¹; 1. Shanghai Institute of Microsystem and Information Technology, China

S8: 10th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT10)

Novel Ceramic Processing IV

Room: Coquina Salon B

Session Chairs: Francis Cambier, BCRC; Satoshi Tanaka, Nagaoka University of Technology

8:30 AM

(ICACC-S8-047-2016) Effect of acetate on the Coarsening, Processing and Sintering of ZnO nano-powder (Invited)

B. Dargatz; J. Gonzalez-Julian¹; O. Guillon¹; 1. Forschungszentrum Juelich, Germany

9:00 AM

(ICACC-S8-048-2016) Development of fabrication technique for microstructurally-controlled advanced nanocomposites (Invited)

H. Muto¹; 1. Toyohashi University of Technology, Japan

9:20 AM

(ICACC-S8-049-2016) Advancements in Zirconia Technology

B. Farber¹; 1. Zircoa Inc, USA

9:40 AM

(ICACC-S8-050-2016) Fabrication of Magnesium Oxide Ceramics with Density Close to Theoretical Using Nanopowders

J. Yang¹; T. Lin¹; B. Manett¹; J. Young¹; E. Medvedovski²; 1. SCI Engineered Materials, USA; 2. Consultant, Canada

10:00 AM

Break

10:20 AM

(ICACC-S8-051-2016) Synthesis and characterization of lightweight ceramic foam core for sandwich TPS (Invited)

C. Tsai²; R. Bordia¹; S. Bland¹; M. Chen³; S. P. Joshi¹; 1. NextGen Aeronautics, USA; 2. Clemson University, USA; 3. Air Force Research Laboratory, USA

10:50 AM

(ICACC-S8-052-2016) Graphene/silicon carbide cellular structures fabricated by robocasting

B. Román-Manso¹; G. de la Osa¹; M. I. Osendi¹; P. Miranzo¹; M. Belmonte¹; 1. Institute of Ceramics and Glass, CSIC, Spain

11:10 AM

(ICACC-S8-053-2016) Investigation of comminution process of e-waste in drum type agitation mill using the discrete element method

Y. Tsunazawa¹; S. Fukui¹; C. Tokoro¹; 1. Waseda university, Japan

11:30 AM

(ICACC-S8-054-2016) A Study on Development of Stoneware Body Formulation Suitable for Fast Firing (Invited)

L. K. Sharma¹; 1. CSIR-Central Glass & Ceramic Research Institute, India

11:50 AM

(ICACC-S8-055-2016) A sustainable process for metal-ceramic castings through microwave hybrid heating

S. Singh¹; D. Gupta¹; V. Jain¹; 1. Thapar University, India

S9: Porous Ceramics: Novel Developments and Applications

Innovations in Processing Methods & Properties of Porous Ceramics

Room: Coquina Salon G

Session Chair: Young-Wook Kim, University of Seoul

8:30 AM

(ICACC-S9-008-2016) Carbon periodic cellular architectures

A. Szczurek²; A. Ortona¹; L. Ferrari¹; E. Rezaei¹; G. Medjahdi²; V. Fierro²; D. Bychanok³; P. Kuzhir³; A. Celzard²; 1. SUPSI, Switzerland; 2. Université de Lorraine, France; 3. 3Research Institute for Nuclear Problems, Belarus

8:50 AM

(ICACC-S9-009-2016) Thermal conductivity and mechanical properties of macroporous ceramics by gelation freezing method

M. Fukushima¹; C. Matsunaga¹; Y. Tanaka¹; F. Ozeki²; T. Ohji¹; Y. Yoshizawa¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan; 2. Mino ceramic Co., Ltd., Japan

9:10 AM

(ICACC-S9-010-2016) High temperature steady state oxidation and thermal shock of SiC-based periodic cellular architectures: experimental observations on their thermal, mechanical, and mass transport properties evolution

L. Ferrari¹; E. Rezaei²; M. Barbato¹; S. Gianella³; A. Ortona¹; 1. SUPSI, Switzerland; 2. EPFL, Switzerland; 3. EngiCer, Switzerland

9:30 AM

(ICACC-S9-011-2016) Engineered aluminum titanate - based ceramics for diesel particulate filter applications

M. Backhaus-Ricoult¹; 1. Corning Incorporated, USA

9:50 AM

Break

Membranes and High SSA Ceramics

Room: Coquina Salon G

Session Chair: Manabu Fukushima, National Institute of Advanced Industrial Science and Technology (AIST)

10:10 AM

(ICACC-S9-012-2016) Low-Temperature Processing and Characterization of Ceramic Membranes for Oily Wastewater Treatment (Invited)

Y. Kim¹; J. Eom¹; I. Song²; 1. University of Seoul, The Republic of Korea; 2. Korea Institute of Materials Science, The Republic of Korea

10:40 AM

(ICACC-S9-013-2016) Sorption-Induced Deformation of Silica Monoliths with Hierarchical and Anisotropic Porosity

R. J. Morak¹; F. Putz²; A. Waag³; M. Elsaesser²; G. Popovski¹; C. Balzer³; N. Hüsing²; G. Reichenauer³; O. Paris¹; 1. Montanuniversität Leoben, Austria; 2. Paris-Lodron University Salzburg, Austria; 3. Bavarian Center for Applied Energy Research, Germany

11:00 AM

(ICACC-S9-014-2016) Characterization of subnano-scale porous structures and gas permeation properties of microporous ceramic membranes (Invited)

T. Yoshioka¹; 1. Hiroshima University, Japan

11:30 AM

(ICACC-S9-015-2016) Polymer-derived amorphous silica-based inorganic-organic hybrids: intermediates for synthesizing microporous amorphous silica materials

Y. Iwamoto¹; M. Mohd Sokri¹; T. Onishi¹; Z. Mounline¹; Y. Daiko¹; S. Honda¹; 1. Nagoya Institute of Technology, Japan

S10: Virtual Materials (Computational) Design and Ceramic Genome

Ceramic Genome and Integrated Materials Computational Engineering II

Room: Ponce DeLeon

Session Chair: Wai-Yim Ching, University of Missouri-Kansas City, USA

8:30 AM

(ICACC-S10-039-2016) Enabling the Materials Genome - The Materials Project and Beyond (Invited)

S. Ong^{*}; A. Jain²; S. Cholia²; P. Huck²; D. Winston²; D. Gunter²; K. Persson²; G. Ceder³; 1. \\"University of California, San Diego\\", USA; 2. Lawrence Berkeley National Laboratory, USA; 3. Massachusetts Institute of Technology, USA

9:00 AM

(ICACC-S10-040-2016) The application of CALPHAD Approach in the Nano-sized YSZ (n-YSZ) Phase Diagram

M. Asadikiya¹; Y. Zhong^{*}; 1. Florida International University, USA

9:20 AM

(ICACC-S10-041-2016) Analysis of Multiplet States of CrO₆⁹⁻ and MnO₆⁸⁻ clusters with D_{4h} Symmetry Based on First-Principles Calculations

K. Ogasawara^{*}; 1. Kwansei Gakuin University, Japan

9:40 AM

(ICACC-S10-042-2016) Exploring low thermal conductivity by tailoring chemistry composition and crystal structure in AEAl₂Si₂O₈ (AE = Ca, Sr, and Ba) ceramics

S. Luchao^{*}; J. Wang¹; 1. Institute of Metal Research, China

10:00 AM

Break

Ceramic Genome and Integrated Materials Computational Engineering III

Room: Ponce DeLeon

Session Chair: Jingyang Wang, Institute of Metal Research

10:20 AM

(ICACC-S10-043-2016) Electronic Structure and Interatomic Bonding in Bulk Metallic Glasses (Invited)

W. Ching^{*}; 1. University of Missouri-Kansas City, USA, USA

10:50 AM

(ICACC-S10-044-2016) Computational Exploration of ZrSiBCN Coatings

P. Kroll^{*}; A. Dasmahapatra¹; 1. UT Arlington, USA

11:10 AM

(ICACC-S10-045-2016) Modelling Amorphous Diamond-like Carbon

N. Dari^{*}; P. Rulis¹; 1. University of Missouri, Kansas City, USA

11:30 AM

(ICACC-S10-046-2016) First principles investigation of two-dimensional transition metal carbides (Invited)

Z. Sun^{*}; Z. Guo¹; C. Si¹; J. Zhou¹; 1. Beihang University, China

S11: Advanced Materials and Innovative Processing Ideas for the Production Root Technology

New Concept on Root Technology and Surface Technology

Room: Tomoka B

Session Chair: Tadachika Nakayama, Nagaoka Univ of Tech

8:30 AM

(ICACC-S11-001-2016) Introduction on The Role, Vision, and Strategic Goal of Industrial Root Technology (What is the Ppuri Technology?) (Invited)

J. Kim^{*}; 1. Korea Institute of Industrial Technology (KITECH), The Republic of Korea

9:00 AM

(ICACC-S11-002-2016) New Development of root technology by GIGAKU concept (Invited)

K. Niihara^{*}; T. Nakayama¹; H. Suematsu¹; 1. Nagaoka Univ of Tech, Japan

9:30 AM

(ICACC-S11-003-2016) Tailoring the functional properties of niobium carbide (Invited)

M. Woydt^{*}; H. Mohrbacher²; 1. BAM Federal Institute for Materials Research and Testing, Germany; 2. Niobelcon BVBA, Belgium

10:00 AM

Break

Shaping Process with Powders

Room: Tomoka B

Session Chair: Kouichi Yasuda, Tokyo Institute of Technology

10:20 AM

(ICACC-S11-004-2016) Observation of development of internal pores in dry-pressed alumina ceramics during sintering (Invited)

S. Tanaka^{*}; T. Hondo¹; F. Wakai²; K. Yasuda²; 1. Nagaoka University of Technology, Japan; 2. Tokyo Institute of Technology, Japan

10:50 AM

(ICACC-S11-005-2016) Fabrication of porous ceramics using inorganic binder (Invited)

J. Tatami^{*}; M. Iijima¹; 1. Yokohama National University, Japan

11:20 AM

(ICACC-S11-006-2016) Effect of Microstructure on the Properties of Porous Alumina (Invited)

S. Honda^{*}; T. Eda²; H. Watanabe²; K. Miyajima²; Y. Daiko¹; S. Hashimoto¹; Y. Iwamoto¹; 1. Nagoya Institute of Technology, Japan; 2. Noritake Corporation Limited, Japan

11:50 AM

(ICACC-S11-007-2016) Pyrolysis of non- and pre-oxidized Polyacrylonitrile (PAN) characterized by TGA-GC-MS and TGA-FT-IR

E. Post^{*}; 1. NETZSCH Geraetebau GmbH, Germany

S14: Crystalline Materials for Electrical, Optical and Medical Applications

Semiconductor III

Room: Tomoka C

Session Chair: Didier Chaussende, CNRS

8:30 AM

(ICACC-S14-036-2016) Preparation of Nitride Materials for Large Area Devices with Pulsed Sputtering (Invited)

H. Fujioka^{*}; K. Ueno¹; A. Kobayashi¹; J. Ohta¹; 1. the University of Tokyo, Japan

9:00 AM

(ICACC-S14-037-2016) Realization of AlGa_N based high performance UV light-emitting devices and detectors (Invited)
M. Iwaya^{*1}; T. Takeuchi¹; S. Kamiyama¹; I. Akasaki¹; 1. Meijo University, Japan

9:30 AM

(ICACC-S14-038-2016) Current status and future prospects of nitride semiconductors (Invited)
T. Matsuoka^{*1}; T. Tanikawa¹; K. Shojiki¹; T. Kimura¹; K. Prasertsuk¹; T. Suemitsu²; 1. Institute for Materials Research, Tohoku University, Japan; 2. Research Institute of Electrical Communication, Japan

10:00 AM

Break

Piezo/Ferro

Room: Tomoka C

Session Chair: Kiyoshi Shimamura, National Institute for Materials Science

10:20 AM

(ICACC-S14-039-2016) Recent developments on piezoelectric single crystal (Invited)
S. Zhang^{*1}; 1. Pennsylvania State University, USA

10:50 AM

(ICACC-S14-040-2016) Strain and Pyroelectric Energy Conversion of PLZST Antiferroelectric Single Crystal (Invited)
Q. Li^{*1}; J. Gao¹; F. Zhuo¹; Y. Zhang¹; Q. Yan¹; 1. Tsinghua University, China

11:20 AM

(ICACC-S14-041-2016) Vertical Morphotropic Phase Boundary in Lead-Free Piezoceramics (Invited)
T. Karaki^{*1}; 1. Toyama Prefectural University, Japan

11:50 AM

(ICACC-S14-042-2016) Observation of relaxation time in structural phase transformtaion in Na_{0.5}Bi_{0.5}TiO₃-(K,Na)NbO₃ piezoceramics
G. Wang^{*1}; D. Hall¹; Y. Li¹; I. Calisir¹; 1. University of Manchester, United Kingdom

EMERGING TECHNOLOGIES SYMPOSIUM - Carbon Nanostructures and 2D Materials, and Composites

Carbon Nanostructures and 2D Materials, and Composites I

Room: St. John

Session Chair: Gustavo Costa, NASA Glenn Research Center

8:30 AM

(ICACC-EMERG-001-2016) Thermochemistry of Carbon Nanomaterials (Invited)
A. Navrotsky^{*1}; 1. University of California, Davis, USA

9:00 AM

(ICACC-EMERG-002-2016) Synthesis of Carbon/Sulfur Nanolaminates by Electrochemical Extraction of Titanium from Ti₂SC
M. Zhao^{*1}; M. Sedran¹; M. R. Lukatskaya¹; M. Barsoum¹; Y. Gogotsi¹; 1. Drexel University, USA

9:20 AM

(ICACC-EMERG-003-2016) CNTs and Ferroelectrics towards 3D Microelectronic Structures (Invited)
P. M. Vilarinho^{*1}; 1. University of Aveiro, Portugal

9:50 AM

Discussion - New Directions on Research and Applications of Carbon Nanostructures and 2D Materials and Composites

10:00 AM

Break

10:20 AM

(ICACC-EMERG-004-2016) Confocal and near-field Raman study of graphene, twisted bilayer graphene, and carbon nanotubes (Invited)
L. G. Cancado^{*1}; A. Jorio¹; R. Beams²; L. Novotny³; C. Achete⁴; 1. Universidade Federal de Minas Gerais - UFMG, Brazil; 2. National Institute of Standards and Technology, USA; 3. ETH Zurich, Switzerland; 4. Instituto Nacional de Metrologia, Qualidade e Tecnologia-INMETRO, Brazil

10:50 AM

(ICACC-EMERG-005-2016) SnO₂-Reduced Graphene Oxide Nanocomposites: Overview (Invited)
D. P. Volanti^{*2}; C. D. Zito¹; 1. UNESP, Brazil; 2. UNESP - São Paulo State University, Brazil

11:20 AM

(ICACC-EMERG-006-2016) Optical and Electronic Properties of 2D MXenes Thin Films
J. Halim^{*1}; L. Hultman²; J. Rosen²; P. Eklund²; Y. Gogotsi¹; M. Barsoum¹; 1. Drexel University, USA; 2. Linkoping University, Sweden

11:40 AM

(ICACC-EMERG-007-2016) Effect of Synthesis Conditions on the Structure of Ti₃C₂-MXene and its Performance in Electrochemical Energy Storage Systems
M. Naguib^{*1}; H. Wang¹; K. L. Page¹; Y. Gogotsi²; 1. Oak Ridge National Lab, USA; 2. Drexel University, USA

FS1: Geopolymers, Chemically Bonded Ceramics, Eco-friendly and Sustainable Materials

Sustainable Materials

Room: Coquina Salon E

Session Chair: Hubert Rahier, Vrije Universiteit Brussel

8:30 AM

(ICACC-FS1-008-2016) Mixed alkali regional metakaolin-based geopolymer (Invited)
R. A. Sa Ribeiro^{*1}; M. G. Sa Ribeiro¹; W. M. Kriven²; K. Sankar²; G. P. Kutyla³; 1. INPA-National Institute for Amazonian Research, Brazil; 2. University of Illinois at Urbana Champaign, USA; 3. University of Illinois at Urbana-Champaign, USA

9:00 AM

(ICACC-FS1-009-2016) Potassium-based Geopolymer Reinforced with Bamboo Fibers
R. A. Sa Ribeiro^{*1}; M. G. Sa Ribeiro¹; K. Sankar²; W. M. Kriven²; 1. INPA-National Institute for Amazonian Research, Brazil; 2. University of Illinois at Urbana Champaign, USA; 3. University of Illinois at Urbana-Champaign, USA

9:20 AM

(ICACC-FS1-011-2016) Durability Performance of Alkali-activated Metakaolin, Slag, Fly Ash, and Hybrids (Invited)
F. Jirasit^{*1}; C. Rüschler¹; L. Lohaus²; P. Chindaprasirt³; 1. RMUTL, Thailand; 2. LUH, Germany; 3. KKU, Thailand

9:40 AM

(ICACC-FS1-012-2016) Inorganic polymers in the CaO – “FeO” – Al₂O₃ – SiO₂ system: precursors, engineered materials and real-life applications (Invited)
Y. Pontikes^{*1}; R. Iacobescu¹; 1. KU Leuven, Belgium

10:00 AM

Break

Composites

Room: Coquina Salon E

Session Chair: Henry Colorado, UDEA

10:20 AM

(ICACC-FS1-013-2016) Cement paste with iron oxide powders obtained from an arsenic remediation process

H. A. Colorado^{*1}; 1. UDEA, Colombia

10:40 AM

(ICACC-FS1-014-2016) Bone Ash Reinforced Geopolymer: A route to enhance microstructural integrity and mechanical properties in geopolymer composites (Invited)

A. W. Bhuiya^{*1}; K. Sankar¹; W. M. Kriven¹; 1. University of Illinois at Urbana-Champaign, USA

11:00 AM

(ICACC-FS1-015-2016) Potassium Geopolymer Reinforced with E-glass Leno Weaves

K. Sankar^{*1}; S. McCormack¹; W. M. Kriven¹; 1. University of Illinois at Urbana-Champaign, USA

11:20 AM

(ICACC-FS1-016-2016) Dolomite (CaMg(CO₃)₂) Particulate-reinforced Geopolymer Composite

P. F. Keane^{*1}; W. M. Kriven¹; 1. University of Illinois at Urbana-Champaign, USA

11:40 AM

(ICACC-FS1-017-2016) Sodium Geopolymer Reinforced with Cork

D. Roper^{*1}; W. M. Kriven²; 1. University of Illinois Urbana-Champaign, USA; 2. University of Illinois at Urbana-Champaign, USA

FS4: Additive Manufacturing and 3D Printing Technologies

Selective Laser Sintering

Room: Coquina Salon C

Session Chairs: Thomas Mühler, Clausthal University of Technology; Eric Schwarzer, Fraunhofer Gesellschaft

8:30 AM

(ICACC-FS4-009-2016) Selective Laser Sintering in Combination with Layerwise Slurry Deposition for the Additive Manufacture of SiC Ceramics (Invited)

J. Guenster^{*1}; A. Zocca²; C. M. Gomes²; 1. BAM, Germany; 2. BAM Federal Institute for Materials Research and Testing, Germany

9:00 AM

(ICACC-FS4-010-2016) Development of Advanced Ceramic Fuel Cells using Additive Manufacturing Technology (I): Design and Modeling

Y. Du^{*1}; A. Maar¹; K. Zhao¹; 1. Kent State University, USA

9:20 AM

(ICACC-FS4-011-2016) Generation of ceramic green bodies in the additive manufacturing by Laser Induced Slip-casting (LIS)

T. Mühler^{*2}; J. Guenster¹; A. Zocca¹; 1. BAM Federal Institute for Materials Research and Testing, Germany; 2. Clausthal University of Technology, Germany

9:40 AM

(ICACC-FS4-012-2016) Layerwise slurry deposition: an approach for dense powder-beds in Additive Manufacturing and its application to technical ceramics

A. Zocca^{*1}; T. Mühler²; J. Guenster¹; 1. BAM Federal Institute for Materials Research and Testing, Germany; 2. Clausthal University of Technology, Germany

10:00 AM

Break

Stereolithography

Room: Coquina Salon C

Session Chairs: Jens Guenster, BAM Federal Institute for Materials Research and Testing; Johannes Homa, Lithoz GmbH

10:20 AM

(ICACC-FS4-013-2016) Additive manufacturing of ceramics – myths and facts

J. Homa^{*1}; M. Schwentenwein¹; 1. Lithoz GmbH, Austria

10:40 AM

(ICACC-FS4-014-2016) Stereolithographic Additive Manufacturing of Micro Ceramic Components by Variable Diameter Laser Scanning

S. Kiriha^{*1}; 1. Osaka University, Japan

11:00 AM

(ICACC-FS4-015-2016) Additive manufacturing of high performance ceramics – new materials and new developments

M. Schwentenwein^{*1}; J. Homa¹; 1. Lithoz GmbH, Austria

11:20 AM

(ICACC-FS4-016-2016) Additive Manufacturing of Polymer-Derived Ceramics

T. Schaedler^{*1}; Z. C. Eckel¹; C. Zhou¹; J. H. Martin¹; A. J. Jacobsen¹; W. B. Carter¹; 1. HRL Laboratories, USA

11:40 AM

(ICACC-FS4-017-2016) Suspension-based additive manufacturing of ceramic, metal and metal-ceramic components

E. Schwarzer^{*1}; U. Scheithauer¹; A. Härtel¹; H. Richter¹; T. Moritz¹; A. Michaelis²; 1. Fraunhofer Gesellschaft, Germany; 2. Fraunhofer IKTS, Germany

FS6: Hybrid Materials and Processing Technologies

Hybrid Materials and Processing Technologies I

Room: Coquina Salon H

Session Chairs: Seungbum Hong, Argonne Nat Lab; Takashi Shirai, Nagoya Institute of Technology

8:30 AM

(ICACC-FS6-001-2016) Hybrid Materials for Energy Storage and Conversion (Invited)

J. Kang^{*1}; 1. Korea Advanced Institute of Science and Engineering (KAIST), The Republic of Korea

9:00 AM

(ICACC-FS6-002-2016) Development of Hydrothermally Stable Metal-Organic Frameworks for Water Sorption Technologies (Invited)

J. Chang^{*1}; U. Lee¹; Y. Hwang¹; 1. KRICT, The Republic of Korea

9:20 AM

(ICACC-FS6-003-2016) Plasma Deposition and Modification of Semiconducting Thin Films for Photoelectrochemical Hydrogen Production (Invited)

Y. Gönüllü^{*2}; T. Fischer¹; M. Pyeon²; A. Kaouk²; S. Mathur²; 1. University of Cologne, Germany; 2. University of Cologne, Germany

9:40 AM

(ICACC-FS6-004-2016) Multiscale Modeling of Hybrid Interface in Energy/Environmental Materials (Invited)

H. Kim^{*1}; 1. Korea Advanced Institute of Science and Engineering (KAIST), The Republic of Korea

10:00 AM

Break

10:20 AM

(ICACC-FS6-005-2016) Formation of polymer/metal nanoparticles hybrid nanowires by single particle nano-fabrication technique (Invited)

S. Tsukuda^{*2}; M. Sugimoto³; T. Sekino¹; S. Seki⁴; 1. Osaka University, Japan; 2. Tohoku University, Japan; 3. Japan Atomic Energy Agency, Japan; 4. Kyoto University, Japan

10:50 AM

(ICACC-FS6-006-2016) Ubiquitous Magneto-Mechano-Electric Generators with Piezoelectric Single Crystal Fibers and Ni laminate composites (Invited)

J. Ryu^{*2}; D. Jeong³; S. Choi¹; W. Yoon²; J. Choi²; J. Kim²; B. Hahn²; C. Ahn²; 1. Korea Institute of Materials Science, The Republic of Korea; 2. Korea Institute of Materials Science (KIMS), The Republic of Korea; 3. Inha University, The Republic of Korea

11:10 AM

(ICACC-FS6-007-2016) Improvement of Thermoelectric Properties of Electrodeposits by NanoInclusion (Invited)

N. Heo¹; J. Kim²; Y. Song³; N. V. Myung²; K. Kim²; J. Lim^{*1}; 1. Korea Institute of Materials Science, The Republic of Korea; 2. University of California, Riverside, USA; 3. Pusan National University, The Republic of Korea

11:30 AM

(ICACC-FS6-008-2016) High-Capacity Cathode Material for Next-Generation Lithium-Ion Batteries (Invited)

Y. Sun^{*1}; 1. Hanyang University, The Republic of Korea

S1: Mechanical Behavior and Performance of Ceramics & Composites

Ceramic Matrix Composites II

Room: Coquina Salon D

Session Chairs: Jacques Lamon, CNRS; Dietmar Koch, Institute of Structures and Design

1:30 PM

(ICACC-S1-059-2016) Monitoring damage in ceramic matrix composites using waveform-based modal acoustic emission (Invited)

E. Mailliet^{*1}; G. N. Morscher²; 1. GE Global Research, USA; 2. The University of Akron, USA

2:00 PM

(ICACC-S1-060-2016) A Multiscale-Multiphysics Framework for Linking Coupon to Component Behavior of CMCs

M. Bailakanavar^{*1}; 1. Weidlinger Associates Inc., USA

2:20 PM

(ICACC-S1-061-2016) Modeling of Delamination Growth in Ceramic Matrix Composites

R. Kumar^{*1}; G. Ojard¹; 1. United Technologies Research Center, USA

2:40 PM

(ICACC-S1-062-2016) Matrix Cracking, Detection and Micromechanics of Pre-Preg Laminate SiC/SiC Composites (Invited)

G. Morscher^{*2}; N. Gordon³; E. Mailliet¹; 1. GE Global Research, USA; 2. The University of Akron, USA; 3. NobleTek, USA

3:10 PM

Break

3:30 PM

(ICACC-S1-063-2016) Development of an Interlaminar Fracture Testing Technique for Ceramic Matrix Composite at Ambient and Elevated Temperatures

R. Mansour^{*1}; G. Morscher¹; 1. The University of Akron, USA

3:50 PM

(ICACC-S1-064-2016) Fatigue Behavior of Double-Edge Notched Oxide/Oxide Ceramic Matrix Composite in a Combustion Environment

A. K. Singh^{*1}; V. Sabelkin¹; S. Mall¹; 1. Air Force Institute of Technology, USA

4:10 PM

(ICACC-S1-065-2016) Fatigue property of SiC/SiC Ceramic Matrix Composites

T. Nakamura^{*1}; T. Manabe¹; S. Muto¹; 1. IHI Corporation, Japan

4:30 PM

(ICACC-S1-066-2016) Synchrotron studies of Ceramic Matrix Composites under extreme loading conditions

A. Manero^{*1}; K. Artzt²; J. Wischek²; S. Sofronsky¹; S. Hackemann²; J. Almer²; J. Okasinski³; P. Kenesei³; S. Raghavan¹; M. Bartsch²; 1. University of Central Florida, USA; 2. DLR - German Aerospace Center, Germany; 3. Argonne National Laboratory, USA

4:50 PM

(ICACC-S1-067-2016) Electrical resistance and acoustic emission during fatigue testing of high velocity impact SiC/SiC composites

Z. Han^{*1}; G. N. Morscher¹; 1. University of Akron, USA

S3: 13th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Thermomechanical Properties / Modeling and Evaluation of Material Properties

Room: Crystal

Session Chairs: Norbert Menzler, Forschungszentrum Juelich GmbH; Tatsumi Ishihara, Kyushu University

1:30 PM

(ICACC-S3-050-2016) Mechanical and Thermal Properties of Anode Materials for SOFCs under Redox Cycle Conditions (Invited)

K. Sato^{*1}; 1. Tohoku University, Japan

2:00 PM

(ICACC-S3-051-2016) Complete Relaxation of Residual Stresses During Reduction of Solid Oxide Fuel Cells Through Accelerated Creep

H. L. Frandsen^{*1}; C. Chatzichristodoulou¹; T. Heiredal-Clausen²; T. K. Petersen³; M. F. Madsen³; P. V. Hendriksen¹; 1. Technical University of Denmark, Denmark; 2. Haldor Topsoe A/S, Denmark; 3. Topsoe Fuel Cell A/S, Denmark; 4. Resolvent I/S, Denmark

2:20 PM

(ICACC-S3-052-2016) Improved Redox Stability of Novel Inert-Substrate Supported Tubular Single Cells

K. Zhao^{*1}; Y. Du¹; 1. Kent State University, USA

2:40 PM

(ICACC-S3-053-2016) Strengthening cathode contact strength by surface texture engineering for solid oxide fuel cells

Y. Chou^{*1}; J. F. Bonnett¹; J. W. Stevenson¹; 1. Pacific Northwest National Lab, USA

3:00 PM

Break

3:20 PM

(ICACC-S3-054-2016) Role of Thermodynamics and Transport in Mechanical Reliability of Fuel Cells and Electrolyzer Cells (Invited)

A. V. Virkar^{*1}; 1. University of Utah, USA

3:50 PM

(ICACC-S3-055-2016) Improvement in electrochemical performance of micro-/nano-structure controlled electrodes for ceramic cells (Invited)

H. Shimada^{*}; T. Suzuki¹; T. Yamaguchi¹; H. Sumi¹; K. Hamamoto¹; Y. Fujishiro¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

4:20 PM

(ICACC-S3-056-2016) Mechano-chemical engineering: Can strained oxide ion conductors provide a route to next-generation SOFC devices for energy conversion?

G. Harrington^{*}; A. Cavallaro²; D. McComb³; S. Skinner³; J. Kilner³; K. Sasaki¹; B. Yildiz²; H. L. Tuller²; 1. Kyushu University, Japan; 2. Massachusetts Institute of Technology, USA; 3. Imperial College London, United Kingdom; 4. The Ohio State University, USA

4:40 PM

(ICACC-S3-057-2016) Thermodynamic Modeling of the Phase Stability of LSCF Perovskite

S. Darvish¹; Y. Zhong^{*}; 1. Florida International University, USA

5:00 PM

(ICACC-S3-058-2016) Thermal Management Study of Planar SOFC by a Computational Approach

S. Tang^{*}; A. Amiri¹; V. Periasamy¹; M. Tade¹; 1. Curtin University, Australia

5:20 PM

(ICACC-S3-059-2016) MEA performance evaluation using different methods for area specific resistance estimation

M. Kusnezoff^{*}; W. Beckert¹; N. Trofimenko¹; S. Megel¹; C. Dosch¹; A. Michaelis¹; M. Rachau²; C. Wiprecht²; D. Gipp²; 1. Fraunhofer IKTS, Germany; 2. FuelCon AG, Germany

S5: Next Generation Bioceramics and Biocomposites

Bioceramics IV

Room: Coquina Salon F

Session Chairs: Akiko Obata, Nagoya Institute of Technology; Andraz Kocjan, Jozef Stefan Institute; Akiko Obata, Nagoya Institute of Technology; Anne Leriche, University of Valenciennes

1:30 PM

(ICACC-S5-025-2016) Development of hypoallergenic ceramic based implants and their properties

K. Balazsi^{*}; N. Olah¹; Z. Fogarassy¹; T. Csanadi¹; A. Sulyok¹; C. Balazsi³; 1. Centre for Energy Research HAS, Hungary; 2. IMR SAS, Slovakia; 3. Bay Zoltan Nonprofit Ltd. for Applied Research, Hungary

1:50 PM

(ICACC-S5-026-2016) Micro-wave sintering of hydroxyapatite ceramics for biological applications (Invited)

A. L. Leriche^{*}; S. Chamary¹; A. Thuault¹; E. Meurice¹; F. Bouchart¹; J. Hornez¹; D. Hautcoeur²; M. Lasgorceix²; V. Lardot²; F. J. Cambier²; 1. University of Valenciennes, France; 2. BCRC, Belgium

2:10 PM

(ICACC-S5-027-2016) Nature's Design Wisdom and Smart Manufacturing of Biocomposites (Invited)

X. Li^{*}; 1. University of Virginia, USA

2:40 PM

(ICACC-S5-028-2016) Advanced Cermet Ceramic Composites for Medical Applications

R. Dittmer^{*}; J. Trötzschel¹; J. Fischer¹; U. Hausch¹; 1. Heraeus Medical Components, Germany

3:00 PM

Break

3:20 PM

(ICACC-S5-029-2016) Ageing-Resistant Coarse-Grained 3Y-TZP Zirconia Bioceramics (Invited)

A. Kocjan^{*}; A. Samodurova¹; T. Kosmac¹; 1. Jozef Stefan Institute, Slovenia

3:40 PM

(ICACC-S5-030-2016) From Crystalline Nanorods to Hierarchical Biomorphs (Invited)

E. Nakouzi^{*}; P. Knoll¹; Y. Ghoussoub¹; O. Steinbock¹; 1. Florida State University, USA

4:00 PM

(ICACC-S5-031-2016) Combined effects of silicate, calcium and magnesium ions on osteoblast-like cell functions (Invited)

A. Obata^{*}; T. Ogasawara¹; S. Yamada¹; T. Kasuga¹; 1. Nagoya Institute of Technology, Japan

4:20 PM

(ICACC-S5-032-2016) Silica-bonded hydroxyapatite scaffolds from indirect and direct 3D printing of silicone/calcite mixtures

E. Bernardo^{*}; L. Fiocco¹; H. Elsayed¹; 1. University of Padova, Italy

S7: 10th International Symposium on Nanostructured Materials: Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental and Health Applications

Integration & Device Applications of Nanostructures I

Room: Coquina Salon A

Session Chairs: Bonex Mwakikunga, National Centre for Nano-Structured Materials - CSIR; Daniel Chua, National University of Singapore

1:30 PM

(ICACC-S7-062-2016) 3D printing of porous structures from preceramic polymers (Invited)

P. Colombo^{*}; 1. University of Padova, Italy

2:00 PM

(ICACC-S7-063-2016) Single-Source-Precursor Synthesis of Novel Functional Polymer-Derived Ceramic Nanocomposites (PDC-NCs) for Energy-Related Applications (Invited)

E. Ionescu^{*}; 1. Technical University Darmstadt, Germany

2:20 PM

(ICACC-S7-064-2016) Three-dimensional structural control of graphite nanosheets assembly for highly conductive polymer based composites (Invited)

S. Ryu¹; H. Cho¹; S. Kang¹; Y. Choa^{*}; 1. Hanyang University, The Republic of Korea

2:40 PM

(ICACC-S7-065-2016) Stabilization and nanoscale alignment techniques of functional nanoparticles for wet material processing in non-aqueous solvent systems (Invited)

M. Iijima^{*}; J. Tatami¹; H. Kamiya²; 1. Yokohama National University, Japan; 2. Tokyo University of Agriculture and Technology, Japan

3:00 PM

Break

Integration & Device Applications of Nanostructures II

Room: Coquina Salon A

Session Chairs: Paolo Colombo, University of Padova; Emanuel Ionescu, Technical University Darmstadt

3:20 PM

(ICACC-S7-066-2016) Multifunction metal oxides utilizing carbon nanotubes as a base template with for clean energy and other applications (Invited)

D. H. Chua^{*}; 1. National University of Singapore, Singapore

3:40 PM

(ICACC-S7-067-2016) Synthesis and Characterization of Monodisperse Nano-Particles and Core-Shell Particles using Flow Reactors (Invited)

M. Miyahara^{*1}; S. Watanabe¹; 1. Kyoto University, Japan

4:00 PM

(ICACC-S7-068-2016) MOCVD: a simple approach from molecules to functional nanostructures (Invited)

G. Malandrino^{*1}; 1. Università degli Studi di Catania, Italy

4:20 PM

(ICACC-S7-069-2016) Single nanofiber vs multiple nanowire devices in sensing applications (Invited)

B. Mwakikunga^{*1}; 1. National Centre for Nano-Structured Materials - CSIR, Zimbabwe

4:40 PM

(ICACC-S7-070-2016) Application of Atomic Layer Deposited TiO₂ Films for Solar Cells (Invited)

D. Kim^{*1}; 1. Chonnam National University, The Republic of Korea

5:00 PM

(ICACC-S7-071-2016) 15 Years of Commercializing Medical Devices Using Nanotechnology (Invited)

T. Webster^{*1}; 1. Northeastern University, USA

S8: 10th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT10)

Novel Ceramic Processing V

Room: Coquina Salon B

Session Chairs: Rajendra Bordia, Clemson University; Hiroyuki Muto, Toyohashi University of Technology

1:30 PM

(ICACC-S8-056-2016) Spark Plasma Sintering of ceramic particulate composites for wear applications (Invited)

F. J. Cambier^{*1}; L. Boilel¹; M. Demuyne¹; V. Lardot¹; J. Erauw¹; 1. BCRC, Belgium

2:00 PM

(ICACC-S8-057-2016) Hexagonal OsB₂: Mechanochemical synthesis, spark plasma sintering, structure and mechanical properties

Z. Xie¹; R. Blair¹; N. Orlovskaya^{*1}; D. Cullen²; A. Payzant²; 1. University of Central Florida, USA; 2. Oak Ridge National Lab, USA

2:20 PM

(ICACC-S8-058-2016) Low Temperature Synthesis and Densification of Magnesium Aluminate Spinel by SPS

L. Zarazua¹; H. Balmori^{*1}; G. Bonnefont²; G. Bonnefont²; L. Tellez-Jurado¹; 1. Instituto Politecnico Nacional, Mexico; 2. INSA-Lyon, France

2:40 PM

(ICACC-S8-059-2016) Formation of graphite nanolayer on Ti(C,N) nano-grains in Si₃N₄ matrix prepared by spark plasma sintering

C. Lee^{*1}; H. Lu²; W. Jang²; C. Dong³; J. Huang¹; 1. National Cheng Kung University, Taiwan; 2. National Chin-Yi University of Technology, Taiwan; 3. National Synchrotron Radiation Research Center, Taiwan

3:00 PM

Break

3:20 PM

(ICACC-S8-060-2016) Hybrid Coating with Combination of Aerosol Deposition and Thermal Spray (Invited)

J. Akeido^{*1}; K. Shinoda¹; M. Mori¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

3:50 PM

(ICACC-S8-061-2016) Understanding of low temperature fabrication process of oxide thin films in excimer laser-assisted metal organic deposition

K. Shinoda^{*1}; T. Katsuki²; T. Nakajima¹; T. Tsuchiya¹; A. Yumoto²; J. Akeido¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan; 2. Shibaura Institute of Technology, Japan

4:10 PM

(ICACC-S8-062-2016) Development of a Plasma Arc Welding Technique for joining SiC based Composites

J. Watts^{*1}; G. Hilmas¹; W. Fahrenholtz²; S. Landwehr²; 1. Missouri University of Science & Technology, USA; 2. Rolls-Royce, USA

4:30 PM

(ICACC-S8-063-2016) Combustion synthesis assisted friction spot stir welding (FSSW) for automotive & aerospace applications

R. Mahmoodian^{*1}; P. Lin²; F. Yusof¹; M. Hamdi¹; 1. University of Malaya, Malaysia; 2. National Chung Cheng University, Taiwan

S9: Porous Ceramics: Novel Developments and Applications

Membranes and Filters

Room: Coquina Salon G

Session Chair: Enrico Bernardo, University of Padova

1:30 PM

(ICACC-S9-016-2016) Understanding strength, reliability, and gas transport in anisotropic porous structures (Invited)

A. J. Stevenson^{*1}; J. Seuba¹; C. Guizard²; 1. Laboratoire de Synthèse et Fonctionnalisation des Céramiques (LSFC), France; 2. Institut Européen des Membranes, France

2:00 PM

(ICACC-S9-017-2016) Complex Freeze-cast Pore Structures and their Effects on Permeability

M. Navroji^{*1}; P. Colombo²; K. Faber³; 1. Northwestern University, USA; 2. University of Padova, Italy; 3. California Institute of Technology, USA

2:20 PM

(ICACC-S9-018-2016) Numerical Modelling of Evaporation-Driven Transport of Water from a Multi-Layered Ceramic

M. Jabbari^{*1}; V. Jambhekar²; J. H. Hattel¹; R. Helmig²; 1. Technical University of Denmark, Denmark; 2. Universität Stuttgart, Germany

2:40 PM

(ICACC-S9-019-2016) Effect of membranes in exhaust particulate filtration

J. Adler^{*1}; U. Petasch¹; 1. Fraunhofer Institute for Ceramic Technologies and Systems, Germany

3:00 PM

Break

Innovations in Processing Methods & Synthesis of Porous Ceramics II

Room: Coquina Salon G

Session Chair: Joerg Adler, Fraunhofer Institute for Ceramic Technologies and Systems

3:20 PM

(ICACC-S9-020-2016) Meso/Macrostructure Porous Ceramics using Template method (Invited)

S. Manocha^{*1}; 1. GGSIP UNIVERSITY, India

3:50 PM

(ICACC-S9-021-2016) Foam-reinforced Thermal Insulation for High Temperature and Cryogenic Temperature Applications

J. Stiglich^{*1}; B. Williams¹; V. Arrieta¹; 1. Ultramet, USA

4:10 PM

(ICACC-S9-022-2016) Porous nano-SiC as thermal insulator: wisdom on balancing high strength and low thermal conductivity
P. Wan*; J. Wang¹; 1. Institute of Metal Research, China

4:30 PM

(ICACC-S9-023-2016) Fabrication of Functional Porous Ceramics by In-situ Solidification Process for Mitigating Environmental Issues (Invited)
T. Shirai*; H. Razavi¹; M. Fuji¹; 1. Nagoya Institute of Technology, Japan

S11: Advanced Materials and Innovative Processing Ideas for the Production Root Technology

Coating Process for Low Friction and Energy Solution I

Room: Tomoka B
Session Chair: TBA

1:30 PM

(ICACC-S11-008-2016) A Combinatorial Approach to Achieving Ultralow Friction and Wear with Graphene and other Carbon-based Nanomaterials (Invited)
A. Erdemir*; D. Berman¹; A. Sumant¹; S. Deshmukh¹; S. Sankaranarayanan¹; 1. Argonne National Laboratory, USA

2:00 PM

(ICACC-S11-009-2016) Tetrahedrally bonded amorphous carbon (ta-C) – Coating Production Technology and Application Development (Invited)
T. Schuelke*; 1. Michigan State University, USA

2:30 PM

(ICACC-S11-010-2016) Industrial Development of Carbon-based Coatings (Invited)
G. Franssen*; R. Tietema¹; D. Doerwald¹; R. Jacobs¹; I. Kolev¹; 1. IHI Hauzer Techno Coating B.V., Netherlands

3:00 PM

Break

Coating Process for Low Friction and Energy Solution II

Room: Tomoka B
Session Chair: Ali Erdemir, Argonne National Laboratory

3:20 PM

(ICACC-S11-011-2016) Integrated tribology for higher energy efficiency by tailored coating technology (Invited)
Y. Musayev¹; N. Bagcivan¹; T. Hosenfeldt*; 1. Schaeffler Technologies GmbH & Co. KG, Germany

3:50 PM

(ICACC-S11-012-2016) Design of flexible ceramic coatings (Invited)
J. Musil*; 1. University of West Bohemia, Czech Republic

4:20 PM

(ICACC-S11-013-2016) Sintering and Binder Burnout of a Zirconia Green Body Investigated by Thermal Analysis Methods (Invited)
E. Post*; 1. NETZSCH Geraetebau GmbH, Germany

4:50 PM

(ICACC-S11-014-2016) Thick Ceramic Coating by Laser-Plasma Hybrid CVD (Invited)
T. Goto*; 1. IMR Tohoku University, Japan

EMERGING TECHNOLOGIES SYMPOSIUM - Carbon Nanostructures and 2D Materials, and Composites

Carbon Nanostructures and 2D Materials, and Composites II

Room: Tomoka A
Session Chair: Gustavo Costa, NASA Glenn Research Center

1:30 PM

(ICACC-EMERG-008-2016) Discovery of Two-Dimensional, Ordered, Double Transition Metals Carbides (MXenes) (Invited)
Y. Gogotsi*; 1. Drexel University, USA

2:00 PM

(ICACC-EMERG-009-2016) Hybridization of MXene and Transition Metal Oxides for High Performance Li-Ion Storage
M. Zhao*; M. Torelli¹; C. Ren¹; M. Ghidui¹; M. Barsoum¹; Y. Gogotsi¹; 1. Drexel University, USA

2:20 PM

(ICACC-EMERG-010-2016) Polymer-derived-ceramic composites of graphene and carbon nanotubes (Invited)
L. Zhai*; 1. University of Central Florida, USA

2:50 PM

(ICACC-EMERG-011-2016) Synthesis, processing, and optoelectronic devices of van der Waals heterostructures (Invited)
X. Li¹; M. Lin¹; O. Akinola¹; A. Puzos¹; C. Rouleau¹; I. Juan Carlos¹; D. Geohegan¹; K. Xiao*; 1. Oak Ridge National Laboratory, USA

3:20 PM

Break

3:40 PM

(ICACC-EMERG-012-2016) Synthesis and electrodepositing of zinc oxide nanostructures supported in graphene oxide sheets for application in energy harvesting
N. Jacomaci¹; L. R. Canal¹; N. Azana¹; P. Shieh¹; M. A. Zagheze²; T. Mazon*; 1. CTI, Brazil; 2. Chemistry Technological/Institute of Chemistry of Araraquara, Brazil

4:00 PM

(ICACC-EMERG-013-2016) Chemically Modified Graphene/PDC Electrodes for Long-cycle Lithium-ion Batteries (Invited)
G. Singh*; L. David¹; 1. Kansas State Univ, USA

4:30 PM

Discussion - New Directions on Research and Applications of Carbon Nanostructures and 2D Materials and Composites

FS1: Geopolymers, Chemically Bonded Ceramics, Eco-friendly and Sustainable Materials

Novel Applications

Room: Coquina Salon E
Session Chair: Sylvie Rossignol, Laboratoire SPCTS

1:30 PM

(ICACC-FS1-018-2016) Development of a Mold for Thermoplastics based on a Phosphate Cement (Invited)
J. Blom¹; H. Rahier*; J. Wastiels¹; 1. Vrije Universiteit Brussel, Belgium

2:00 PM

(ICACC-FS1-019-2016) Investigations of the thermally induced hydrogen release of NaBH₄, NH₃BH₃ and their geopolymer composites (Invited)

C. Rüschert^{*}; Z. Assi¹; L. Schomborg¹; 1. Leibniz University Hannover, Germany

2:30 PM

(ICACC-FS1-020-2016) Effect of calcium addition on alkaline silicate binders: various applications (Invited)

F. Allali¹; J. Cornette¹; E. Joussein¹; N. Idrissi¹; S. Rossignol^{*}; 1. Laboratoire SPCTS, France; 2. GRESE, France; 3. Laboratoire de Chimie Appliquée, Morocco

3:00 PM

Break

3:20 PM

(ICACC-FS1-021-2016) Mica Platelet-reinforced Geopolymer Composites

P. F. Keane¹; G. P. Kutyla¹; J. F. Wight²; W. Rickard²; W. M. Kriven^{*}; 1. University of Illinois at Urbana-Champaign, USA; 2. Corning Incorporated, USA; 3. Curtin University, Australia

Construction Materials

Room: Coquina Salon E

Session Chair: Abdul Bhuiya, University of Illinois at Urbana-Champaign

3:40 PM

(ICACC-FS1-022-2016) Inorganic phosphate with additions of steel slag powder

H. A. Colorado^{*}; 1. UDEA, Colombia

4:00 PM

(ICACC-FS1-023-2016) Recycling of Grog by addition into heavy clay ceramic manufacturing

C. F. Vieira^{*}; L. Amaral¹; 1. State University of the North Fluminense, Brazil

FS4: Additive Manufacturing and 3D Printing Technologies

Emerging Technology

Room: Coquina Salon C

Session Chairs: Naoki Kondo, National Institute of Advanced Industrial Science and Technology (AIST); Surojit Gupta, University of North Dakota

1:30 PM

(ICACC-FS4-018-2016) Challenges and issues for indirect selective laser sintering of ceramics (Invited)

N. Kondo^{*}; M. Hotta¹; A. Shimamura¹; T. Ohji¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

2:00 PM

(ICACC-FS4-019-2016) Development of Novel Additive Manufacturing (AM) Practices

R. Dunnigan^{*}; S. Ghosh¹; M. Habib¹; S. Gupta¹; 1. University of North Dakota, USA

2:20 PM

(ICACC-FS4-020-2016) Powder preparation for indirect selective laser sintering of alumina-binder composite powder

M. Hotta^{*}; A. Shimamura¹; N. Kondo¹; T. Ohji¹; 1. AIST, Japan

2:40 PM

(ICACC-FS4-021-2016) Additive manufacturing of alumina ceramic part by indirect selective laser sintering

A. Shimamura^{*}; M. Hotta¹; T. Ohji¹; N. Kondo¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

3:00 PM

Break

3:20 PM

(ICACC-FS4-022-2016) Tribology of Polymer Matrix Composites (PMCs) fabricated by Additive Manufacturing

S. Gupta^{*}; R. Dunnigan¹; A. Salem¹; L. Kuentz¹; M. C. Halbig¹; M. Singh²; 1. NASA Glenn Research Center, USA; 2. Ohio Aerospace Institute, USA; 3. University of North Dakota, USA; 4. Hawken School, USA; 5. Lake Ridge Academy, USA

3:50 PM

(ICACC-FS4-023-2016) A Three-Dimensional Printing Rapid Prototyping Method for Complex Ceramic Parts

W. Jia^{*}; X. Wang¹; Y. Chenglong¹; Y. Yang¹; L. Hui¹; 1. Shaanxi University of Science and Technology, China

FS5: Field Assisted Sintering and Related Phenomena at High Temperatures

Sintering I

Room: Ponce DeLeon

Session Chair: Rishi Raj, University of Colorado

1:30 PM

(ICACC-FS5-001-2016) How far can classical ideas explain the flash sintering of ceramics? (Invited)

R. I. Todd^{*}; M. Yoshida²; E. Zapata Solvas¹; R. Bonilla¹; J. Zhang⁴; Z. Fu⁴; 1. University of Oxford, United Kingdom; 2. Gifu University, Japan; 3. CSIC-Universidad de Sevilla, Spain; 4. Wuhan University of Technology, China

2:00 PM

(ICACC-FS5-002-2016) Flash Sintering of ZnO and Other Oxide (Invited)

Y. Zhang^{*}; J. Nie¹; J. Luo¹; 1. University of California, San Diego, USA

2:30 PM

(ICACC-FS5-003-2016) Spark plasma sintering: from evidence of specific effects to the elaboration of complex architectures and shapes (Invited)

C. Estournes^{*}; R. Marder²; R. Chaim²; R. Epherre¹; C. Elissalde¹; M. Maglione¹; G. Chevallier¹; C. Maniere¹; L. Durand⁴; 1. CIRIMAT, France; 2. Technion Israel Institute of Technology, Israel; 3. ICMCB-CNRS, France; 4. CEMES, France

3:00 PM

Break

3:20 PM

(ICACC-FS5-004-2016) Flash Sintering of Alumina: Phenomenological and Mechanisms Analysis

M. Biesuz^{*}; V. M. Sglavo¹; 1. University of Trento, Italy

3:40 PM

(ICACC-FS5-005-2016) Effect of Electric Field/Current on Liquid Phase Sintering

J. Gonzalez-Julian¹; O. Guillon^{*}; 1. Forschungszentrum Juelich, Germany

FS6: Hybrid Materials and Processing Technologies

Hybrid Materials and Processing Technologies II

Room: Coquina Salon H

Session Chairs: Hyungjun Kim, Korea Advanced Institute of Science and Engineering (KAIST); Byungchan Han, Yonsei University

1:30 PM

(ICACC-FS6-009-2016) Design of Model Experiments for Stress-induced Nanoscale Phenomena (Invited)

S. Hong^{*}; J. Kim¹; Y. Choi¹; 1. Argonne Nat Lab, USA

2:00 PM

(ICACC-FS6-010-2016) Graphene Based Hybrid Nanostructures: Nanoscale Assembly & Chemical Modification (Invited)

S. Kim^{*1}; 1. Korea Advanced Institute of Science and Engineering (KAIST), The Republic of Korea

2:20 PM

(ICACC-FS6-011-2016) Assessment of strain-generated oxygen vacancies using SrTiO₃ bicrystals (Invited)

S. Choi^{*1}; 1. Korea Institute of Materials Science, The Republic of Korea

2:40 PM

(ICACC-FS6-012-2016) Interfacial Bonding of Multi-Materials Joined with Polymer Derived Ceramics (Invited)

H. M. Chaput^{*1}; T. Pruyn¹; J. Baur¹; 1. Air Force Research Lab, USA

3:00 PM

Break

3:20 PM

(ICACC-FS6-013-2016) Property and application of conductive ceramics prepared by the combination of gelcasting and reductive sintering (Invited)

T. Shirai^{*1}; M. Fuji¹; 1. Nagoya Institute of Technology, Japan

3:50 PM

(ICACC-FS6-014-2016) Design of Exceptionally Strong and Conductive Cu Alloys Beyond the Conventional Speculation via the Interfacial Energy-controlled Dispersion of γ -Al₂O₃ Nanoparticles (Invited)

B. Han^{*1}; S. Han³; K. Kim²; J. Kang⁴; 1. Yonsei University, The Republic of Korea; 2. Pusan National University, The Republic of Korea; 3. Korea Institute of Materials Science, The Republic of Korea; 4. DGIST, The Republic of Korea

4:10 PM

(ICACC-FS6-015-2016) Polymer/carbon nano-materials composite fibers and films (Invited)

H. Chae^{*1}; 1. Ulsan National Institute of Science and Technology, The Republic of Korea

4:30 PM

(ICACC-FS6-016-2016) Gas Phase Deposition for Direct Integration of Functional Oxides on Microelectronic Substrates for Gas Sensing Applications (Invited)

T. Fischer^{*1}; S. Mathur¹; 1. University of Cologne, Germany

9:20 AM

(ICACC-S1-070-2016) Oxidation behavior of SiC fiber-reinforced composites fabricated by melt infiltration using Si-Hf and Si-Ti alloys

T. Tsunoura^{*2}; Y. Okubo²; K. Yoshida²; T. Yano²; T. Aoki¹; T. Ogasawara¹; 1. Japan Aerospace Exploration Agency, Japan; 2. Tokyo Institute of Technology, Japan

9:40 AM

(ICACC-S1-071-2016) Crack-resistant ceramic matrix composite materials

S. S. Solntsev^{*1}; V. A. Rozenenkova¹; N. A. Mironova¹; V. Denisova¹; 1. Federal State Unitary Enterprise All-Russian Institute of Aviation Materials, Russian Federation

10:00 AM

Break

10:20 AM

(ICACC-S1-072-2016) Slow Crack Growth of Glass in Salt Water

B. Hausmann^{*1}; J. Salem¹; 1. NASA Glenn Research Center, USA

10:40 AM

(ICACC-S1-073-2016) Slow Crack Growth of Germanium

J. Salem^{*1}; 1. NASA Glenn Research Center, USA

11:00 AM

(ICACC-S1-074-2016) A comparison of natural and synthetic sand effects on thermal barrier coatings for gas turbine engines

M. J. Walock^{*1}; B. Barnett¹; A. Ghoshal¹; M. Murugan¹; J. Swab¹; M. S. Pepi¹; D. A. Hopkins¹; G. A. Gazonas¹; K. A. Kerner¹; 1. US Army Research Laboratory, USA; 2. Aviation and Missile Research, Development, and Engineering Center, USA

11:20 AM

(ICACC-S1-075-2016) High Temperature Oxidation Resistance of BN Particle Dispersion SiC Composites

T. Hinoki^{*1}; S. Yanagawa¹; K. Shimoda²; 1. Kyoto University, Japan; 2. National Institute for Materials Science (NIMS), Japan

11:40 AM

(ICACC-S1-076-2016) Application of Fe-NbC as a hardfacing material using laser cladding

E. Tavares Galvani¹; S. Simoes²; C. Novaes Banov²; H. L. Rosa¹; E. Cannizza^{*1}; E. Burgos Cruz¹; 1. Companhia Brasileira de Metalurgia e Mineracao, Brazil; 2. HRC Metalização, Brazil; 3. Höganäs Brazil, Brazil

S3: 13th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Novel Processing and Design

Room: Tomoka C

Session Chairs: Ruey-yi Lee, Institute of Nuclear Energy Research; Mihails Kusnezoff, Fraunhofer IKTS

8:30 AM

(ICACC-S3-060-2016) Saint-Gobain's All Ceramic SOFC Stack: Advances in Design and Performance (Invited)

A. Sarikaya^{*1}; A. Mohanram¹; G. Lin¹; Y. Takagi¹; J. Pietras¹; 1. Saint-Gobain Corporation, USA

9:00 AM

(ICACC-S3-061-2016) CFY-Stack Technology for SOEC applications (Invited)

C. Bienert^{*2}; M. Brandner²; S. Skrabbs²; A. Venskutonis²; L. S. Sigl²; S. Megel¹; M. Kusnezoff¹; V. Sauchuk¹; N. Trofimenko¹; A. Michaelis¹; 1. Fraunhofer IKTS, Germany; 2. Plansee SE, Austria

9:30 AM

(ICACC-S3-062-2016) Ceramic Multilayers for Solid Oxide Fuel Cells (Invited)

A. Sanson^{*1}; 1. CNR-ISTEC, Italy

Friday, January 29, 2016

S1: Mechanical Behavior and Performance of Ceramics & Composites

Environmental Effects

Room: Coquina Salon D

Session Chair: Randall Hay, Air Force Research Laboratory

8:30 AM

(ICACC-S1-068-2016) Modeling Environmental Degradation of SiC-Fiber reinforced CMCs (Invited)

T. Parthasarathy^{*2}; C. Przybyla¹; R. Hay¹; M. Cinibulk¹; 1. Air Force Research Laboratory, USA; 2. UES, USA

9:00 AM

(ICACC-S1-069-2016) Fiber Strength of Hi-NicalonTM-S after Oxidation and Scale Crystallization in Si(OH)₄ Saturated Steam

R. Hay^{*1}; R. Corns¹; A. Ross¹; B. Larson¹; 1. Air Force Research Laboratory, USA

10:00 AM

Break

10:20 AM

(ICACC-S3-063-2016) Tailoring the Materials Chemical Stability and Nanostructure to Improve the Performance of Protonic Ceramic Cells (Invited)

E. Traversa^{*1}; 1. King Abdullah University of Science and Technology, Saudi Arabia

10:50 AM

(ICACC-S3-064-2016) Fabrication and Characterization of Freeze Cast Tubular Solid Oxide Fuel Cells

J. Persky²; Y. Du^{*1}; K. Zhao¹; 1. Kent State University, USA; 2. Protonex Technology Corp., USA

11:10 AM

(ICACC-S3-065-2016) Fabrication of thin electrolyte for solid oxide fuel cell by inexpensive ink jet printing method

C. Gadea^{*1}; D. Marani¹; Q. Hu¹; J. Hjelm¹; K. Agersted¹; S. Hojgaard¹; S. Ramousse¹; V. Esposito¹; 1. Technical University of Denmark, Denmark

11:30 AM

(ICACC-S3-066-2016) Interface-matching for Barium Strontium Ferrate-Ceria by Drop-coating Buffer Layer

Y. Wang^{*1}; T. C. Chen²; H. Y. Chang¹; 1. National Taiwan Ocean University, Taiwan; 2. Institute of Nuclear Energy Research, Taiwan

S5: Next Generation Bioceramics and Biocomposites

Bioceramics V

Room: Coquina Salon F

Session Chairs: Kohei Soga, Tokyo Univ. of Science; Masamoto Tafu, National Institute of Technology, Toyama College; Fiorenzo Vetrone, INRS

8:30 AM

(ICACC-S5-036-2016) Development of calcium phosphate hybrid for catching fluoride ion (Invited)

M. Tafu^{*1}; 1. National Institute of Technology, Toyama College, Japan

8:50 AM

(ICACC-S5-034-2016) Near-Infrared Nanothermometers: Using Light to Detect Temperature (Invited)

F. Vetrone^{*1}; 1. INRS, Canada

9:20 AM

(ICACC-S5-035-2016) In vivo performance of additive manufactured bioceramics based on TCP

M. Schwentenwein^{*1}; F. E. Weber²; J. Homa¹; 1. Lithoz GmbH, Austria; 2. University Hospital and University of Zurich, Switzerland

9:40 AM

(ICACC-S5-033-2016) Ceramic Near Infrared Phosphors for Nanothermometry in the Second Biological Window

K. Soga^{*1}; M. Kamimura¹; 1. Tokyo Univ. of Science, Japan

10:00 AM

Break

10:20 AM

(ICACC-S5-037-2016) Easy-to-use Torsion Test Method for Bioceramics

K. Yasuda^{*2}; S. Tsutsumi¹; 1. Kanazawa Institute of Technology, Japan; 2. Tokyo Institute of Technology, Japan

10:40 AM

(ICACC-S5-038-2016) In vitro properties of Ag-containing calcium phosphates

O. Gokcekaya^{*1}; K. Ueda¹; T. Narushima¹; K. Ogasawara²; H. Kanetaka³; 1. Tohoku University, Japan; 2. Department of Immunobiology, Institute of Development, Aging and Cancer, Tohoku University, Japan; 3. Liaison Center for Innovative Dentistry, Graduate School of Dentistry, Tohoku University, Japan

11:00 AM

(ICACC-S5-039-2016) Effects of Incorporation of Partially Crystallized 45S5 Bioglass® on Glass-ionomer Cements (GIC)

A. Zandi Karimi^{*1}; R. A. Drew¹; 1. Concordia University, Canada

S9: Porous Ceramics: Novel Developments and Applications

Mechanical Properties of Porous Ceramics I

Room: Coquina Salon G

Session Chair: Tobias Fey, Friedrich-Alexander-Universität Erlangen-Nürnberg

8:30 AM

(ICACC-S9-024-2016) Experimental Reliability on Bending Strength Test of Porous Ceramics

S. Honda^{*1}; K. Yasuda²; H. Kita³; M. Takahashi⁴; Y. Takahashi⁵; S. Tanaka⁶; T. Mitsuoka⁸; H. Muto⁸; S. Yamamoto⁹; Y. Yoshizawa¹⁰; 1. Nagoya Institute of Technology, Japan; 2. Tokyo Institute of Technology, Japan; 3. Nagoya University, Japan; 4. Ehime University, Japan; 5. Noritake Company Limited, Japan; 6. Nagaoka University of Technology, Japan; 7. NGK Spark Plug Co., Ltd., Japan; 8. Toyohashi University of Technology, Japan; 9. Asuzac, Japan; 10. AIST, Japan

8:50 AM

(ICACC-S9-025-2016) Statistical Analysis on Strength Data of Porous Ceramics

K. Yasuda^{*2}; H. Kita³; M. Takahashi⁴; Y. Takahashi⁵; S. Tanaka⁶; S. Honda⁷; T. Mitsuoka⁸; H. Muto⁹; S. Yamamoto⁹; Y. Yoshizawa¹⁰; 1. Nagoya Institute of Technology, Japan; 2. Tokyo Institute of Technology, Japan; 3. Toyohashi University of Technology, Japan; 4. Nagoya Univ., Japan; 5. Ehime Univ., Japan; 6. Noritake Company Limited, Japan; 7. Nagaoka Univ. Tech., Japan; 8. NGK Spark Plug Co., Ltd., Japan; 9. Asuzac, Japan; 10. AIST, Japan

9:10 AM

(ICACC-S9-026-2016) Effect of Grain Necking on the Properties of Porous Alumina

S. Honda^{*1}; Y. Daiko¹; S. Hashimoto¹; Y. Iwamoto¹; 1. Nagoya Institute of Technology, Japan

9:30 AM

(ICACC-S9-027-2016) Mechanical Properties of Porous TiB₂ Produced by Foam Replication

C. Wittmaier^{*1}; W. Fahrenholtz¹; 1. Missouri University of Science & Technology, USA

9:50 AM

(ICACC-S9-028-2016) Double Torsion Analysis of Microcracked Porous Ceramics – Integrating Digital Image Analysis (DIC), Finite Element Analysis (FEA) and Cohesive Zone Modeling To Understand Fracture

J. Zimmermann^{*1}; J. Harris¹; A. Shamkin¹; M. Black¹; J. Markley¹; 1. Corning, USA

10:10 AM

Break

Mechanical Properties of Porous Ceramics II

Room: Coquina Salon G

Session Chair: James Zimmermann, Corning

10:30 AM

(ICACC-S9-029-2016) Enforcing of mechanical properties of alumina foams

B. Zierath¹; P. Grell¹; T. Fey^{*1}; 1. Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany

10:50 AM

(ICACC-S9-030-2016) Waste heat reduction on sintering furnaces with highly porous ceramic thermal insulators prepared by gelation freezing method

Y. Tanaka*; S. Sasaki; A. Matsuyama; F. Ozeki; T. Kato; M. Fukushima; Y. Yoshizawa; 1. Mino ceramic Co., Ltd., Japan; 2. National Institute of Advanced Industrial Science and Technology (AIST), Japan

11:10 AM

(ICACC-S9-031-2016) Porous Ceramic Backing Elements for High Temperature Ultrasonic Transducer

M. H. Amini; T. W. Coyle; A. N. Sinclair; 1. University of Toronto, Canada

S11: Advanced Materials and Innovative Processing Ideas for the Production Root Technology

Innovative Process Technology with Enhanced Performance I

Room: Tomoka B

Session Chair: Sungwook Mhin, Korea Institute of Industrial Technology

8:20 AM

(ICACC-S11-015-2016) Processing for Forming Biofunctional Surfaces on Ceramic Nanoparticles for Biophotonics (Invited)

K. Soga*; M. Kamimura; 1. Tokyo Univ. of Science, Japan; 2. Tokyo University of Science, Japan

8:50 AM

(ICACC-S11-016-2016) Fabrication of the Electrochromic Smart Window via Nano Particle Deposition System (Invited)

C. Lee*; H. Kim; D. Choi; K. Kim; W. Chu; S. Ahn; D. Chun; 1. Hanyang University ERICA campus, The Republic of Korea; 2. Seoul National University, The Republic of Korea; 3. University of Ulsan, The Republic of Korea

9:20 AM

(ICACC-S11-017-2016) 3D Design of Ceramics Nanoparticle in Polymer Nano Hybrid Films

T. Nakayama*; H. Cho; H. Suematsu; T. Suzuki; 1. Nagaoka Univ of Tech, Japan; 2. Hanyang University, The Republic of Korea

9:40 AM

(ICACC-S11-018-2016) Nano particulate SiO₂ based inorganic binder for low-temperature processing of functional layers

T. Hwang*; 1. Korea Institute of Industrial Technology, The Republic of Korea

10:00 AM

Break

Innovative Process Technologies with Enhanced Performances II

Room: Tomoka B

Session Chair: Kyoung Il Moon, KITECH

10:20 AM

(ICACC-S11-019-2016) Chemical solution deposition of oxides for energy applications (Invited)

M. K. Van Bael*; A. Hardy; 1. Hasselt University & imec, Belgium

10:50 AM

(ICACC-S11-020-2016) Surface Roughness Reduction and Porosity Elimination of Alumina by Ultrasonic Nanocrystalline Surface Modification Technique

A. Amanov*; Y. Pyun; 1. Sun Moon University, The Republic of Korea

11:10 AM

(ICACC-S11-021-2016) The Change in Stress Filed in Ceramic Powder Compact during Cold Isostatic Pressing

K. Yasuda*; S. Tanaka; M. Naito; 1. JWRI, Osaka University, Japan; 2. Nagaoka University of Technology, Japan; 3. Tokyo Institute of Technology, Japan

11:30 AM

(ICACC-S11-022-2016) The Effect of Thickness on Flexible, Electrical and Optical properties of Ti- ZnO films on Flexible Glass by Atomic Layer Deposition

W. Lee*; G. Park; J. Anh; S. Kwon; 1. Pusan National University, The Republic of Korea; 2. Korea Maritime and Ocean University, The Republic of Korea

11:50 AM

(ICACC-S11-023-2016) Properties of the metallic glass thin films synthesized with multi-component alloyed single target for bipolar plate in PEM fuel cell

K. Moon*; H. Lee; S. Shin; 1. KITECH, The Republic of Korea

FS5: Field Assisted Sintering and Related Phenomena at High Temperatures

Sintering II

Room: Ponce DeLeon

Session Chair: Rishi Raj, University of Colorado

8:30 AM

(ICACC-FS5-007-2016) Developments in Flash Spark Plasma Sintering and Contactless Flash Sintering

B. Milsom*; S. Grasso; T. Saunders; M. Reece; 1. Queen Mary University of London, United Kingdom

8:50 AM

(ICACC-FS5-008-2016) High temperature phase transformation of alumina under applied magnetic field and its influences on sintering

V. L. Blair*; N. Ku; R. E. Brennan; O. Rios; G. M. Ludtka; 1. US Army Research Laboratory, USA; 2. Oak Ridge National Lab, USA

9:10 AM

(ICACC-FS5-009-2016) The Influence of Pulsed vs. Non-Pulsed DC in Direct Current/Spark Plasma Sintering

L. S. Walker*; 1. Thermal Technology, USA

9:30 AM

(ICACC-FS5-010-2016) Enhancements on FAST Sintering Systems Promote Transfer from the Lab to Industrial Applications

J. Hennicke*; T. Kessel; J. Raethel; 1. FCT Systeme GmbH, Germany; 2. Fraunhofer IKTS, Germany

9:50 AM

(ICACC-FS5-011-2016) Fabrication of transparent polycrystalline ceramics by high pressure spark plasma sintering (HPSPS)

M. Sokol*; S. Kalabukhov; N. Frage; 1. Ben-Gurion University of the Negev, Israel

10:10 AM

Break

10:30 AM

(ICACC-FS5-012-2016) Microstructure and mechanical properties of graphene/SiC-TiB₂ composites

O. Kaya*; F. Sahin; O. Yucel; G. Goller; I. Akin; 1. Istanbul Technical University, Turkey

10:50 AM

(ICACC-FS5-013-2016) Flash sintering of TCP bioceramics: effect of particle size and influence on $\beta \rightarrow \alpha$ transition

M. Frasnelli*; V. M. Sglavo; 1. University of Trento, Italy

11:10 AM**(ICACC-FS5-014-2016) Impedance Spectroscopy of Flash Sintered 3YSZ with Different Electrical Field**

J. Liu^{*1}; D. Liu²; Y. Wang²; L. An³; 1. Southwest Jiaotong University, China; 2. Science and Technology on Thermostructural Composite Materials Laboratory, Northwestern Polytechnical University, China; 3. University of Central Florida, USA

11:30 AM**(ICACC-FS5-015-2016) Electrical measurements in electric field-assisted ionic and protonic conductors**

R. Muccillo^{*1}; E. N. Muccillo¹; 1. Energy and Nuclear Research Institute, Brazil

11:50 AM**(ICACC-FS5-016-2016) Beyond Flash Sintering**

R. Raj^{*1}; J. Lebrun¹; S. Jha¹; 1. University of Colorado, USA

FS6: Hybrid Materials and Processing Technologies

Hybrid Materials and Processing Technologies III

Room: Coquina Salon H

Session Chair: Qimin Wang, Guangdong University of Technology

8:30 AM
(ICACC-FS6-017-2016) Developing Multi-component and Multi-layer Nanocomposite Coatings for High-speed Milling Tools (Invited)

Q. Wang^{*1}; 1. Guangdong University of Technology, China

9:00 AM
(ICACC-FS6-018-2016) Synthesis of Ni(OH)₂ @ ZnO for High Performance Supercapacitor Electrode Materials by Combining Hydrothermal Method and ALD Process

Z. Wan^{*1}; Y. Byun¹; S. Kwon¹; 1. Pusan National University, The Republic of Korea

9:20 AM
(ICACC-FS6-019-2016) Atomic Layer Deposition and Role of Precursor Chemistry

S. Wang^{*1}; T. Singh¹; S. Hoffmann-Eifert²; N. Aslam²; S. Mathur¹; 1. University of Cologne, Germany; 2. Forschungszentrum Juelich, Germany

9:40 AM
(ICACC-FS6-020-2016) Nitrogen-Incorporated Hydrogenated Amorphous Carbon Film Electrodes on Ti Substrates by Hybrid Deposition Technique and Annealing

T. Zhang^{*1}; K. Kim²; K. Kim¹; 1. Pusan National University, The Republic of Korea; 2. Korea Atomic Energy Research Institute, The Republic of Korea

10:00 AM**Break****10:20 AM**
(ICACC-FS6-021-2016) p- and n-Doping Graphene Tuned by Simple Polymer Coating for Electronic Device Application

J. Yun^{*1}; W. Park¹; K. Kim¹; 1. Global Frontier for Hybrid Interface Materials, The Republic of Korea

10:40 AM
(ICACC-FS6-022-2016) Self-assembled hybrid nanostructures with multi-functionality for nonvolatile memory device applications

W. Park^{*2}; J. Shin¹; J. Yun¹; K. Kim¹; 1. Global Frontier for Hybrid Interface Interface, The Republic of Korea; 2. Global Frontier for Hybrid Interface Materials, The Republic of Korea

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Overview of global economy and supply chain economics – Susan Helper, special advisor to the undersecretary for economic affairs of the U.S. Department of Commerce; former chief economist, U.S. Department of Commerce; Carlton Professor of Economics at the Weatherhead School of Management, Case Western Reserve University



Supply chain for innovation – Timothy Major, supply management director of science & technology, Emerging Innovations Group, Corning Inc.



Customers: The importance of market validation and sales channels – Vladimir Ban, CEO, PD-LD Inc.



Business acquisition strategy – David Gunderson, global business development director, Advance Ceramics Platform, 3M

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