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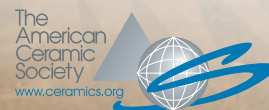
CONFERENCE PROGRAM

January 22 – 27, 2017 | Hilton Daytona Beach Resort and Ocean Center | Daytona Beach, Fla., USA

41ST INTERNATIONAL CONFERENCE AND EXPOSITION ON ADVANCED CERAMICS AND COMPOSITES

ceramics.org/icacc2017

Organized by the Engineering Ceramics Division of The American Ceramic Society



Celebrate the 100th Anniversary of JACerS



Visit the
Wiley booth on
Monday, January 23
to celebrate
with us

Thanks to you — our authors, editors and readers — we are celebrating the 100th anniversary of the flagship journal of The American Ceramic Society. In appreciation, we will be celebrating the journal's centennial year throughout 2017 and offering FREE access to top articles, as well as special conference events and innovative tools for authors.

The Journal of the American Ceramic Society first published in 1918, and has been among the top sources for ceramic materials science research, providing scientists, engineers, and students with critically assessed, original research ever since. JACerS continues to be the top cited journal in the Ceramics field. Its long standing in the subject area and continued innovative and vital content over the past century has solidified the journal's place, as well as the American Ceramic Society's as an industry leader.

Visit the journal's homepage on wileyonlinelibrary.com for all Centennial details

Throughout 2017, you can use the Journal of the American Ceramic Society's Centennial landing page for all information about special events and offerings to celebrate 100 years of excellence. Please join us in celebrating the journal's 100th anniversary and we thank you once again for contributing to the journal's overwhelming success over the past century.



Journal of the American Ceramic Society

From the inaugural 1918 issue:
**Special Pots for The
Melting of Optical Glass**

50 Years Later...
**Thermal Expansion and
Elastic Properties of
Two-Phase Ceramic Bodies**

From the Latest Issue:
Cold Sintering Process:
A Novel Technique for
Low-Temperature Ceramic
Processing of Ferroelectrics

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Impact



WILEY

WELCOME

On behalf of the Engineering Ceramics Division and The American Ceramic Society, I warmly welcome you to the 41st 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 for its 41st year.

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 2017 consists of fifteen Symposia, three Focused Sessions, the 3rd Pacific Rim Engineering Ceramics Summit, and 6th Global Young Investigator Forum. 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 and Biocomposites, Advanced Materials and Technologies for Direct Thermal Energy Conversion and Rechargeable Energy Storage, Functional Nanomaterials and Thin films for Sustainable Energy Harvesting, Environmental and Health Applications, Advanced Processing & Manufacturing Technologies (APMT), Porous Ceramics and Virtual Materials Design and Ceramic Genome. In addition, two key symposia titled Materials for Extreme Environments and Advanced Materials for Sustainable Nuclear Fission and Fusion Energy are back for their seventh year and will continue to build upon past success. The Nuclear Energy symposium is co-sponsored by the ACerS Nuclear and Environmental Technology Division. Advanced Materials and Innovative Processing Ideas for the Production Root Technology and Crystalline Materials for Electrical, Optical and Medical Applications will again be part of the strong technical program. In addition, one new symposium: Additive Manufacturing and 3D Printing Technologies will round out the technical program.

The ICACC 2017 will include three Focused Sessions on emerging technologies: Geopolymers, Chemically Bonded Ceramics, Eco-friendly and Sustainable Materials and Advanced Ceramic Materials and Processing for Photonics and Energy, as well as Carbon Nanostructures and 2-D Materials and Composites.

We are extremely pleased that the 3rd Pacific Rim Engineering Ceramics Summit will be held at ICACC 2017 to bring together representatives from the Engineering Ceramics Division and experts from Pacific Rim countries to foster information exchange on current status and emerging trends in innovative and sustainable ceramic technologies. The 6th 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, KITECH and Mechtronics, Hysitron, Furura Metal Americas, Applied Research Center, Saint-Gobain, The Korean Ceramic Society 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.

P.S. Please be reminded that no photography, audio recording, or videotaping of presenters in oral sessions is permitted. See policy on pg iv.



2017 Program Chair



Jingyang Wang

Shenyang National
Laboratory for Materials
Science, Institute of Metal
Research, Chinese Academy
of Sciences, Shenyang, China

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Engineering Ceramics Division Leadership

Trustee: **Tatsuki Ohji**, AIST

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

Chair-Elect: **Jingyang Wang**, Shenyang National Laboratory for Materials Science, Institute of Metal Research

Vice-Chair/Treasurer: **Manabu Fukushima**, National Institute of Advanced Industrial Science & Technology

Secretary: **Surojit Gupta**, University of North Dakota

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MEETING REGULATIONS



No photography/recording
Cell phones silent



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Note: The Society may engage photographers to photograph sessions for marketing and promotional purposes.

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Diversity Statement: The American Ceramic Society values diverse and inclusive participation within the field of ceramic science and engineering. ACerS strives to promote involvement and access to leadership opportunity regardless of race, ethnicity, gender, religion, age, sexual orientation, nationality, disability, appearance, geographic location, career path or academic level.

The American Ceramic Society plans to take photographs and video at the conference and reproduce them in educational, news or promotional materials, whether in print, electronic or other media, including The American Ceramic Society's

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During oral sessions conducted during Society meetings, **unauthorized photography, videotaping and audio recording is prohibited.** Failure to comply may result in the removal of the offender from the session or from the remainder of the meeting.

Registration Requirements: Attendance at any meeting of the Society shall be limited to duly registered persons.

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SCHEDULE AT A GLANCE

Hilton Daytona Beach Resort/Ocean Walk Village | 100 North Atlantic Avenue
Exposition & Poster Session Location | Ocean Center Conference Center/Arena

SUNDAY, JANUARY 22, 2017

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

MONDAY, JANUARY 23, 2017

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
ACerS Global Graduate Researcher Network Student and Young Professional Networking Mixer	7:30 p.m. – 9:00 p.m.	Hilton – Oceanview

TUESDAY, JANUARY 24, 2017

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

WEDNESDAY, JANUARY 25, 2017

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





SCHEDULE AT A GLANCE

Hilton Daytona Beach Resort/Ocean Walk Village | 100 North Atlantic Avenue
Exposition & Poster Session Location | Ocean Center Conference Center/Arena

WEDNESDAY, JANUARY 25, 2017 (continued)

Lunch on own	12:00 p.m. – 1:20 p.m.	
Student and Young Professional Lunch and Talk "Practical tips for getting your research published"	12:00 p.m.- 1:15 p.m.	Hilton – Flagler
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 26, 2017

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
Last Night Reception	5:30 p.m. to 6:30 p.m.	Hilton – Coquina Foyer

FRIDAY, JANUARY 27, 2017

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

AWARD AND PLENARY SPEAKERS

MONDAY, 23-JAN-17 | 8:30 A.M. – 12:00 P.M.



JAMES I. MUELLER AWARD | 9:00 AM



Kriven

Waltraud Kriven, professor, University of Illinois at Urbana-Champaign

Title: *Geopolymers: Structural inorganic polymers*

Waltraud (Trudy) Kriven is a professor of materials science, and an affiliate professor of mechanical science and engineering at the University of Illinois at Urbana-Champaign where she been since 1984. Prior to that she was a research scientist at the Max Planck Institute in Stuttgart for four years, and before that a post-doctoral researcher and lecturer at the University of California at Berkeley for three years. She received her Ph.D. in physical and inorganic chemistry from the University of Adelaide in South Australia. Kriven has recognized expertise in the areas of geopolymers; in situ HT (to 2,000 °C in air) synchrotron studies of phase transformations and thermal expansions in oxide ceramics (including ZrO₂ and HfO₂); oxide composite design; ceramic powder syntheses; phase equilibria determination; and microstructure characterization by electron microscopy (TEM). Kriven is an academican in the World Academy of Ceramics and a Fellow of the American Ceramic Society, and of the Australian Ceramic Society.

BRIDGE BUILDING AWARD | 9:40 AM



Šajgalík

Pavol Šajgalík, president of the Slovak Academy of Sciences and department head, ceramic department, Institute of Inorganic Chemistry, Slovak Academy of Sciences, Bratislava, Slovakia

Title: *Additive-free, hot-pressed silicon carbide ceramics—a material with exceptional properties*

Pavol Šajgalík is president of the Slovak Academy of Sciences (since 2015) and simultaneously head of the ceramic department at the Institute of Inorganic Chemistry, Slovak Academy of Sciences (since 1999). He is primarily focused on the research and development of non-oxide and oxide high performance ceramics. His main research focus is the relationship between microstructure and mechanical properties of these materials. In 1990, he obtained the Alexander von Humboldt fellowship and spent almost two years in The Max-Planck-Institute for Metal Research in Stuttgart. Subsequently, he stayed several times at the University of Karlsruhe, Germany; AIST Nagoya, Japan; and Rensselaer Polytechnic Institute, USA as a visiting scientist/professor. He served as an external lecturer at the Slovak University of Technology in Bratislava. He has organized many international conferences, and he regularly organizes engineering ceramics workshops. He has led many international projects. He is a president of the European Ceramic Society; a member of The American and Japanese Ceramic Societies; a president of the Slovak Silicate Society; a member elect of the World Academy of Ceramics; and a Fellow of The American Ceramic Society. In 2007, he was awarded as the Scientist of the Year in the Slovak Republic. In 2015, he was awarded the Slovak State decoration: Order of the Ľudovít Štúr of III. Class. He is the author of more than 170 papers, co-editor of 8 proceedings, guest editor of 4 special issues of the professional journals, and co-author of 2 monographs.

PLENARY SPEAKERS | 10:40 AM



Kishi

Hiroshi Kishi, operating officer, research and development laboratory manager, Taiyo Yuden Co., Ltd., Japan

Title: *MLCC/Inductor trends and technological evolution*

Hiroshi Kishi received his B.S. and M.S. degrees in Physics from Tokyo University of Science in 1978 and 1980, respectively. Kishi joined Taiyo Yuden Co., Ltd., materials research and development division in 1980. He was responsible for the development of dielectric, piezoelectric, and magnetic materials. Kishi obtained a Doctor's degree in materials science and engineering from Nagoya Institute of Technology in 2002 through works of dielectric material development for multilayer ceramic capacitors. He became an operating officer of R&D center in 2013. He was rewarded the Richard M. Fulrath Award from The American Ceramic Society in 1998, and also was rewarded the Ceramic Society of Japan award, and Japan Society of Powder, and Powder Metallurgy award in 2008.

11:20 AM



Webster

Thomas J. Webster, Chair and professor of chemical engineering, Northeastern University

Title: *Fifteen years of commercializing ceramic medical devices using nanotechnology*

Thomas J. Webster's (H index: 74, Google Scholar) degrees are in chemical engineering from the University of Pittsburgh (B.S., 1995) and in biomedical engineering from Rensselaer Polytechnic Institute (M.S., 1997; Ph.D., 2000). Webster is the current director of the Nanomedicine Laboratories (currently at 35 members) and has completed extensive studies on the use of nanophase materials in medicine. He was appointed Department Chair of Chemical Engineering at Northeastern University in 2012. In his 16 years in academics, Webster has graduated/supervised over 109 visiting faculty, clinical fellows, post-doctoral students, and thesis completing B.S., M.S., and Ph.D. students. To date, his lab group has generated over 9 textbooks, 48 book chapters, 306 invited presentations, at least 403 peer-reviewed literature articles (222) and/or conference proceedings (181), at least 567 conference presentations, and 32 provisional or full patents. He is the founding editor-in-chief of the International Journal of Nanomedicine (the first international journal in nanomedicine which has an impact factor of 5.03). Webster has received numerous honors including: 2012, Fellow, American Institute for Medical and Biological Engineering (AIMBE, representing the top 2% of all medical and biological engineers); 2013, Fellow, Biomedical Engineering Society; and 2016, International College of Fellows, Biomaterials Science and Engineering. He was also recently elected President of the U.S. Society For Biomaterials. He has appeared on BBC, NBC, Fox News, the Weather Channel and many other news outlets talking about science.



SPECIAL EVENTS

THE ECD GLOBAL YOUNG INVESTIGATOR AWARD

MONDAY, 23-JAN-17 | 1:30 P.M. | HILTON – COQUINA SALON F

Gang Liu, Shenyang National Laboratory for Materials Science, China

Title: *Multiscale designing of solar-driven photocatalysts*



Liu

WELCOME RECEPTION

SUNDAY, 24-JAN-17 | 5:30 – 7:00 P.M.

HILTON – COQUINA FOYER

EXPOSITION & POSTER SESSION HOURS

TUESDAY, 24-JAN-17, 2017, 5:00 – 8:00 P.M.

WEDNESDAY, 25-JAN-17, 2017, 5:00 – 7:30 P.M.

OCEAN CENTER CONFERENCE CENTER/ARENA

MECHANICAL PROPERTIES OF CERAMICS AND GLASS SHORT COURSE

26-JAN-17, 2017 | 8:30 A.M. – 4:30 P.M.

27-JAN-17, 2017 | 8:30 A.M. – 4:00 P.M.

LOCATION: HILTON – FLAGLER

INSTRUCTORS: **George D. Quinn**, NIST, and **Richard C. Bradt**, University of Alabama

Additional registration fee is required.

LAST NIGHT RECEPTION

THURSDAY, 26-JAN-17 | 5:30 – 7:00 P.M.

HILTON – COQUINA FOYER

ACeRS GLOBAL GRADUATE RESEARCHER NETWORK

Student and Young Professional Networking Mixer

MONDAY, 23-JAN-17 | 7:30 – 9:00 P.M. | HILTON – OCEANVIEW

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

SCHOTT SHOT GLASS CONTEST

TUESDAY, 24-JAN-17 | 6:45 – 8:00 P.M.

THE OCEAN CENTER, EXHIBIT SHOW FLOOR

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

Test your skills with this design contest! Competitors get 15 drinking straws to build a protective device for their shot glass donated by SCHOTT. Then, the glasses are dropped from increasing heights until the breaking threshold is reached. The glass with the highest successful drop distance wins!



STUDENT AND YOUNG PROFESSIONAL LUNCH AND TALK

Practical Tips for Getting Your Research Published

Organized by ACeRS GGRN and ACeRS YPN

WEDNESDAY, 25-JAN-17 | 12:00 – 1:15 P.M.

HILTON – FLAGLER

INSTRUCTOR: **Monica Ferraris**, Polytechnic University of Turin, Italy

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HILTON MEETING ROOM FLOOR PLAN

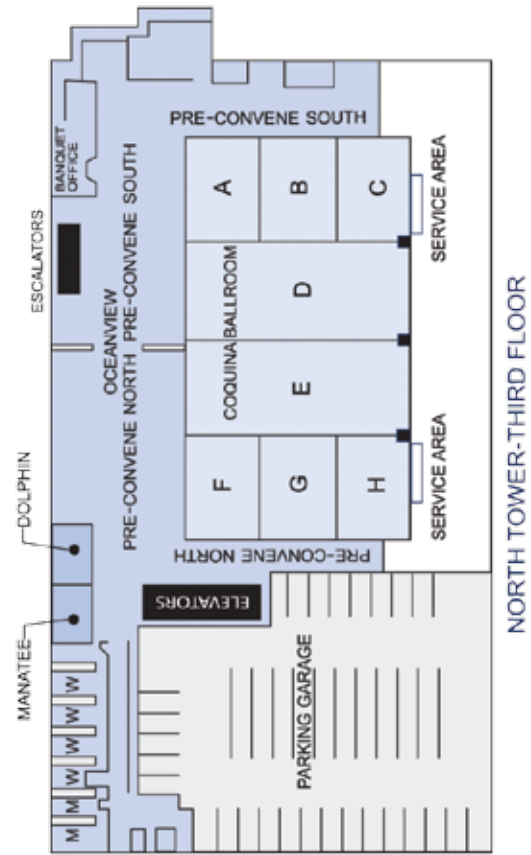
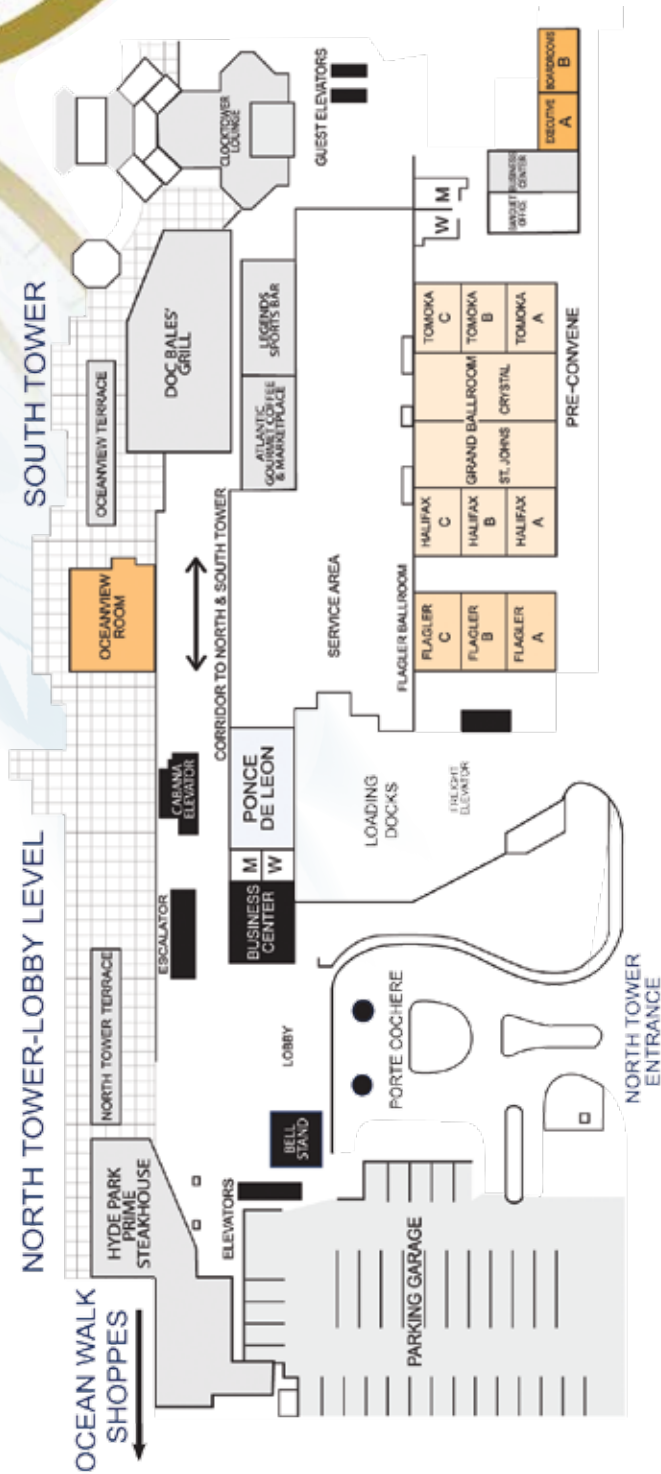
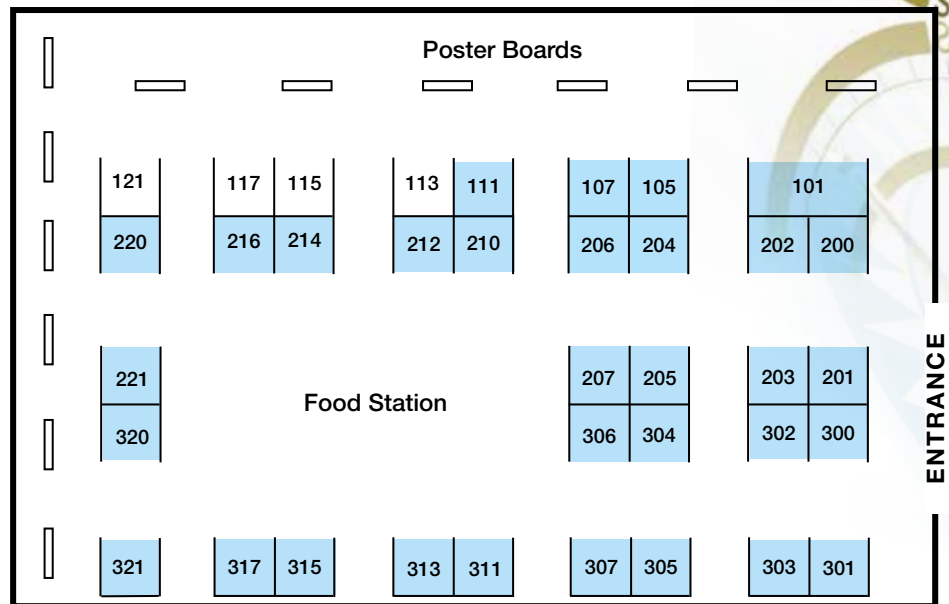


EXHIBIT FLOORPLAN AND BOOTH INFORMATION

TUESDAY, 24-JAN-17
5 – 8 PM

WEDNESDAY, 25-JAN-17
5 – 7:30 PM

OCEAN CENTER
(across the street from the
Hilton)



Exhibitor	Booth No.	Exhibitor	Booth No.
AdValue Technology, LLC	205	Netzsch Instruments	300
ACerS	101	NGS Advanced Fibers	204
Alfred University	315	Noritake	302
AVS	307	Oxy-Gon Industries, Inc.	320
BCC Research	301	Quantrachrome	105
Centorr	200	RD Webb	216
CM Furnaces	311	Smarter Shows	111
Gasbarre (PTX)	207	Sonoscan	221
H.C. Stark	305	Superior Graphite	203
Haiku Tech	214	TA Instruments	210
Harper International Corp.	317	Tev Tech	212
J. Rettenmaier USA	201	Thermal Technology	220
Lithoz GmbH	107	Thermal Wave	321
MEL Chemicals	313	Thermcraft, Inc.	303
Microtrac	306	Verder Scientific (Carbolite)	206
Nanoscience	202	Zircar Ceramics	304



ICACC EXPO PREVIEW

Exhibit dates:

Tuesday, 24-Jan-17, 2017 5:00 – 8:00 p.m.

Wednesday, 25-Jan-17, 2017 5:00 – 7:30 p.m.

AdValue Technology, LLC

Booth No. 205

AdValue Technology specializes in areas of alumina, fused quartz, sapphire and zirconia. Products range from alumina and silicon dioxide powders, crucibles, tubes and rods, plates and discs, sample pans, UV cuvettes, quartz wool, ceramic membranes, and cerium polishing powders. We strive to be your valuable partner in material science!

wang@advaluetech.com | advaluetech.com



Alfred University

Booth No. 315

Kazuo Inamori School of Engineering/New York State College of Ceramics at Alfred University offers B.S. and M.S. degrees in ceramic engineering, glass, biomaterials, materials science and engineering, electrical and mechanical engineering. The school also offers Ph.D. degrees in ceramics, glass, and materials science and short courses for ceramics and glass professionals. Alfred conducts research in glass, ceramics and biomaterials and offers analytical services.

gottfried@alfred.edu



The American Ceramic Society

Booth No. 101

ACerS is the premier membership organization for engineers, scientists, manufacturers, and educators working with ceramics and glass. ACerS resources keep members on the cutting edge of science and technology advancements with journals, conferences, magazines, phase diagrams, books, and training. Meet customers and collaborators through ACerS global network of 10,000 members.

customerservice@ceramics.org | ceramics.org



AVS

Booth No. 307

AVS specializes in design, engineering, fabrication, and complete integration of custom furnaces. The company specializes in applications involving combinations of high temperatures to 3000°C, vacuum to 10⁻⁸ Torr, and gas pressures up to 3000 psig (200 BAR) and manufactures furnaces that include hot pressing from 1 ton to over 2000 tons of force, complex gas controls such as MIM and CVD, as well as combination de-binding/sintering furnaces. Some AVS furnace applications involve induction heating, but most utilize either graphite or metal resistance heating.

sales@avsinc.com | avsinc.com

BCC Research

Booth No. 301

In business for 45 years, BCC Research provides comprehensive analysis of global market sizing, forecasting and industry intelligence, covering markets where advances in science and technology are improving the quality, standard and sustainability of businesses, economies, and lives. Smart decisions start here.

info@bccresearch.com | bccresearch.com



Centorr

Booth No. 200

Centorr Vacuum Industries manufactures vacuum/controlled-atmosphere furnaces for sintering, debinding, and heat treatment of advanced ceramics (SiC, Si₃N₄, AlN, BN, and B₄C), refractory metals, and hard metals. Available in laboratory/production sizes to 3000°C with graphite or refractory metal hot zones and optional Sweepgas™ binder-removal system.

plennon@centorr.com | centorr.com



Ceramics Expo 2017

Booth No. 111

Taking place April 25-27, 2017, I-X Center, Cleveland, Ohio, Ceramics Expo 2016 is the manufacturing trade show for ceramic materials and technologies. Expect a showcase for raw materials, equipment, technology, and support services used throughout the ceramic manufacturing supply chain, gain insight into market trends and supplier innovations, and network with the industry's executives and technical leaders. Ceramics Expo offers you the opportunity to exchange ideas and establish connections that position your company as an industry leader.

adam.moore@smartershows.com |

ceramicsexpousa.com

Ph: +44-1273-916-300



CM Furnaces

Booth No. 311

CM Furnaces offers units of standard design and construction, as well as specialized custom units. The company manufactures a complete line of laboratory furnaces in all configurations, including box and tube furnaces, ranging from 1000°C to 2000°C. These are available in air, inert, and reducing atmospheres. CM also offers production furnaces and our 1700°C batch, hydrogen, and box furnaces.

info@cmfurnaces.com

Gasbarre (PTX)

Booth No. 207

Manufacturer of powder compacting presses, tooling, and industrial furnaces. Press product lines include Gasbarre mechanical and CNC hydraulic presses, Servo-electric presses, PTX-Pentronix presses and loaders, and Simac dry-bag isostatic presses. Industrial heat-treating producers include Sinterite furnaces, C.I. Hayes furnaces and J.L. Becker furnaces. Each equipment design is tailored to specific application for optimum performance.

press-sales@gasbarre.com



H.C. Starck Surface Technology and Ceramic Powders GmbH

Booth No. 305

The H.C. Starck Group is a leading global supplier of high-performance refractory metals and advanced ceramics. H.C. Starck Surface Technology and Ceramic Powders GmbH offers one of the most extensive non-oxide material portfolios for high end applications like Photovoltaics, LED, Electronics, Automotive and Pyrotechnics. The Group operates 15 production facilities.

susan.vogel@hcstarck.com | hcstarck.com



Haiku Tech

Booth No. 214

Haiku Tech offers tape-casting (coating) equipment; as well as stackers, isostatic laminators, furnaces, and materials for the development and manufacturing of multilayer ceramic products, including substrates, solid oxide fuel cells, etc. Haiku also offers prototyping and consulting services to develop tape-casting formulations for standard or customized ceramic powders.

mdemoya@haikutech.com | haikutech.com



Harper International Corp.

Booth No. 317

Harper International is a global leader in the design of complete thermal processing solutions and technical services for the production of advanced materials, including custom designed rotary, pusher, and belt conveyor furnaces. Harper's experience spans a range of engineering ceramics, including designing for the production of silicon nitride, tungsten carbide, boron nitride, and aluminas. Harper kilns are widely used to calcine powders and sinter components such as thermistors, varistors, and monolithic and multilayer capacitors. It enables customers with furnace technologies that incorporate improved flexibility, operating efficiencies, and equipment control to help scale up production rates successfully.

info@harperintl.com | harperintl.com

ICACC EXPO PREVIEW

Exhibit dates:

Tuesday, 24-Jan-17, 2017 5:00 – 8:00 p.m.

Wednesday, 25-Jan-17, 2017 5:00 – 7:30 p.m.

J. Rettenmaier USA

Booth No. 201

J. Rettenmaier USA, part of the global JRS Group, is a manufacturer of organic cellulose and wood particles modified for pore formation in the ceramic industry. During sintering, natural particles are completely burned out so that pores remain. Large varieties of available particle structures create different pore size distributions and effects in the production process.

rsusa.com



Lithoz GmbH

Booth No. 107

Lithoz is the system provider for additive manufacturing (3-D-printing) of high-performance ceramics. As a technology provider, Lithoz covers the whole process chain—from development of the machine to the materials and up to the application. Lithoz developed LCM technology, a slurry-based additive manufacturing technology based on photopolymerization. LCM has very high resolution and very good reproducibility and allows production of finely delicate structures and details directly from CAD data.

mhoma@lithoz.com | lithoz.com



MEL Chemicals

Booth No. 313

MEL Chemicals is a global manufacturer and supplier of high-quality zirconium based chemicals. Product range consists of zirconium oxides including ready-to-press yttria- and magnesia-doped grades, nano materials and ZTA for advanced ceramic applications in structural, dental, medical, sensors, SOFC and catalysis. MEL also offers a range of tin oxides and doped tin oxides for ceramic and advanced applications.

pjones@melchemicals.com

Microtrac

Booth No. 306

Microtrac's S3500 line of particle size analyzers, provide the broadest size range with compact design from 0.02 to 3,000 microns. Instruments features rapid wet-to-dry conversion, advanced flex software, small footprint, turbotrak dry-powder feeder. Nanotrak Dynamic Light Scatter units offer nanometer sizing and zeta-potential. Surface area, imaging systems—both wet and dry—and new blue laser diffraction technology "bluewave" next generation is here.

jay.schild@microtrac.com



Nanoscience Instruments

Booth No. 202

Nanoscience Instruments provides surface science, microscopy and nanotechnology solutions to customers in academia, research, and industrial markets. Customers benefit from the products' ease of use, user-friendly interface, and low cost of ownership. The company's team of scientists and engineers have diverse backgrounds to help customers find solutions.

info@nanoscience.com | nanoscience.com



Netzsch Instruments

Booth No. 300

Netzsch supplies thermal analysis and thermal properties instrumentation; new expedis-series dilatometers for CTE and sintering studies; high temperature TGA-DSC/DTA to 2400°C w. coupling to FTIR, MS, and GC-MS for analysis of evolved gases; LFA – laser flash analyzers for thermal diffusivity and thermal conductivity to 2,800°C; highest accuracy specific heat by DSC to 1650°C, plus extensive contract testing services at its headquarters lab in Burlington, MA.

NIB-Sales@netzsch.com

NGS Advanced Fibers

Booth No. 204

NGS manufactures continuous silicon carbide fibers Nicalon™ (NL, NLH, NLS), which possess advanced properties including increased strength, heat, and corrosion resistance. Nicalon™ is mainly used for reinforcing composites and brings improved performance opportunities to ceramic, plastic, and metal matrices (CMC, PMC, MMC).

info@ngs-advanced-fibers.com | ngs-advanced-fibers.com



Noritake

Booth No. 302

Noritake is the leading industrial ceramics and materials company in all of Asia, United States and other points locally, with over 100 years of experience, lessons learned, and know-how. This allows Noritake and its partners to share in development and innovation. New innovations include, any kinds of ceramics materials for fuel cell and catalyst including SOFC applications.

kawabata.cer@noritake.com



Oxy-Gon Industries, Inc.

Booth No. 320

Oxy-Gon offers a wide range of furnaces for ceramic firing, annealing, brazing, hot pressing and more. Oxy-Gon furnaces have temperatures up to 2800°C (5000°F) and controlled atmospheres, rough to ultra-high vacuum, inert gas, nitrogen, hydrogen or reducing gas. Oxy-Gon is "degrees ahead in quality" since 1988.

sales@oxy-gon.com | oxy-gon.com





ICACC EXPO PREVIEW

Exhibit dates:

Tuesday, 24-Jan-17, 2017 5:00 – 8:00 p.m.

Wednesday, 25-Jan-17, 2017 5:00 – 7:30 p.m.

Quantachrome Instruments

Booth No. 105

Quantachrome designs and manufactures revolutionary analytical laboratory instruments for material characterization. The company's instrumentation is used in leading industrial and research laboratories to measure the properties of powders and porous materials. Whether you are developing new materials or controlling your manufacturing process, Quantachrome's instruments and expertise provide the assistance you need.

bruna.gomes@quantachrome.com | quantachrome.com



R. D. Webb Company Inc.

Booth No. 216

Manufacturer of inexpensive benchtop vacuum furnaces for active metal brazing and sintering to 2,200°C.

rdwebb@alum.mit.edu | rdwebb.com



Sonoscan

Booth No. 221

Sonoscan manufactures and develops acoustic microscope (AM) systems to nondestructively inspect and analyze materials, subassemblies, and products. The company's leading edge C-SAM systems provide unmatched accuracy and robustness for the inspection of products for hidden internal defects, such as poor bonding, delaminations, cracks, and voids. In addition, Sonoscan offers analytical services through regional testing laboratories in the USA, Asia and Europe, plus educational workshops for all levels of users of AM technology.

info@sonoscan.com

Superior Graphite

Booth No. 203

Delivering unparalleled quality since 1917, Superior Graphite specializes in thermal purification, and advanced sizing, grinding, and blending technologies. The company provides graphite and carbon-based solutions to a wide range of markets including advanced ceramics, energy materials, ferrous and non-ferrous metallurgy, friction, polymers and composites, and drilling additives.

jvervied@superiorgraphite.com | superiorgraphite.com/index.html



TA Instruments

Booth No. 210

Visit TA Instruments for innovative technology for thermal analysis, rheology, microcalorimetry, and thermophysical property measurements of polymers, ceramics, metals, and more. The company now offers a complete line of tools for measurements of thermal diffusivity by the flash method, thermal conductivity and dilatometry for materials from -150°C to 2,800°C.

info@tainstruments.com



Tev Tech

Booth No. 212

TevTech provides custom designed vacuum furnaces and components for CVD, CVI, sintering, annealing and purification systems. TevTech's equipment ranges from laboratory to production furnaces, with metal or graphite hot zones, high vacuum to atmospheric pressure, temperatures to 3,000°C and exceptional automated control systems for improved product quality. The company offers worldwide commissioning, training and services.

sales@tevttechllc.com



Thermal Technology LLC

Booth No. 220

Thermal Technology has been providing solutions for advanced thermal processing since 1946. As a pioneer in the hot-zone, LED, vacuum furnace, and SPS industries, the company has served the lighting, renewable energy, electronics, aerospace, communications, health care, and research and development industries utilizing metals, ceramics, glass, nanopowders, crystals, and emerging materials. Thermal Technology carries a wide variety of vacuum furnaces, press systems (HP and SPS), hot zone parts, OEM parts, and much more.

bob.aalund@thermaltechnology.com | thermaltechnology.com

Thermal Wave

Booth No. 321

Thermal Wave Imaging is an innovator and provider of state-of-the-art thermographic non-destructive testing (NDT) solutions, ranging from low-cost portable systems for field applications to highly sophisticated automated inspection equipment for manufacturing and quality assurance. Commercial systems, custom turnkey solutions, and testing and evaluation services are designed to meet critical needs of aerospace, power generation, and automotive OEMs and suppliers.

sales@thermalwave.com



Thermcraft, Inc.

Booth No. 303

Thermcraft is an international leading manufacturer of furnaces and ovens for temperatures up to 1,800°C (3272°F). The company offers a full range of products from laboratory benchtop sizes up to full size industrial production systems. Thermcraft brings over 45 years of thermal processing experience to help you to find the furnace or oven solution that best fits your needs.

info@thermcraftinc.com | thermcraftinc.com



Verder Scientific (Carbolite)

Booth No. 206

Verder Scientific, Inc. sets the standards in high-tech scientific equipment for quality control, research, and development. The company manufactures and supplies laboratory instruments for sample preparation and heat treatment of solid materials. Comprised of the Retsch and Carbolite product brands, Verder Scientific, Inc. supplies the market for sample preparation and heat treatment.

info@verder-scientific.us



Zircar Ceramics

Booth No. 304

Zircar Ceramics, Inc. produces ceramic-fiber-based, low-mass, high-temperature thermal and electrical insulation products. Compositions are available for use at temperatures up to 1,825°C. Zircar offers rigid boards and cylinders, flexible blankets, papers, textiles, coatings, and adhesives with special emphasis on precision custom CNC-machined components. The company has a legendary heritage in high performance materials and customer service.

sales@zircarceramics.com



TECHNICAL SESSIONS BY SYMPOSIUM

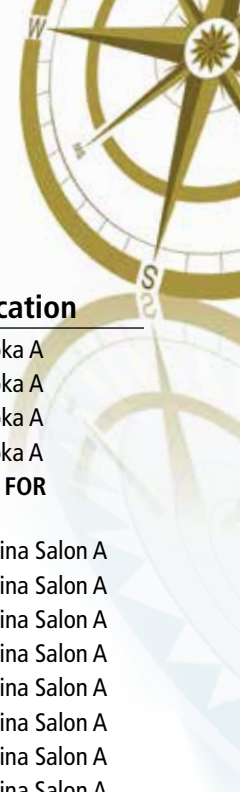
Sessions	Date	Time	Location
PLENARY SESSION	23-Jan-17	8:30 AM – 12:00 PM	Coquina Salon D
3RD PACIFIC RIM ENGINEERING CERAMICS SUMMIT			
Current Trends and Future Directions I	23-Jan-17	1:30 PM – 5:20 PM	Coquina Salon C
Current Trends and Future Directions II	24-Jan-17	8:30 AM – 12:10 PM	Coquina Salon C
Energy and Environmental Issues I	24-Jan-17	1:30 PM – 5:00 PM	Coquina Salon C
Energy and Environmental Issues II	25-Jan-17	8:30 AM – 11:40 AM	Coquina Salon C
Challenges and Opportunities I	25-Jan-17	1:30 PM – 4:50 PM	Coquina Salon C
Challenges and Opportunities II	26-Jan-17	8:30 AM – 11:20 AM	Coquina Salon C
Challenges and Opportunities III	26-Jan-17	1:30 PM – 4:50 PM	Coquina Salon C
6TH GLOBAL YOUNG INVESTIGATOR FORUM			
Ceramics for Magnetic and Electric, Energy Conversion and Energy Storage	23-Jan-17	1:30 PM – 3:10 PM	Coquina Salon F
Applications: Ceramic Sensors and Actuators, Energy Generation, Saving and Storage, Photo-catalysis, and Biomedical Applications	23-Jan-17	3:30 PM – 5:40 PM	Coquina Salon F
Advanced Ceramics and Coatings for Structural, Environmental, and Functional Applications	24-Jan-17	8:30 AM – 10:20 AM	Coquina Salon F
Ceramic Materials and Composites for Aerospace, Armor, Biological, Energy and Medical Applications	24-Jan-17	10:20 AM – 12:00 PM	Coquina Salon F
Magnetic and Electric, Energy Conversion and Energy Storage	24-Jan-17	1:30 PM – 3:20 PM	Coquina Salon F
Frontiers in Ceramic Chemistry and Physics: New Precursors for Functional Ceramics, Ceramics and Catalysis, Functional Surfaces and Thin Films	24-Jan-17	3:20 PM – 5:00 PM	Coquina Salon F
Special topic: Professional Development for the Early-career Ceramic Engineer	25-Jan-17	8:30 AM – 10:20 AM	Coquina Salon F
Special topic: Networking for Early-Career Ceramic Engineers	25-Jan-17	10:20 AM – 12:00 PM	Coquina Salon F
FS1: GEOPOLYMERS, CHEMICALLY BONDED CERAMICS, ECO-FRIENDLY AND SUSTAINABLE MATERIALS			
Synthesis, Processing Microstructure	25-Jan-17	1:30 PM – 5:30 PM	Coquina Salon E
Coatings and Mechanical Properties	26-Jan-17	8:30 AM – 11:00 AM	Coquina Salon E
Sustainable Materials and Novel Applications I	26-Jan-17	11:00 AM – 12:00 PM	Coquina Salon E
Sustainable Materials and Novel Applications II	26-Jan-17	1:30 PM – 3:40 PM	Coquina Salon E
Composites and Conversion to Ceramics	26-Jan-17	3:40 PM – 5:30 PM	Coquina Salon E
Construction Materials	27-Jan-17	8:30 AM – 11:50 AM	Coquina Salon E
FS2: ADVANCED CERAMIC MATERIALS AND PROCESSING FOR PHOTONICS AND ENERGY			
Photovoltaics and Solar Fuels	23-Jan-17	1:30 PM – 5:30 PM	Halifax A/B
Multi-functional Materials I	24-Jan-17	8:30 AM – 12:00 PM	Halifax A/B
Multi-functional Materials II	24-Jan-17	1:30 PM – 4:50 PM	Halifax A/B
Photonics, Electronics and Sensing I	25-Jan-17	8:30 AM – 12:00 PM	Halifax A/B
Photonics, Electronics and Sensing II	25-Jan-17	1:30 PM – 4:50 PM	Halifax A/B
Advanced Applications	26-Jan-17	8:30 AM – 12:00 PM	Halifax A/B
FS3: CARBON NANOSTRUCTURES AND 2-D MATERIALS AND COMPOSITES			
Carbon Nanostructures and 2-D Materials and Composites	23-Jan-17	1:30 PM – 4:00 PM	Coquina Salon A
S1: MECHANICAL BEHAVIOR AND PERFORMANCE OF CERAMICS & COMPOSITES			
Mechanics, Characterization and Joining	23-Jan-17	1:30 PM – 5:40 PM	Coquina Salon D
SiC/SiC Materials	24-Jan-17	8:30 AM – 12:30 PM	Coquina Salon D
Mechanical Testing	24-Jan-17	1:30 PM – 5:40 PM	Coquina Salon D
Environmental Effects and Thermo-mechanical Performance	25-Jan-17	8:30 AM – 12:00 PM	Coquina Salon D
Processing - Microstructure - Mechanical Properties Correlation I	25-Jan-17	1:30 PM – 5:20 PM	Coquina Salon D
Tribological Performance	26-Jan-17	8:30 AM – 12:00 PM	Coquina Salon D
Processing - Microstructure - Mechanical Properties Correlation II	26-Jan-17	1:30 PM – 5:50 PM	Coquina Salon D
Small-scale Testing and Applications	27-Jan-17	8:30 AM – 11:40 AM	Coquina Salon D



TECHNICAL SESSIONS BY SYMPOSIUM

Sessions	Date	Time	Location
S2: ADVANCED CERAMIC COATINGS FOR STRUCTURAL, ENVIRONMENTAL, AND FUNCTIONAL APPLICATIONS			
Thermal Barrier Coatings : Processing and Characterization	23-Jan-17	1:30 PM – 5:10 PM	St. John
Environmental Barrier Coatings I: Processing & Characterization	24-Jan-17	8:30 AM – 12:30 PM	St. John
Environmental Barrier Coatings II: Processing and Characterization	24-Jan-17	1:30 PM – 3:10 PM	St. John
CMAS-related TBC/EBC Degradation and Mitigation Strategies I	24-Jan-17	3:10 PM – 5:10 PM	St. John
CMAS-related TBC/EBC Degradation and Mitigation Strategies II	25-Jan-17	8:30 AM – 11:50 AM	St. John
Smart Functional Ceramic Coatings	25-Jan-17	1:30 PM – 3:20 PM	St. John
Advanced Multifunctional Ceramic Coatings	25-Jan-17	3:20 PM – 5:00 PM	St. John
S3: 14TH INTERNATIONAL SYMPOSIUM ON SOLID OXIDE FUEL CELLS (SOFC): MATERIALS, SCIENCE AND TECHNOLOGY			
SOFC/SOEC: Overview of Activities	23-Jan-17	1:30 PM – 3:50 PM	Crystal
Solid Oxide Fuel Cells	23-Jan-17	3:50 PM – 5:20 PM	Crystal
Solid Oxide Electrolysis Cell	24-Jan-17	8:30 AM – 10:30 AM	Crystal
Thermodynamic Stability	24-Jan-17	10:30 AM – 11:50 AM	Crystal
Reaction Kinetics and Modeling	24-Jan-17	1:30 PM – 3:40 PM	Crystal
Air Electrode	24-Jan-17	3:40 PM – 6:00 PM	Crystal
Fuel Electrode	25-Jan-17	8:30 AM – 11:50 AM	Crystal
Mechanical Integrity	25-Jan-17	1:30 PM – 3:10 PM	Crystal
Novel Processing and Design	25-Jan-17	3:10 PM – 5:00 PM	Crystal
Sealing Materials	26-Jan-17	8:30 AM – 10:10 AM	Crystal
Protective Coatings	26-Jan-17	10:10 AM – 11:50 AM	Crystal
Degradation / Modeling	26-Jan-17	1:30 PM – 4:50 PM	Coquina Salon G
Oxygen Ion Conductors	27-Jan-17	8:30 AM – 10:00 AM	Coquina Salon G
Proton Conductors	27-Jan-17	10:00 AM – 11:50 AM	Coquina Salon G
S4: ARMOR CERAMICS			
Ceramic Response to Ballistic Impact I	23-Jan-17	1:30 PM – 3:20 PM	Coquina Salon E
Ceramic Response to Ballistic Impact II	23-Jan-17	3:20 PM – 5:50 PM	Coquina Salon E
Materials Modeling	24-Jan-17	8:30 AM – 10:10 AM	Coquina Salon E
Materials Characterization and Mechanical Behavior I	24-Jan-17	10:20 AM – 12:00 PM	Coquina Salon E
Materials Characterization and Mechanical Behavior II	24-Jan-17	1:30 PM – 3:30 PM	Coquina Salon E
Materials Characterization and Mechanical Behavior III	24-Jan-17	3:30 PM – 5:20 PM	Coquina Salon E
Advances in Synthesis and Processing I	25-Jan-17	8:30 AM – 10:10 AM	Coquina Salon E
Advances in Synthesis and Processing II	25-Jan-17	10:20 AM – 12:10 PM	Coquina Salon E
S5: NEXT GENERATION BIO-CERAMICS AND BIO-COMPOSITES			
Bioceramics I	25-Jan-17	1:30 PM – 4:30 PM	Coquina Salon F
Bioceramics II	26-Jan-17	8:30 AM – 11:30 AM	Coquina Salon F
Bioceramics III	26-Jan-17	1:30 PM – 4:50 PM	Coquina Salon F
Bioceramics IV	27-Jan-17	8:30 AM – 10:00 AM	Coquina Salon F
S6: ADVANCED MATERIALS AND TECHNOLOGIES FOR DIRECT THERMAL ENERGY CONVERSION AND RECHARGEABLE ENERGY STORAGE			
Thermal Energy Conversion and Energy Storage I	23-Jan-17	1:30 PM – 3:20 PM	Tomoka A
Thermal Energy Conversion and Energy Storage II	23-Jan-17	3:20 PM – 5:30 PM	Tomoka A
Thermal Energy Conversion and Energy Storage III	24-Jan-17	8:30 AM – 10:20 AM	Tomoka A
Thermal Energy Conversion and Energy Storage IV	24-Jan-17	10:20 AM – 12:00 PM	Tomoka A
Thermal Energy Conversion and Energy Storage V	24-Jan-17	1:30 PM – 3:20 PM	Tomoka A
Thermal Energy Conversion and Energy Storage VI	24-Jan-17	3:20 PM – 5:10 PM	Tomoka A
Thermal Energy Conversion and Energy Storage VII	25-Jan-17	8:30 AM – 10:20 AM	Tomoka A
Thermal Energy Conversion and Energy Storage VIII	25-Jan-17	10:20 AM – 12:10 PM	Tomoka A

TECHNICAL SESSIONS BY SYMPOSIUM



Sessions	Date	Time	Location
Thermal Energy Conversion and Energy Storage IX	25-Jan-17	1:30 PM – 3:20 PM	Tomoka A
Thermal Energy Conversion and Energy Storage X	25-Jan-17	3:20 PM – 5:10 PM	Tomoka A
Thermal Energy Conversion and Energy Storage XI	26-Jan-17	8:30 AM – 10:10 AM	Tomoka A
Thermal Energy Conversion and Energy Storage XII	26-Jan-17	10:20 AM – 11:30 AM	Tomoka A
S7: 11TH INTERNATIONAL SYMPOSIUM ON NANOSTRUCTURED MATERIALS: FUNCTIONAL NANOMATERIALS AND THIN FILMS FOR SUSTAINABLE ENERGY HARVESTING, ENVIRONMENTAL AND HEALTH APPLICATIONS			
Smart Sensors I	24-Jan-17	8:30 AM – 10:30 AM	Coquina Salon A
Smart Sensors II	24-Jan-17	10:30 AM – 12:30 PM	Coquina Salon A
Solar Fuels I	24-Jan-17	1:30 PM – 3:30 PM	Coquina Salon A
Solar Fuels II	24-Jan-17	3:30 PM – 5:50 PM	Coquina Salon A
Solar Fuels III	25-Jan-17	8:30 AM – 10:30 AM	Coquina Salon A
Solar Fuels IV	25-Jan-17	10:30 AM – 12:50 PM	Coquina Salon A
New Materials and Processing I	25-Jan-17	1:30 PM – 3:20 PM	Coquina Salon A
New Materials and Processing II	25-Jan-17	3:30 PM – 5:50 PM	Coquina Salon A
New Materials and Processing III	26-Jan-17	8:30 AM – 10:30 AM	Coquina Salon A
New Materials and Processing IV	26-Jan-17	10:30 AM – 12:40 PM	Coquina Salon A
Biomedical Application I	26-Jan-17	1:30 PM – 3:10 PM	Coquina Salon A
New Materials and Processing V	26-Jan-17	3:10 PM – 5:10 PM	Coquina Salon A
S8: 11TH INTERNATIONAL SYMPOSIUM ON ADVANCED PROCESSING AND MANUFACTURING TECHNOLOGIES FOR STRUCTURAL AND MULTIFUNCTIONAL MATERIALS AND SYSTEMS (APMT11)			
Novel Ceramic Processing I	24-Jan-17	1:30 PM – 4:40 PM	Coquina Salon B
Novel Ceramic Processing II	25-Jan-17	8:30 AM – 12:00 PM	Coquina Salon B
Novel Ceramic Processing III	25-Jan-17	1:30 PM – 4:40 PM	Coquina Salon B
Novel Ceramic Processing IV	26-Jan-17	8:30 AM – 11:20 AM	Coquina Salon B
Design-Oriented Manufacturing I	26-Jan-17	1:30 PM – 5:30 PM	Coquina Salon B
Design-Oriented Manufacturing II	27-Jan-17	8:30 AM – 11:50 AM	Coquina Salon B
S9: POROUS CERAMICS: NOVEL DEVELOPMENTS AND APPLICATIONS			
Innovations in Processing Methods & Synthesis of Porous Ceramics I	23-Jan-17	1:30 PM – 3:20 PM	Coquina Salon G
Innovations in Processing Methods & Synthesis of Porous Ceramics II	23-Jan-17	3:20 PM – 5:20 PM	Coquina Salon G
Innovations in Processing Methods & Properties of Porous Ceramics I	24-Jan-17	8:30 AM – 10:20 AM	Coquina Salon G
Mechanical Properties of Porous Ceramics	24-Jan-17	10:20 AM – 12:00 PM	Coquina Salon G
Innovations in Processing Methods & Properties of Porous Ceramics II	24-Jan-17	1:30 PM – 3:20 PM	Coquina Salon G
Innovations in Processing Methods & Applications of Porous Ceramics	24-Jan-17	3:20 PM – 5:00 PM	Coquina Salon G
High SSA Ceramics I	25-Jan-17	8:30 AM – 10:10 AM	Coquina Salon G
High SSA Ceramics II	25-Jan-17	10:10 AM – 11:40 AM	Coquina Salon G
S10: VIRTUAL MATERIALS (COMPUTATIONAL) DESIGN AND CERAMIC GENOME			
Modelling - Electrical Properties	23-Jan-17	1:30 PM – 5:30 PM	Flagler A & B
Modelling - Mechanical behavior	24-Jan-17	8:30 AM – 12:00 PM	Flagler A & B
Molecular Dynamics and Nuclear Materials Modeling	24-Jan-17	1:30 PM – 5:00 PM	Flagler A & B
Modelling by DFT methods	25-Jan-17	8:30 AM – 12:00 PM	Flagler A & B
Modeling Environmental and Thermal Behavior	25-Jan-17	1:30 PM – 5:00 PM	Flagler A & B
Multiscale and Interface Modeling	26-Jan-17	8:30 AM – 12:00 PM	Flagler A & B
S11: ADVANCED MATERIALS AND INNOVATIVE PROCESSING IDEAS FOR THE PRODUCTION ROOT TECHNOLOGY			
Production Root Technology I	23-Jan-17	1:30 PM – 3:20 PM	Coquina Salon H
Production Root Technology II	23-Jan-17	3:20 PM – 6:00 PM	Coquina Salon H
Production Root Technology III	24-Jan-17	8:30 AM – 12:10 PM	Coquina Salon H
Production Root Technology IV	24-Jan-17	1:30 PM – 5:40 PM	Coquina Salon H



TECHNICAL SESSIONS BY SYMPOSIUM

Sessions	Date	Time	Location
S12: MATERIALS FOR EXTREME ENVIRONMENTS: ULTRAHIGH TEMPERATURE CERAMICS (UHTCS) AND NANO-LAMINATED TERNARY CARBIDES AND NITRIDES (MAX PHASES)			
Materials Design, New Composition and Composites I	23-Jan-17	1:30 PM – 3:20 PM	Tomoka B
Materials Design, New Composition and Composites II	23-Jan-17	3:20 PM – 5:30 PM	Tomoka B
Materials Design, New Composition and Composites III	24-Jan-17	8:30 AM – 10:20 AM	Tomoka B
Methods for Improving Damage Tolerance, Oxidation and Thermal Shock Resistance	24-Jan-17	10:20 AM – 11:10 AM	Tomoka B
Structure Stability under Extreme Environments I	24-Jan-17	11:10 AM – 12:10 PM	Tomoka B
Structure Stability under Extreme Environments II	24-Jan-17	1:30 PM – 3:10 PM	Tomoka B
Novel Processing Methods	24-Jan-17	3:10 PM – 5:00 PM	Tomoka B
Materials Design, New Composition and Composites IV	25-Jan-17	8:30 AM – 10:20 AM	Tomoka B
Processing-microstructure-property Relationships of Existing Systems I	25-Jan-17	10:20 AM – 12:00 PM	Tomoka B
Processing-microstructure-property Relationships of Existing Systems II	25-Jan-17	1:30 PM – 2:30 PM	Tomoka B
Materials Design, New Composition and Composites V	25-Jan-17	2:30 PM – 3:30 PM	Tomoka B
New Precursors for Powders, Coatings, and Matrix or Fibers of Composites	25-Jan-17	3:30 PM – 3:50 PM	Tomoka B
S13: ADVANCED MATERIALS FOR SUSTAINABLE NUCLEAR FISSION AND FUSION ENERGY			
Processing, Joining, and Coating for Ceramic Fuels and Materials	25-Jan-17	8:30 AM – 11:10 AM	Coquina Salon H
Advanced Reactor Materials and Chemical Compatibility	25-Jan-17	1:30 PM – 4:30 PM	Coquina Salon H
Standards and Mechanical & Physical Properties	26-Jan-17	8:30 AM – 11:50 AM	Coquina Salon H
Accident-tolerant Fuels I	26-Jan-17	1:30 PM – 5:40 PM	Coquina Salon H
Accident-tolerant Fuels II and Radiation Effects	27-Jan-17	8:30 AM – 12:10 PM	Coquina Salon H
S14: CRYSTALLINE MATERIALS FOR ELECTRICAL, OPTICAL AND MEDICAL APPLICATIONS			
Optical Material 1	23-Jan-17	1:30 PM – 3:20 PM	Tomoka C
Piezo/Ferro	23-Jan-17	3:30 PM – 5:50 PM	Tomoka C
Scintillator	24-Jan-17	8:30 AM – 11:50 AM	Tomoka C
Optical Material 2	24-Jan-17	1:30 PM – 3:20 PM	Tomoka C
Semiconductor	24-Jan-17	3:20 PM – 5:10 PM	Tomoka C
Optical Material 3	25-Jan-17	8:30 AM – 12:00 PM	Tomoka C
Optical Material 4	25-Jan-17	1:30 PM – 5:00 PM	Tomoka C
S15: ADDITIVE MANUFACTURING AND 3-D PRINTING TECHNOLOGIES			
Selective Laser Processing	23-Jan-17	1:30 PM – 3:20 PM	Coquina Salon B
Ink Jet Printing	23-Jan-17	3:20 PM – 4:20 PM	Coquina Salon B
Stereolithography	23-Jan-17	4:20 PM – 6:20 PM	Coquina Salon B
Emerging Additive Manufacturing	24-Jan-17	8:30 AM – 10:20 AM	Coquina Salon B
Direct Writing & Fused Deposition	24-Jan-17	10:20 AM – 11:20 AM	Coquina Salon B
POSTER SESSIONS			
Poster Session A	24-Jan-17	5:00 PM – 8:00 PM	Ocean Center Arena
Poster Session B	25-Jan-17	5:00 PM – 7:30 PM	Ocean Center Arena

SYMPOSIA

2017 PROGRAM CHAIR: Jingyang Wang, Shenyang National Laboratory for Materials Science Institute of Metal Research, Chinese Academy of Sciences

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; Emmanuel Maillet, General Electric Company, USA; Shaoming Dong, Shanghai Institute of Ceramics, China; Warren Oden, Hysitron, Inc., USA; T. Ishikawa, Tokyo University of Science, Yamaguchi, Japan; Monica Ferraris, Politecnico di Torino, Italy; Walter Krenkel, University of Bayreuth, Germany; Rajesh Kumar, United Technologies Research Center, USA; Andrew Wereszczak, Oak Ridge National Laboratory, USA; Raul Bermejo, Montanuniversität Leoben, Austria

S2: ADVANCED CERAMIC COATINGS FOR STRUCTURAL, ENVIRONMENTAL, AND FUNCTIONAL APPLICATIONS

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

S3: 14TH 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, University of California San Diego, USA; Prabhakar Singh, University of Connecticut, USA; Federico Smeacetto, Politecnico di Torino, Italy; Jeffrey W. Stevenson, Pacific Northwest National Laboratory, USA; Sascha Kühn, Ezelleron, Germany; Scott A. Barnett, Northwestern University, USA; Kristen H. Brosnan, General Electric Global Research, USA

S4: ARMOR CERAMICS - CHALLENGES AND NEW DEVELOPMENTS

Jerry LaSalvia, ARL, USA; Jeffrey Swab, ARL, USA; Sikhanda Satapathy, USA; David Stepp, ARO, USA; Andrew Wereszczak, ORNL, USA; Victoria Blair, ARL, USA; Michael Golt, ARL, USA; Ghatu Subhash, UFL, USA

S5: NEXT GENERATION BIOCERAMICS AND BIOCERAMIC COMPOSITES

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

S6: ADVANCED MATERIALS AND TECHNOLOGIES FOR DIRECT THERMAL ENERGY CONVERSION AND RECHARGEABLE ENERGY STORAGE

Palani Balaya, National University of Singapore, Singapore; Olivier Guillon, Forschungszentrum Jülich, Germany; Mickael Dollé, University of Montral, Canada; Valerie Pralong, CNRS CRISMAT, France; H. T. Lin, Guangdong University of Technology, China; Jang Wook Choi, KAIST, South Korea; XiangXin Guo, Shanghai Institute of Ceramics, China; Ryoji Funahashi, AIST, Osaka, Japan; Anke Weidenkaff, Stuttgart University, Germany; Naoaki Yabuuchi, Tokyo Denki University, Japan; Chi-Chang Hu, National Tsing Hua University, Taiwan

S7: 11TH INTERNATIONAL SYMPOSIUM ON FUNCTIONAL NANOMATERIALS AND THIN FILMS FOR SUSTAINABLE ENERGY HARVESTING, ENVIRONMENTAL AND HEALTH APPLICATIONS

Sanjay Mathur, University of Cologne, Germany; Yoon-Bong Hahn, Chonbuk National University, Korea; Yakup Gönüllü, University of Cologne, Germany; Esko I. Kauppinen, Aalto University, Finland; Shiping Song, Shanghai Institute of Applied Physics, China; Hidehiro Kamiya, University of Agriculture and Technology, Japan; Marlies van Bael, Hasselt University, Belgium; Alberto Vomiero, Luleå University of Technology; Anja-Verena Mudring, Iowa State University, USA; Mustafa Ürgen, Istanbul Technical University, Turkey; Mohamed Sijaj, University of Quebec and Montreal, Canada; Gunnar Westin, Uppsala University, Sweden; Candan Tamerler, University of Kansas, USA; Jih-Jen Wu, National Cheng Kung University, Taiwan; A. S. Khanna, IIT Bombay, India; Shaohua Shen, Xian Jiaotong University, China

S8: 11TH INTERNATIONAL SYMPOSIUM ON ADVANCED PROCESSING AND MANUFACTURING TECHNOLOGIES FOR STRUCTURAL AND MULTIFUNCTIONAL MATERIALS AND SYSTEMS (APMT11)

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

S9: POROUS CERAMICS: NOVEL DEVELOPMENTS AND APPLICATIONS

Paolo Colombo, University of Padova, Italy; Manabu Fukushima, AIST, Japan; Samuel Bernard, Institut Européen des Membranes, France; Tobias Fey, University of Erlangen-Nuremberg, Germany; Giorgia Franchin, University of Padova, Italy; Fabrice Rossignol, CNRS Limoges, France; Alek Pyzik, The Dow Chemical Company, USA; Kurosch Rezwan, University of Bremen, Germany; Hutha Sarma, Corning Environmental Technologies, USA; Takashi Shirai, Nagoya Institute of Technology, Japan; Yuping Zeng, Shanghai Institute of Ceramics, Chinese Academy of Sciences, China; Sunho Choi, Northeastern University, USA



SYMPOSIA

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; Hans J. Seifert, Karlsruhe Institute of Technology, Germany; Jian Luo, University of California, San Diego, USA; Sean Smith, The University of New South Wales, Australia; Haixuan Xu, University of Tennessee, 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; Jacob L. Jones, North Carolina State University; L. K. Sharma, CSIR, India; Byungkoog Jang, NIMS, Japan; Kouichi Yasuda, Tokyo Institute of Technology, Japan; Natalie Sobczak, Foundry Research Institute, Poland; Naoto Koshizaki, Hokkaido University

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; Surojit Gupta, University of North Dakota, USA; 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; Jake Amoroso, Savannah River National Laboratory, USA; Christina Back, General Atomics, USA; Theodore Besmann, University of South Carolina; Monica Ferraris, Politecnico di Torino, Italy; Raghunath Kanakara, University of Idaho, USA; Weon-Ju Kim, Korea Atomic Energy Research Institute, Korea; Takashi Nozawa, Japan Atomic Energy Agency, Japan; Lance Snead, Massachusetts Institute of Technology, USA; Kumar Sridharan, University of Wisconsin, USA; Kurt Terrani, Oak Ridge National Laboratory, USA; Cory Trivelpiece, Savannah River National Laboratory, USA

S14: CRYSTALLINE MATERIALS FOR ELECTRICAL, OPTICAL AND MEDICAL APPLICATIONS

Kiyoshi Shimamura, National Institute for Materials Science (NIMS), Japan; Noboru Ichinose, Waseda University, Japan; Nerine J. Cherepy, Lawrence Livermore National Laboratory (LLNL), USA; Didier Chaussende, Grenoble Institute of Technology (INP), France; Luisa E. Bausá, Autonomous University of Madrid, Spain; Alain Largeteau, Institute for Solid State Chemistry Bordeaux (ICMCB), France; Kenji Toda, Niigata University, Japan; Mikio Higuchi, Hokkaido University, Japan

S15: ADDITIVE MANUFACTURING AND 3D PRINTING TECHNOLOGIES

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

FS1: GEOPOLYMERS, CHEMICALLY BONDED CERAMICS, ECO-FRIENDLY AND SUSTAINABLE MATERIALS

Waltraud M. Kriven, University of Illinois at Urbana-Champaign, USA; Claus H. Rüschler, Leibniz University of Hannover, Germany; Sylvie Rossignol, GEMH-EN-SCI, Limoges, France; Hubert Rahier, Vrije Universiteit, Brussel, Belgium; Ruy Sa Ribeiro, National Institute for Amazonian Research, Brazil; John L. Provis, University of Sheffield, UK

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; David Kisailus, University of California at Riverside, U.S.

FS3: CARBON NANOSTRUCTURES AND 2D MATERIALS, AND COMPOSITES

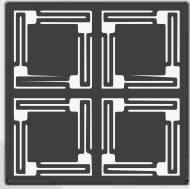
Gustavo Costa, NASA Glenn Research Center, USA; Michael Naguib, Oak Ridge National Laboratory, USA; Ziqi Sun, Queensland University of Technology, Australia; Talita Mazon, CTI - Centro de Tecnologia da Informação Renato Archer, Brazil; Maria A. Zaghete, Sao Paulo State University, Brazil

6TH GLOBAL YOUNG INVESTIGATOR FORUM

Valerie Wiesner, NASA Glenn Research Center, USA; Eva Hemmer, University of Ottawa, Canada; Manabu Fukushima, National Institute of Advanced Industrial Science and Technology (AIST), Japan; Kathleen Shugart, UES at Air Force Research Lab, USA; Daniele Benetti, Institut National de la Recherche Scientifique, Canada; David Poerschke, University of California, Santa Barbara, USA; Ken'ichiro Kita, National Institute of Advanced Industrial Science and Technology (AIST), Japan; Lisong Xia, University Duisburg-Essen, Germany; Alex Lee, National Cheng Kung University, Taiwan; Mahmood Shirooye, University of Southern California, USA; Thomas Fischer, University of Cologne, Germany; Bai Cui, University of Nebraska-Lincoln, USA

3RD PACIFIC RIM ENGINEERING CERAMICS SUMMIT

Young-Wook Kim, University of Seoul, Korea; H. Suematsu, Nagaoka University of Technology, Japan; Andrew L. Gyekenyesi, Ohio Aerospace Institute, USA; Shibin Jiang, Ad Value Ceramics/ Photonics, AZ, USA; Ramesh Singh, University of Malaya, Malaysia; Palani Balaya, National University of Singapore, Singapore; Sirithan Jiemsirilers, Chulalongkorn University, Thailand; Junichi Tatami, Yohohama National University, Japan; Shaoming Dong, Shanghai Institute of Ceramics, China; Ziqi Sun, Queensland University of Technology, Australia



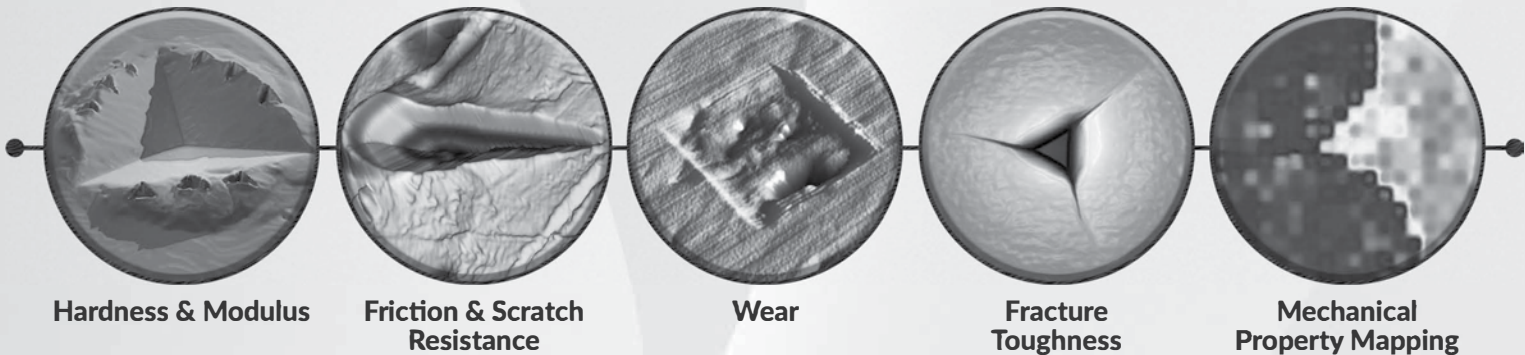
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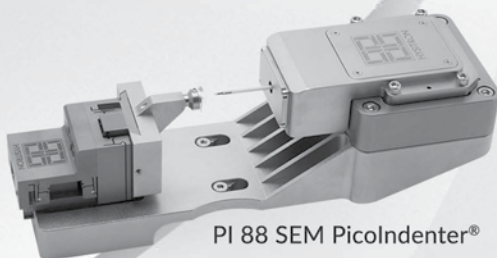
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Oral Presenters

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A									
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Al-Anazi, F.	24-Jan	4:20PM	Coquina Salon B	27	Cabana, J.	25-Jan	8:30AM	Tomoka A	34
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Andreu, T.	25-Jan	11:00AM	Coquina Salon A	35	Cambier, F.J.	26-Jan	2:00PM	Coquina Salon B	53
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Ang, C.	25-Jan	10:30AM	Coquina Salon H	37	Carvajal Nuñez, U.	27-Jan	11:00AM	Coquina Salon D	55
Ang, C.	25-Jan	4:10PM	Coquina Salon H	43	Casas-Cabanas, M.	24-Jan	8:30AM	Tomoka A	18
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Arnoult, M.	25-Jan	4:30PM	Coquina Salon E	38	Chaker, M.	26-Jan	11:00AM	Halifax A/B	47
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Asahi, T.	25-Jan	1:30PM	Tomoka C	44	Chen, S.	26-Jan	11:30AM	Coquina Salon E	47
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Azais, T.	25-Jan	3:10PM	Coquina Salon F	40	Ching, W.	24-Jan	10:20AM	Ponce DeLeon	20
Azarmi, F.	25-Jan	4:40PM	St. John	39	Chlubny, L.R.	24-Jan	3:50PM	Tomoka B	28
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B					Cho, Y.	26-Jan	10:50AM	Coquina Salon C	46
Bagci, C.	26-Jan	4:40PM	Coquina Salon E	51	Chou, Y.	25-Jan	2:10PM	Crystal	40
Bai, X.	24-Jan	2:00PM	Ponce DeLeon	27	Chou, Y.	26-Jan	10:50AM	Crystal	48
Bai, Y.	25-Jan	8:30AM	Ponce DeLeon	36	Christensen, V.	24-Jan	2:00PM	Coquina Salon F	22
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Barton, J.M.	23-Jan	4:20PM	Crystal	11	Cohn, G.	24-Jan	5:00PM	Crystal	25
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Bernardo, E.	26-Jan	3:20PM	Coquina Salon C	51	Cui, B.	23-Jan	2:40PM	Coquina Salon B	14
Bernardo, E.	26-Jan	8:30AM	Coquina Salon F	48	Cui, B.	24-Jan	11:30AM	Tomoka B	21
Bernardo, E.	27-Jan	11:30AM	Coquina Salon E	55	Cui, F.	24-Jan	5:20PM	Coquina Salon D	24
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Bhasin, S.S.	26-Jan	9:10AM	Coquina Salon F	48	Darvish, S.	24-Jan	11:30AM	Crystal	18
Bhuiya, A.W.	26-Jan	5:00PM	Coquina Salon E	51	David, P.G.	25-Jan	3:30PM	Coquina Salon H	43
Bienkowski, K.	26-Jan	4:30PM	Coquina Salon A	53	Davidovits, J.	25-Jan	1:30PM	Coquina Salon E	38
Biesuz, M.	25-Jan	2:40PM	Coquina Salon B	42	Deck, C.	26-Jan	1:30PM	Coquina Salon H	54
Binner, J.	24-Jan	8:30AM	Tomoka B	21	Deck, C.	27-Jan	9:10AM	Coquina Salon H	56
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Blair, V.L.	25-Jan	11:30AM	Coquina Salon E	34	Deng, L.	25-Jan	2:20PM	Coquina Salon D	39

Presenting Author List

Oral Presenters

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Diaz Cano, A.	25-Jan	8:50AM	Coquina Salon E	34	Ghosh, D.	24-Jan	11:00AM	Coquina Salon G	19
Dillinger, B.	27-Jan	10:20AM	Coquina Salon D	55	Ghoshal, A.	24-Jan	10:20AM	Tomoka B	21
Ding, J.	23-Jan	2:40PM	Tomoka B	13	Gildersleeve, E.	25-Jan	9:30AM	St. John	33
Do, L.V.	24-Jan	4:40PM	Coquina Salon C	22	Giroux, P.	25-Jan	1:30PM	Coquina Salon H	43
Doddapaneni, V.	24-Jan	2:20PM	Coquina Salon B	26	Goglio, L.	23-Jan	4:20PM	Coquina Salon D	10
Domnich, V.	24-Jan	2:50PM	Coquina Salon E	25	Golden, R.A.	24-Jan	10:50AM	St. John	17
Dong, C.	26-Jan	12:10PM	Coquina Salon A	49	Golestanifard, F.	23-Jan	4:40PM	Coquina Salon G	12
Dong, S.	25-Jan	2:00PM	Coquina Salon C	38	Golt, M.C.	26-Jan	11:40AM	Ponce DeLeon	50
Dubois, S.	24-Jan	9:20AM	Tomoka B	21	Gonczy, S.T.	24-Jan	2:40PM	Coquina Salon D	23
Duong, T.	23-Jan	2:20PM	Tomoka B	13	Gonczy, S.T.	26-Jan	8:30AM	Coquina Salon H	50
E					Gönüllü, Y.	24-Jan	9:50AM	Coquina Salon A	19
Eklund, P.	23-Jan	2:00PM	Ponce DeLeon	12	Gonzalez-Julian, J.	23-Jan	2:00PM	Tomoka B	13
Elangovan, S.	24-Jan	9:30AM	Crystal	17	Good, B.S.	25-Jan	2:20PM	Ponce DeLeon	42
Elwell, J.	24-Jan	9:50AM	Crystal	17	Goto, T.	23-Jan	2:30PM	Coquina Salon C	8
Emdadi, A.	24-Jan	9:40AM	Ponce DeLeon	20	Goto, T.	26-Jan	8:30AM	Coquina Salon B	49
Emin, S.	25-Jan	11:30AM	Coquina Salon A	35	Gouma, P.	26-Jan	3:20PM	Coquina Salon F	53
Enrichi, F.	23-Jan	3:50PM	Halifax A/B	9	Gourdin, S.	23-Jan	5:00PM	Coquina Salon D	10
Enrichi, F.	25-Jan	10:00AM	Coquina Salon A	35	Grader, G.S.	25-Jan	8:30AM	Coquina Salon G	35
Epifani, M.	26-Jan	3:10PM	Coquina Salon A	53	Graule, T.	25-Jan	8:30AM	Coquina Salon B	35
Epifani, M.	26-Jan	9:40AM	Halifax A/B	47	Gregory, O.	25-Jan	1:30PM	St. John	39
Este, A.	24-Jan	9:20AM	Ponce DeLeon	20	Grohsmeyer, R.J.	25-Jan	9:00AM	Tomoka B	36
Etzold, A.M.	25-Jan	11:10AM	Coquina Salon E	34	Gross-Barsnick, S.M.	26-Jan	8:30AM	Crystal	48
F					Gu, H.	24-Jan	9:30AM	Coquina Salon C	15
Faglia, G.	24-Jan	10:30AM	Coquina Salon A	19	Gu, H.	26-Jan	9:30AM	Ponce DeLeon	50
Falcaro, P.	25-Jan	10:10AM	Coquina Salon G	36	Guillon, O.	23-Jan	4:50PM	Tomoka A	12
Fan, R.	26-Jan	5:10PM	Coquina Salon B	54	Guilmeau, E.	25-Jan	3:20PM	Tomoka A	41
Fanchini, G.	24-Jan	11:00AM	Halifax A/B	16	Guo, H.	23-Jan	4:20PM	Coquina Salon H	13
Fanchini, G.	26-Jan	8:30AM	Coquina Salon A	49	Guo, X.	24-Jan	3:20PM	Tomoka A	26
Feilden, E.	24-Jan	3:10PM	Tomoka B	28	Guo, X.	24-Jan	3:50PM	Tomoka A	26
Fergus, J.	25-Jan	10:50AM	St. John	33	Gupta, S.	23-Jan	5:20PM	Coquina Salon B	15
Ferraris, M.	23-Jan	4:40PM	Coquina Salon D	10	Gupta, S.	24-Jan	10:40AM	Coquina Salon B	22
Ferro, G.	24-Jan	3:50PM	Tomoka C	29	Gupta, S.	24-Jan	11:40AM	Coquina Salon C	15
Fey, T.	23-Jan	2:20PM	Coquina Salon G	12	Gurcan, K.	24-Jan	4:10PM	Tomoka B	28
Fischer, T.	24-Jan	11:30AM	Coquina Salon A	19	H				
Fischer, T.	24-Jan	3:40PM	Coquina Salon F	23	Ha, J.	24-Jan	8:30AM	Coquina Salon A	19
Fitriani, P.	24-Jan	9:20AM	Coquina Salon D	16	Hackemann, S.	23-Jan	2:00PM	Coquina Salon D	9
Folgnier, C.	26-Jan	11:10AM	Crystal	48	Hackemann, S.	24-Jan	2:10PM	St. John	24
Foltz, J.S.	26-Jan	4:00PM	Coquina Salon E	51	Hadad, M.	25-Jan	4:00PM	Crystal	40
Foroughi, P.	25-Jan	11:00AM	Coquina Salon B	35	Hahn, Y.	24-Jan	1:30PM	Coquina Salon A	26
Foroughi, P.	25-Jan	2:50PM	Tomoka B	43	Halbig, M.C.	24-Jan	9:00AM	Coquina Salon B	22
Fortunato, E.	23-Jan	4:00PM	Tomoka C	14	Halim, J.	23-Jan	3:20PM	Tomoka B	13
Franchin, G.	24-Jan	10:20AM	Coquina Salon B	22	Hammann, T.J.	26-Jan	10:40AM	Coquina Salon B	50
Franchin, G.	24-Jan	9:40AM	Coquina Salon F	15	Han, J.	25-Jan	9:30AM	Coquina Salon C	31
Frasnelli, M.	26-Jan	4:10PM	Coquina Salon F	53	Han, Z.	24-Jan	10:40AM	Coquina Salon D	16
Fu, K.	25-Jan	2:30PM	Tomoka A	41	Hanzel, O.	26-Jan	3:50PM	Coquina Salon D	52
Fu, X.	23-Jan	4:30PM	Tomoka C	14	Harder, B.J.	24-Jan	12:10PM	St. John	17
Fu, Z.	25-Jan	10:20AM	Coquina Salon B	35	Harder, B.J.	24-Jan	3:50PM	St. John	24
Fu, Z.	25-Jan	9:40AM	Tomoka B	36	Hardy, J.S.	26-Jan	2:00PM	Coquina Salon G	52
Fujimoto, K.	23-Jan	3:20PM	Coquina Salon H	13	Harmer, M.P.	25-Jan	10:20AM	Coquina Salon E	34
Fujimoto, Y.	23-Jan	5:20PM	Coquina Salon F	9	Harris, A.	24-Jan	3:30PM	St. John	24
Fuka, M.	26-Jan	11:20AM	Coquina Salon D	47	Harrison, S.	25-Jan	8:50AM	Coquina Salon H	37
Fukushima, M.	24-Jan	1:30PM	Coquina Salon G	27	Hartvigsen, J.	23-Jan	3:20PM	Crystal	10
Fukushima, M.	24-Jan	11:20AM	Coquina Salon F	16	Haugen, A.B.	23-Jan	5:30PM	Coquina Salon H	13
Fukushima, M.	26-Jan	9:00AM	Coquina Salon C	46	Hauser, R.	26-Jan	2:00PM	Coquina Salon A	53
Funahashi, R.	26-Jan	9:00AM	Tomoka A	48	Hay, R.	25-Jan	9:20AM	Coquina Salon D	32
Furushima, R.	26-Jan	4:50PM	Coquina Salon D	52	Hayase, S.	25-Jan	8:30AM	Coquina Salon A	34
Fuseini Nbelayim, P.S.	25-Jan	5:30PM	Coquina Salon A	42	Hemmer, E.	25-Jan	10:40AM	Coquina Salon F	32
G					Hermansson, L.	26-Jan	8:50AM	Coquina Salon F	48
Gao, P.	24-Jan	10:10AM	Coquina Salon A	19	Hernandez, E.	24-Jan	4:20PM	Ponce DeLeon	27
Gao, Y.	27-Jan	11:30AM	Coquina Salon B	56	Hernandez, E.	24-Jan	4:40PM	Ponce DeLeon	27
Gaston, B.G.	26-Jan	4:40PM	Coquina Salon H	54	Hernandez, E.	27-Jan	11:30AM	Coquina Salon H	57
Gaume, R.M.	25-Jan	10:10AM	Tomoka C	37	Hey, T.	25-Jan	3:00PM	Coquina Salon A	41
Ge, L.	24-Jan	4:40PM	Crystal	25	Hino, H.	23-Jan	4:20PM	Coquina Salon F	8
Gell, M.	23-Jan	3:40PM	St. John	10	Hinoki, T.	26-Jan	1:50PM	Coquina Salon H	54
Geng, X.	25-Jan	10:50AM	Coquina Salon H	37	Hoffmann, M.J.	23-Jan	3:20PM	Tomoka A	11
Gessner, I.	23-Jan	3:30PM	Coquina Salon F	8	Hogan, J.	24-Jan	1:50PM	Coquina Salon E	25
Gessner, I.	26-Jan	2:50PM	Coquina Salon A	53	Hogan, J.	24-Jan	4:40PM	Coquina Salon E	25
Gharzouni, A.	26-Jan	8:30AM	Coquina Salon E	46	Hojo, J.	26-Jan	9:40AM	Coquina Salon B	49
					Holgate, C.S.	24-Jan	4:50PM	St. John	24
					Holland, T.B.	25-Jan	2:00PM	Coquina Salon B	42

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Name	Date	Time	Room	Page Number	Name	Date	Time	Room	Page Number
Honda, S.	23-Jan	3:50PM	Coquina Salon G	12	Kim, S.	23-Jan	4:00PM	St. John	10
Honda, S.	24-Jan	10:20AM	Coquina Salon G	19	Kim, W.	25-Jan	11:50AM	Coquina Salon A	35
Honma, T.	24-Jan	11:20AM	Tomoka A	18	Kim, W.	25-Jan	2:30PM	Coquina Salon H	43
Hoshino, T.	25-Jan	9:40AM	Tomoka A	34	Kim, Y.	23-Jan	4:50PM	Coquina Salon C	8
Hoskins, A.	24-Jan	9:00AM	St. John	17	Kim, Y.	24-Jan	4:20PM	Coquina Salon C	22
Houston, A.J.	24-Jan	1:50PM	Coquina Salon G	27	Kim, Y.	25-Jan	9:10AM	Coquina Salon H	37
Hu, B.	26-Jan	2:40PM	Coquina Salon G	52	King, D.	24-Jan	11:50AM	Tomoka B	21
Hu, J.	23-Jan	1:30PM	Tomoka C	14	King, D.	24-Jan	8:30AM	Coquina Salon F	15
Hu, X.	27-Jan	11:50AM	Coquina Salon H	57	King, M.K.	26-Jan	11:30AM	Crystal	48
Hu, Y.	23-Jan	2:10PM	Tomoka A	11	Kirihara, S.	23-Jan	6:00PM	Coquina Salon B	15
Huang, X.	26-Jan	10:30AM	Coquina Salon H	50	Kishi, H.	23-Jan	10:40AM	Coquina Salon D	8
Huang, X.	26-Jan	11:10AM	Coquina Salon H	50	Kita, K.	23-Jan	5:00PM	Coquina Salon G	12
Huasmann, B.	24-Jan	3:20PM	Coquina Salon D	23	Kita, K.	24-Jan	9:00AM	Coquina Salon F	15
Hupa, L.	26-Jan	10:30AM	Coquina Salon F	48	Kleebe, H.	25-Jan	2:40PM	Coquina Salon D	39
Hussainova, I.	26-Jan	4:30PM	Coquina Salon B	54	Kleinke, H.	25-Jan	3:50PM	Tomoka A	41
Hwang, C.	25-Jan	9:10AM	Coquina Salon E	34	Klemm, H.	24-Jan	9:40AM	St. John	17
I					Koch, D.	24-Jan	9:00AM	Coquina Salon D	16
Ida, S.	24-Jan	1:30PM	Tomoka C	29	Kocjan, A.	26-Jan	10:50AM	Coquina Salon F	48
Iijima, M.	26-Jan	11:00AM	Coquina Salon A	49	Kojo, E.	24-Jan	9:00AM	Coquina Salon G	19
Im, Y.	26-Jan	2:30PM	Coquina Salon A	53	Kong, F.	24-Jan	1:50PM	Tomoka B	28
Imai, H.	25-Jan	3:20PM	Halifax A/B	38	Kota, S.	23-Jan	4:40PM	Tomoka B	13
Inada, M.	25-Jan	9:00AM	Coquina Salon G	35	Kotani, M.	24-Jan	8:30AM	Coquina Salon D	16
Ishihara, T.	25-Jan	8:30AM	Crystal	33	Koyanagi, T.	27-Jan	11:10AM	Coquina Salon H	57
Iuchi, A.	24-Jan	1:30PM	St. John	24	Koyanagi, T.	27-Jan	9:50AM	Coquina Salon H	57
Iyer, R.	26-Jan	10:50AM	Tomoka A	49	Kozawa, T.	24-Jan	4:50PM	Tomoka A	26
J					Kravchenko, O.	23-Jan	3:40PM	Coquina Salon D	10
Jamil, A.	26-Jan	11:30AM	Coquina Salon A	49	Krenkel, W.	26-Jan	1:30PM	Coquina Salon B	53
Jang, B.	23-Jan	3:10PM	St. John	10	Kriven, W.M.	23-Jan	9:00AM	Coquina Salon D	8
Jang, B.	24-Jan	3:50PM	Coquina Salon C	22	Kriven, W.M.	26-Jan	2:40PM	Coquina Salon E	51
Jang, S.	24-Jan	11:50AM	Coquina Salon A	19	Ku, N.	23-Jan	2:40PM	Tomoka C	14
Jarvis, L.	24-Jan	9:00AM	Ponce DeLeon	20	Kumar, A.	26-Jan	8:30AM	Coquina Salon D	47
Jenkins, M.G.	24-Jan	2:00PM	Coquina Salon D	23	Kumar, N.	27-Jan	11:20AM	Coquina Salon D	55
Jenkins, M.G.	26-Jan	11:30AM	Coquina Salon H	50	Kumar, P.	26-Jan	9:00AM	Coquina Salon D	47
Jenkins, M.G.	26-Jan	8:50AM	Coquina Salon H	50	Kumar, R.	25-Jan	8:50AM	St. John	33
Jeong, S.	24-Jan	4:20PM	Tomoka C	29	Kunka, C.	24-Jan	10:40AM	Coquina Salon E	18
Jiang, S.	24-Jan	2:30PM	Coquina Salon C	22	Kusnezoff, M.	23-Jan	2:30PM	Crystal	10
Jin, L.	24-Jan	2:20PM	Coquina Salon F	22	Kwok, K.	25-Jan	1:50PM	Crystal	40
Jin, L.	25-Jan	4:50PM	Coquina Salon A	41	L				
Jindal, N.	23-Jan	5:00PM	Coquina Salon F	8	Lachal, M.	23-Jan	5:10PM	Tomoka A	12
Jung de Andrade, M.	26-Jan	11:50AM	Coquina Salon A	49	Lale, A.	25-Jan	10:40AM	Coquina Salon G	36
K					Lambrinou, K.	23-Jan	1:30PM	Tomoka B	13
Kabel, J.	26-Jan	3:10PM	Coquina Salon H	54	LaSalvia, J.	23-Jan	3:50PM	Coquina Salon E	11
Kagawa, Y.	24-Jan	4:40PM	Coquina Salon D	24	Laukkanen, A.	25-Jan	2:40PM	Ponce DeLeon	42
Kalivodova, J.	25-Jan	1:50PM	Coquina Salon H	43	Lebedev, O.I.	25-Jan	4:40PM	Tomoka A	41
Kaliyaperumal Veerapandiyan, V.	23-Jan	4:50PM	Tomoka C	14	Lee, H.	26-Jan	9:30AM	Tomoka A	49
Kamat, H.	25-Jan	2:40PM	St. John	39	Lee, J.	25-Jan	4:00PM	Coquina Salon A	41
Kamiya, H.	25-Jan	9:30AM	Coquina Salon A	35	Lee, K.N.	24-Jan	10:20AM	St. John	17
Kamseu, E.	25-Jan	3:20PM	Coquina Salon E	38	Lee, S.	24-Jan	11:20AM	Coquina Salon C	15
Kamseu, E.	25-Jan	5:00PM	Coquina Salon E	38	Lee, S.	24-Jan	4:30PM	Tomoka B	28
Kang, S.L.	23-Jan	2:00PM	Coquina Salon C	8	Lee, S.	25-Jan	2:00PM	Tomoka A	41
Karakoti, A.S.	25-Jan	1:50PM	Coquina Salon F	40	Lee, S.	25-Jan	3:20PM	Coquina Salon C	38
Karandikar, P.	23-Jan	3:20PM	Coquina Salon B	14	Lences, Z.	25-Jan	10:20AM	Coquina Salon C	31
Kartuzov, I.V.	24-Jan	9:30AM	Coquina Salon E	18	Lenk, R.	27-Jan	8:30AM	Coquina Salon B	56
Kartuzov, V.V.	23-Jan	5:30PM	Coquina Salon E	11	Leong, A.F.	24-Jan	3:30PM	Coquina Salon E	25
Kasap, S.	26-Jan	10:30AM	Halifax A/B	47	Lerliche, A.L.	26-Jan	2:30PM	Coquina Salon B	53
Kata, D.	25-Jan	4:20PM	Coquina Salon D	39	Lerondel, G.J.	24-Jan	10:30AM	Halifax A/B	16
Katea, S.N.	24-Jan	11:00AM	Coquina Salon F	16	Lewinsohn, C.	26-Jan	3:50PM	Coquina Salon C	51
Katea, S.N.	26-Jan	4:50PM	Coquina Salon A	53	Li, C.	23-Jan	4:30PM	St. John	10
Katoh, Y.	26-Jan	2:10PM	Coquina Salon H	54	Li, F.	23-Jan	2:00PM	Coquina Salon A	9
Katsiki, A.	27-Jan	10:40AM	Coquina Salon E	55	Li, W.	25-Jan	9:40AM	Coquina Salon D	32
Kauppinen, E.	24-Jan	11:00AM	Coquina Salon A	19	Li, X.	27-Jan	8:50AM	Coquina Salon H	56
Kawaguchi, K.	26-Jan	11:20AM	Ponce DeLeon	50	Li, Y.	24-Jan	8:30AM	Halifax A/B	16
Kawamura, G.	23-Jan	2:00PM	Coquina Salon F	8	Li, Y.	25-Jan	4:40PM	Ponce DeLeon	42
Kawanishi, K.	25-Jan	11:40AM	Coquina Salon D	32	Liang, J.	24-Jan	3:20PM	Coquina Salon B	27
Key, T.	25-Jan	2:00PM	Coquina Salon D	39	Lin, T.	25-Jan	3:40PM	Crystal	40
Key, T.	25-Jan	5:00PM	Coquina Salon D	39	Lis, J.	24-Jan	2:00PM	Coquina Salon B	26
Khalifa, H.	25-Jan	3:10PM	Coquina Salon H	43	Liu, B.	24-Jan	3:50PM	Ponce DeLeon	27
Kim, B.	26-Jan	2:30PM	Coquina Salon C	51	Liu, G.	23-Jan	1:30PM	Coquina Salon F	8
					Liu, H.	25-Jan	11:00AM	Tomoka B	37
					Liu, H.	26-Jan	4:00PM	Coquina Salon H	54

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Liu, J.	24-Jan	5:20PM	Crystal	25	Muskovin, E.	26-Jan	10:20AM	Coquina Salon E	47
Liu, J.	25-Jan	10:20AM	Tomoka A	34	Myers, K.	23-Jan	4:00PM	Coquina Salon B	15
Liu, J.	25-Jan	4:20PM	Coquina Salon B	42					
Liu, X.	24-Jan	3:10PM	Crystal	25			N		
Liu, Y.	27-Jan	9:30AM	Coquina Salon B	56	Naccache, R.	25-Jan	2:30PM	Halifax A/B	38
Lo, J.	23-Jan	4:50PM	Coquina Salon E	11	Nahlík, L.	24-Jan	5:00PM	Coquina Salon D	24
Loganathan, A.	25-Jan	10:40AM	Tomoka B	37	Naito, M.	24-Jan	1:30PM	Coquina Salon C	22
Loganathan, A.	26-Jan	11:00AM	Coquina Salon B	50	Naito, M.	24-Jan	10:20AM	Coquina Salon H	20
Lu, Y.	25-Jan	10:50AM	Tomoka A	34	Nakayama, T.	23-Jan	4:20PM	Coquina Salon B	15
Lube, T.	24-Jan	3:40PM	Coquina Salon D	23	Nakayama, T.	24-Jan	2:30PM	Coquina Salon H	28
Lube, T.	24-Jan	4:20PM	Coquina Salon D	24	Nakayama, T.	24-Jan	9:00AM	Coquina Salon C	15
Luo, J.	26-Jan	9:00AM	Ponce DeLeon	50	Naraparaju, R.	25-Jan	10:10AM	St. John	33
Luo, Y.	25-Jan	4:20PM	Ponce DeLeon	42	Narayan, R.	26-Jan	1:30PM	Coquina Salon A	53
		M			Narayan, R.	26-Jan	9:10AM	Halifax A/B	47
Ma, D.	24-Jan	3:30PM	Coquina Salon A	26	Narisawa, M.	25-Jan	10:50AM	Coquina Salon C	31
Madec, C.	23-Jan	5:20PM	Coquina Salon D	10	Natali Murri, A.	26-Jan	4:20PM	Coquina Salon H	51
Madec, C.	24-Jan	2:30PM	Tomoka B	28	Navarro Pardo, F.	25-Jan	5:10PM	Coquina Salon A	41
Magnuson, M.	25-Jan	9:00AM	Ponce DeLeon	36	Nechache, R.	25-Jan	10:40AM	Halifax A/B	32
Makurunjé, P.S.	24-Jan	10:50AM	Tomoka B	21	Nelson, J.	23-Jan	4:20PM	Tomoka B	13
Malavasi, L.	24-Jan	5:20PM	Coquina Salon A	26	Ng, C.	25-Jan	10:50AM	Crystal	33
Manek-Hönniger, I.	25-Jan	2:00PM	Tomoka C	44	Nguyen, S.T.	24-Jan	5:00PM	Coquina Salon H	28
Manero, A.	23-Jan	2:40PM	Coquina Salon D	9	Nicholas, J.	24-Jan	2:30PM	Crystal	24
Mansour, R.	23-Jan	1:30PM	Coquina Salon D	9	Nieto, A.	26-Jan	9:40AM	Coquina Salon D	47
Marcano, D.A.	25-Jan	4:00PM	St. John	39	Nieto, A.	27-Jan	8:30AM	Coquina Salon D	55
Marchetti, M.	26-Jan	5:20PM	Coquina Salon H	54	Nili, B.	26-Jan	10:20AM	Coquina Salon B	50
Maric, R.	27-Jan	10:40AM	Coquina Salon G	56			O		
Markovich, S.	23-Jan	1:30PM	Crystal	10	O'Dell, J.S.	25-Jan	9:30AM	Coquina Salon H	37
Martinez Hardigree, J.F.	23-Jan	3:20PM	Halifax A/B	9	Ogasawara, K.	25-Jan	10:40AM	Ponce DeLeon	36
Marvel, C.J.	24-Jan	11:00AM	Coquina Salon E	18	Ohji, T.	23-Jan	1:30PM	Coquina Salon B	14
Mascher, P.	25-Jan	9:20AM	Halifax A/B	32	Okada, G.	24-Jan	11:20AM	Tomoka C	21
Matsugami, A.	26-Jan	10:20AM	Coquina Salon D	47	Okuno, T.	24-Jan	10:40AM	Coquina Salon F	16
Matsunaga, K.	24-Jan	10:50AM	Ponce DeLeon	20	Okuno, T.	25-Jan	9:30AM	Coquina Salon G	36
Matsuzaki, Y.	27-Jan	8:30AM	Coquina Salon G	55	Ong, S.	24-Jan	1:30PM	Tomoka A	25
Matulova, L.M.	26-Jan	9:30AM	Coquina Salon E	46	Opila, E.	25-Jan	8:30AM	Tomoka B	36
McCloy, J.	24-Jan	8:30AM	Tomoka C	21	Orikasa, Y.	24-Jan	9:30AM	Tomoka A	18
McDonald, J.	23-Jan	4:30PM	Coquina Salon E	11	Ortona, A.	23-Jan	1:30PM	Coquina Salon G	12
McIntosh, S.	24-Jan	2:00PM	Crystal	24	Ortona, A.	25-Jan	3:40PM	Coquina Salon B	42
McKittrick, J.	25-Jan	8:30AM	Tomoka C	37	Osaka, A.	25-Jan	2:30PM	Coquina Salon F	40
McVay, D.	24-Jan	9:00AM	Crystal	17	Owoeye, S.S.	26-Jan	9:20AM	Coquina Salon D	47
Mechnich, P.	24-Jan	2:30PM	St. John	24	Ozaki, T.	27-Jan	11:10AM	Coquina Salon B	56
Medvedovski, E.	25-Jan	3:20PM	St. John	39	Ozkan, C.S.	26-Jan	11:30AM	Halifax A/B	47
Mehr, M.	24-Jan	11:40AM	Coquina Salon G	19			P		
Mehr, M.	26-Jan	3:20PM	Coquina Salon D	52	Pan, W.	24-Jan	3:20PM	Coquina Salon C	22
Mehta, B.R.	24-Jan	4:20PM	Halifax A/B	23	Park, H.	24-Jan	11:50AM	Coquina Salon H	20
Meynen, V.	24-Jan	2:00PM	Coquina Salon A	26	Pasala, S.	23-Jan	5:30PM	Tomoka C	14
Mhin, S.	23-Jan	4:40PM	Coquina Salon H	13	Pascucci, M.R.	25-Jan	10:40AM	Tomoka C	37
Michaelis, A.	24-Jan	8:30AM	Coquina Salon B	22	Peng, Z.	25-Jan	11:20AM	Tomoka A	34
Miele, P.	24-Jan	3:00PM	Coquina Salon A	26	Perriot, R.	26-Jan	10:20AM	Ponce DeLeon	50
Miranda, P.	24-Jan	8:30AM	Crystal	17	Pesaran, A.	27-Jan	11:10AM	Coquina Salon G	56
Misture, S.	24-Jan	10:20AM	Tomoka A	18	Petrie, C.	27-Jan	9:30AM	Coquina Salon H	57
Misture, S.	25-Jan	11:30AM	Crystal	33	Peys, A.	26-Jan	2:00PM	Coquina Salon E	51
Mitic, V.	26-Jan	4:50PM	Coquina Salon B	54	Plain, J.	25-Jan	11:10AM	Halifax A/B	32
Mitlin, D.	23-Jan	1:30PM	Coquina Salon A	9	Plucknett, K.P.	25-Jan	11:40AM	Coquina Salon B	35
Mo, Y.	23-Jan	5:00PM	Ponce DeLeon	12	Plucknett, K.P.	26-Jan	11:40AM	Coquina Salon D	47
Molin, S.	25-Jan	3:40PM	St. John	39	Poerschke, D.L.	25-Jan	2:00PM	Ponce DeLeon	42
Molin, S.	26-Jan	9:20AM	Crystal	48	Post, E.	24-Jan	2:00PM	Coquina Salon H	28
Mondal, P.	25-Jan	4:00PM	Coquina Salon E	38	Post, E.	24-Jan	5:20PM	Coquina Salon H	28
Montes, C.	27-Jan	11:00AM	Coquina Salon E	55	Pralong, V.	23-Jan	2:40PM	Tomoka A	11
Monteverde, F.	24-Jan	2:10PM	Tomoka B	28	Presby, M.J.	24-Jan	11:00AM	Coquina Salon D	17
Monteverde, F.	24-Jan	9:00AM	Tomoka B	21	Przybyla, C.P.	24-Jan	8:30AM	Ponce DeLeon	20
Moorehead, C.	24-Jan	11:20AM	Coquina Salon E	18	Pype, J.	24-Jan	11:40AM	Coquina Salon F	16
Morita, K.	25-Jan	11:50AM	Coquina Salon E	34			Q		
Motoki, K.	24-Jan	4:40PM	Coquina Salon H	28	Qi, H.	25-Jan	9:20AM	Crystal	33
Mound, B.A.	27-Jan	9:00AM	Coquina Salon D	55	Quinn, G.D.	24-Jan	2:20PM	Coquina Salon D	23
Muccillo, R.	23-Jan	2:40PM	Coquina Salon G	12			R		
Mudring, A.V.	25-Jan	2:00PM	Coquina Salon A	41	Rahaman, M.N.	26-Jan	2:40PM	Coquina Salon F	53
Mukherjee, P.	26-Jan	9:30AM	Coquina Salon A	49	Rahaman, M.N.	27-Jan	8:30AM	Coquina Salon F	56
Murayama, T.	24-Jan	4:20PM	Coquina Salon H	28	Rahaman, M.N.	27-Jan	9:20AM	Coquina Salon F	56
Muroyama, S.	24-Jan	11:30AM	Coquina Salon H	20					
Murugappan, A.	24-Jan	10:20AM	Coquina Salon F	16					
Musil, J.	24-Jan	9:30AM	Coquina Salon H	20					

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Railsback, J.	26-Jan	3:40PM	Coquina Salon G	52	Silva, F.d.	27-Jan	9:00AM	Coquina Salon E	54
Ramirez Velasco, J.H.	24-Jan	4:10PM	St. John	24	Simon, C.	24-Jan	10:20AM	Coquina Salon D	16
Ramirez, G.	24-Jan	9:00AM	Coquina Salon H	20	Singh, A.K.	25-Jan	10:20AM	Coquina Salon D	32
Ramirez, M.C.	27-Jan	10:40AM	Coquina Salon D	55	Singh, G.	26-Jan	10:50AM	Coquina Salon H	50
Reece, M.J.	25-Jan	1:30PM	Coquina Salon B	42	Singh, G.	26-Jan	2:30PM	Coquina Salon H	54
Reyes, L.	24-Jan	4:00PM	Coquina Salon D	23	Singh, M.	23-Jan	1:30PM	Coquina Salon C	8
Riman, R.	24-Jan	1:30PM	Coquina Salon B	26	Singh, Y.P.	23-Jan	3:20PM	Coquina Salon D	9
Rivera, K.	25-Jan	2:20PM	St. John	39	Singhal, A.	24-Jan	11:20AM	Coquina Salon D	17
Rogers, D.	24-Jan	2:30PM	Tomoka C	29	Smeacetto, F.	26-Jan	10:10AM	Crystal	48
Rojac, T.	23-Jan	3:50PM	Coquina Salon H	13	Smith, G.	23-Jan	1:30PM	St. John	10
Rosei, F.	25-Jan	1:30PM	Coquina Salon F	40	Sodeyama, K.	24-Jan	2:00PM	Tomoka A	25
Rosei, F.	25-Jan	10:30AM	Coquina Salon A	35	Solarska, R.	24-Jan	4:00PM	Coquina Salon A	26
Ross, A.W.	26-Jan	10:40AM	Coquina Salon D	47	Son, W.	23-Jan	3:50PM	Tomoka B	13
Rousseau, B.	24-Jan	9:20AM	Coquina Salon G	19	Song, I.	26-Jan	9:30AM	Coquina Salon C	46
Rubat du Merac, M.	25-Jan	11:40AM	Tomoka C	37	Song, W.	25-Jan	10:30AM	St. John	33
Rueschhoff, L.	24-Jan	9:20AM	Coquina Salon F	15	Sparks, T.D.	26-Jan	10:20AM	Tomoka A	49
Rueschhoff, L.	25-Jan	9:40AM	Coquina Salon B	35	Sprouster, D.	27-Jan	10:50AM	Coquina Salon H	57
Ruggles-Wrenn, M.	24-Jan	11:10AM	Tomoka B	21	Sridhar, A.P.	23-Jan	4:00PM	Coquina Salon F	8
Ruggles-Wrenn, M.	25-Jan	8:30AM	Coquina Salon D	32	Srivastava, V.K.	25-Jan	9:40AM	Crystal	33
Rulis, P.	25-Jan	8:30AM	Ponce DeLeon	50	Stegnerova, K.	25-Jan	10:40AM	Coquina Salon D	32
Rüscher, C.	26-Jan	11:00AM	Coquina Salon E	47	Stelter, M.	24-Jan	11:40AM	Tomoka A	18
S					Stevenson, A.J.	26-Jan	1:30PM	Coquina Salon E	51
Sa Ribeiro, R.A.	26-Jan	2:20PM	Coquina Salon E	51	Stiglich, J.	23-Jan	5:10PM	Coquina Salon E	11
Sabarou, H.	24-Jan	10:50AM	Crystal	18	Stiglich, J.	24-Jan	11:30AM	St. John	17
Sabato, A.	26-Jan	9:00AM	Crystal	48	Stiglich, J.	24-Jan	4:40PM	Coquina Salon G	27
Saeki, T.	27-Jan	10:50AM	Coquina Salon B	56	Stiglich, J.	25-Jan	3:50PM	Coquina Salon F	40
Sajgalik, P.	23-Jan	3:20PM	Coquina Salon C	8	Strassburger, E.	23-Jan	2:00PM	Coquina Salon E	11
Sajgalik, P.	23-Jan	9:40AM	Coquina Salon D	8	Strom, E.O.	25-Jan	4:40PM	Coquina Salon D	39
Sakidja, R.	26-Jan	10:50AM	Ponce DeLeon	50	Strong, K.T.	26-Jan	5:10PM	Coquina Salon D	52
Salem, J.	24-Jan	1:30PM	Coquina Salon D	23	Stynoski, P.	26-Jan	9:00AM	Coquina Salon E	46
Sankar, K.	26-Jan	3:40PM	Coquina Salon E	51	Subhash, G.	24-Jan	4:00PM	Coquina Salon E	25
Sankar, K.	27-Jan	9:30AM	Coquina Salon E	55	Subramaniam, C.	24-Jan	10:50AM	Tomoka A	18
Sanson, A.	27-Jan	10:20AM	Coquina Salon G	55	Suematsu, H.	24-Jan	10:50AM	Coquina Salon H	20
Santarelli, M.	23-Jan	4:40PM	Crystal	11	Suematsu, H.	25-Jan	1:30PM	Coquina Salon C	38
Santato, C.	24-Jan	3:20PM	Halifax A/B	23	Sugiyama, H.	24-Jan	11:10AM	Coquina Salon H	20
Sarikaya, A.	23-Jan	3:50PM	Crystal	11	Summers, W.D.	25-Jan	11:30AM	St. John	33
Sarkkinen, M.	27-Jan	10:20AM	Coquina Salon E	55	Sun, C.	24-Jan	9:30AM	Coquina Salon A	19
Sarobol, P.	25-Jan	4:20PM	St. John	39	Sun, J.	23-Jan	4:50PM	St. John	10
Sato, H.	24-Jan	3:50PM	Coquina Salon H	28	Sun, S.	25-Jan	11:10AM	Crystal	33
Sayyadishahraki, A.	25-Jan	4:00PM	Coquina Salon D	39	Sun, S.	27-Jan	10:00AM	Coquina Salon G	55
Schilm, J.C.	25-Jan	9:20AM	Coquina Salon B	35	Sun, X.J.	23-Jan	2:00PM	Halifax A/B	9
Schmidt, J.E.	23-Jan	4:40PM	Coquina Salon B	15	Sun, Y.	26-Jan	11:10AM	Tomoka A	49
Schmitt, M.P.	23-Jan	1:50PM	St. John	10	Sun, Z.	25-Jan	8:30AM	Coquina Salon C	31
Schneider, J.M.	24-Jan	8:30AM	Coquina Salon H	20	Suyama, S.	25-Jan	2:10PM	Coquina Salon H	43
Schneider, J.M.	25-Jan	9:20AM	Tomoka B	36	Suzuki, S.	24-Jan	3:40PM	Coquina Salon B	27
Schwentenwein, M.	23-Jan	2:00PM	Coquina Salon B	14	Suzuki, T.S.	23-Jan	4:20PM	Coquina Salon C	8
Schwentenwein, M.	23-Jan	5:40PM	Coquina Salon B	15	Suzuki, T.S.	24-Jan	4:00PM	Coquina Salon B	27
Schwingenschlogl, U.	23-Jan	1:30PM	Ponce DeLeon	12	Swab, J.	24-Jan	2:10PM	Coquina Salon E	25
Seifert, H.J.	25-Jan	1:30PM	Ponce DeLeon	42	Szlufarska, I.	27-Jan	10:30AM	Coquina Salon H	57
Seifert, H.J.	25-Jan	9:00AM	Tomoka A	34	T				
Sekino, T.	26-Jan	1:30PM	Coquina Salon C	51	Tabacchi, G.	24-Jan	12:10PM	Coquina Salon A	19
Semenic, T.	26-Jan	4:30PM	Coquina Salon D	52	Tafu, M.	26-Jan	1:50PM	Coquina Salon F	52
Seo, D.	25-Jan	2:30PM	Coquina Salon E	38	Taheri, M.	23-Jan	4:40PM	Coquina Salon F	8
Serizawa, H.	25-Jan	11:20AM	Coquina Salon B	35	Tahini, H.	25-Jan	11:10AM	Ponce DeLeon	36
Sesso, M.L.	26-Jan	4:10PM	Coquina Salon D	52	Tallon, C.	24-Jan	3:50PM	Coquina Salon G	27
Seuba, J.	25-Jan	1:30PM	Coquina Salon D	39	Tamimi, F.	27-Jan	8:50AM	Coquina Salon F	56
Shafiee, S.	24-Jan	9:40AM	Coquina Salon B	22	Tanaka, H.	24-Jan	2:00PM	Coquina Salon C	22
Shanmugavel, B.	26-Jan	2:40PM	Coquina Salon D	52	Tanaka, S.	25-Jan	10:40AM	Coquina Salon B	35
Shao, G.	25-Jan	11:00AM	Coquina Salon G	36	Tanaka, S.	25-Jan	4:20PM	Coquina Salon C	38
Shi, D.	25-Jan	2:10PM	Coquina Salon F	40	Tandon, R.	24-Jan	12:10PM	Coquina Salon D	17
Shi, S.	26-Jan	1:30PM	Coquina Salon D	51	Tao, Q.	23-Jan	3:40PM	Coquina Salon A	9
Shih, C.P.	26-Jan	9:30AM	Coquina Salon H	50	Tatami, J.	23-Jan	1:30PM	Coquina Salon H	13
Shima, K.	24-Jan	4:00PM	Coquina Salon F	23	Tatami, J.	23-Jan	3:20PM	Coquina Salon G	12
Shimada, H.	25-Jan	3:10PM	Crystal	40	Tatami, J.	24-Jan	10:20AM	Coquina Salon C	15
Shimamura, K.	25-Jan	3:50PM	Tomoka C	44	Tatami, J.	27-Jan	9:40AM	Coquina Salon D	55
Shimoda, K.	27-Jan	9:50AM	Coquina Salon B	56	Tchakouté Kouamo, H.	25-Jan	3:40PM	Coquina Salon E	38
Shinoda, K.	27-Jan	10:30AM	Coquina Salon B	56	Terrani, K.	25-Jan	8:30AM	Coquina Salon H	37
Shishido, K.	25-Jan	2:30PM	Crystal	40	Thomas, T.	25-Jan	1:30PM	Crystal	40
Shokuhfar, T.	26-Jan	2:10PM	Coquina Salon F	53	Tidrow, S.C.	23-Jan	4:10PM	Ponce DeLeon	12
Shugart, K.	25-Jan	10:20AM	Coquina Salon F	32	Toda, K.	25-Jan	4:20PM	Tomoka C	44
Siaj, M.	24-Jan	9:10AM	Halifax A/B	16	Toda, K.	25-Jan	9:00AM	Tomoka C	37

Presenting Author List

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Tohe, T.	26-Jan	10:30AM	Coquina Salon A	49	Wu, Y.	25-Jan	11:10AM	Tomoka C	37
Tonks, M.R.	24-Jan	2:30PM	Ponce DeLeon	27	Wu, Y.	26-Jan	2:00PM	Coquina Salon C	51
Toprak, M.S.	24-Jan	8:50AM	Halifax A/B	16	Wu, Y.	27-Jan	9:00AM	Coquina Salon B	56
Toprak, M.S.	25-Jan	4:20PM	Halifax A/B	39					
Torriss, B.	26-Jan	9:00AM	Coquina Salon A	49			X		
Traversa, E.	24-Jan	1:30PM	Halifax A/B	23	Xi, J.	24-Jan	11:20AM	Ponce DeLeon	20
Traversa, E.	24-Jan	4:10PM	Crystal	25	Xiang, H.	24-Jan	11:40AM	Ponce DeLeon	20
Traversa, E.	25-Jan	9:00AM	Coquina Salon C	31	Xu, H.	25-Jan	9:30AM	Ponce DeLeon	36
Trimis, D.	24-Jan	3:20PM	Coquina Salon G	27	Xu, P.	27-Jan	8:30AM	Coquina Salon H	56
Tsai, C.	23-Jan	4:20PM	Tomoka A	12			Y		
Turcer, L.R.	24-Jan	4:30PM	St. John	24					
		U			Yamada, Y.	24-Jan	2:30PM	Tomoka A	26
Ubaidullah, M.	26-Jan	4:10PM	Coquina Salon A	53	Yamaguchi, Y.	27-Jan	9:20AM	Coquina Salon G	55
Uchikoshi, T.	26-Jan	4:10PM	Coquina Salon B	54	Yanagawa, S.	26-Jan	2:20PM	Coquina Salon D	52
Ueda, J.	24-Jan	2:00PM	Tomoka C	29	Yanagida, T.	24-Jan	9:30AM	Tomoka C	21
Utlak, S.A.	26-Jan	5:00PM	Coquina Salon H	54	Yang, F.	27-Jan	11:30AM	Coquina Salon G	56
		V			Yang, J.	23-Jan	2:30PM	Ponce DeLeon	12
Van Deventer, J.S.	27-Jan	8:30AM	Coquina Salon E	54	Yang, J.	24-Jan	2:10PM	Coquina Salon G	27
Varghese, O.K.	23-Jan	1:30PM	Halifax A/B	9	Yang, J.	25-Jan	9:00AM	Coquina Salon B	35
Veenhuizen, K.	23-Jan	2:00PM	Tomoka C	14	Yang, J.	26-Jan	10:20AM	Coquina Salon C	46
Vetrone, F.	25-Jan	3:50PM	Halifax A/B	38	Yang, K.	25-Jan	11:00AM	Coquina Salon D	32
Vetrone, F.	26-Jan	9:30AM	Coquina Salon F	48	Yang, Y.	25-Jan	3:30PM	Coquina Salon A	41
Vielma, J.M.	26-Jan	4:30PM	Coquina Salon G	52	Yashiro, K.	24-Jan	3:40PM	Crystal	25
Vignoles, G.L.	25-Jan	3:50PM	Ponce DeLeon	42	Yasuda, K.	24-Jan	1:30PM	Coquina Salon H	28
Villas-Boas, L.A.	27-Jan	9:00AM	Coquina Salon G	55	Yasuda, K.	24-Jan	10:40AM	Coquina Salon G	19
Virkar, A.V.	26-Jan	1:30PM	Coquina Salon G	52	Yasuda, K.	26-Jan	4:20PM	Coquina Salon C	51
Vomiero, A.	25-Jan	3:30PM	Coquina Salon F	40	Ye, Z.	23-Jan	3:30PM	Tomoka C	14
Vomiero, A.	25-Jan	9:00AM	Coquina Salon A	35	Yin, L.	25-Jan	11:50AM	Tomoka A	34
		W			Yin, X.	24-Jan	11:10AM	Crystal	18
Wachsman, E.	24-Jan	1:30PM	Crystal	24	Yin, X.	26-Jan	2:50PM	Coquina Salon B	53
Wada, H.	25-Jan	2:30PM	Tomoka C	44	Yokoi, T.	24-Jan	1:50PM	St. John	24
Walck, S.D.	24-Jan	2:30PM	Coquina Salon E	25	Yokoi, T.	25-Jan	4:10PM	Coquina Salon F	40
Walker, L.S.	25-Jan	2:20PM	Coquina Salon B	42	Yokokawa, H.	23-Jan	2:00PM	Crystal	10
Walker, L.S.	25-Jan	4:00PM	Coquina Salon B	42	Yokota, T.	24-Jan	4:40PM	Coquina Salon F	23
Walock, M.J.	24-Jan	3:10PM	St. John	24	Yoon, D.	25-Jan	3:50PM	Coquina Salon C	38
Wan, P.	24-Jan	4:20PM	Coquina Salon G	27	Yoshimura, H.N.	26-Jan	10:10AM	Coquina Salon F	48
Wang, C.	25-Jan	1:30PM	Tomoka A	41	Yoshimura, M.	25-Jan	1:30PM	Coquina Salon A	41
Wang, D.	23-Jan	2:30PM	Coquina Salon A	9	Yoshiya, M.	23-Jan	3:20PM	Ponce DeLeon	12
Wang, H.	25-Jan	10:20AM	Ponce DeLeon	36	Yoshiya, M.	26-Jan	8:30AM	Tomoka A	48
Wang, J.	23-Jan	3:50PM	Coquina Salon C	8	Yu, W.	23-Jan	2:20PM	Coquina Salon B	14
Wang, J.	24-Jan	8:30AM	Coquina Salon G	19			Z		
Wang, R.	26-Jan	2:20PM	Coquina Salon G	52	Zapata-Solvas, E.	25-Jan	10:20AM	Tomoka B	37
Wang, W.	25-Jan	3:20PM	Coquina Salon D	39	Zapata-Solvas, E.	25-Jan	2:10PM	Tomoka B	43
Wang, Y.	24-Jan	10:50AM	Tomoka C	21	Zapien, J.A.	25-Jan	10:10AM	Halifax A/B	32
Wang, Y.	24-Jan	2:40PM	Coquina Salon B	26	Zekri, A.	26-Jan	3:20PM	Coquina Salon G	52
Wang, Y.	24-Jan	8:30AM	St. John	17	Zeman, P.	24-Jan	3:20PM	Coquina Salon H	28
Watanabe, M.	25-Jan	4:40PM	Tomoka C	44	Zera, E.	25-Jan	11:20AM	Coquina Salon G	36
Watanabe, M.	25-Jan	9:30AM	Tomoka C	37	Zhang, D.	26-Jan	3:30PM	Coquina Salon B	53
Weber, A.	26-Jan	4:00PM	Coquina Salon G	52	Zhang, G.	25-Jan	2:30PM	Coquina Salon C	38
Weber, F.E.	26-Jan	3:50PM	Coquina Salon F	53	Zhang, J.	25-Jan	10:10AM	Coquina Salon H	37
Weber, W.J.	24-Jan	1:30PM	Ponce DeLeon	27	Zhang, M.	26-Jan	8:50AM	Halifax A/B	47
Webster, R.	25-Jan	11:10AM	St. John	33	Zhang, N.	24-Jan	5:40PM	Crystal	25
Webster, T.J.	23-Jan	11:20AM	Coquina Salon D	8	Zhang, P.	24-Jan	3:30PM	Tomoka B	28
Weiss, C.M.	25-Jan	8:30AM	Coquina Salon E	33	Zhang, X.	24-Jan	1:30PM	Coquina Salon F	22
Wereszczak, A.	24-Jan	11:20AM	Coquina Salon G	19	Zhang, Y.	24-Jan	3:20PM	Ponce DeLeon	27
Westin, G.	23-Jan	2:30PM	Halifax A/B	9	Zhang, Y.	26-Jan	11:00AM	Coquina Salon D	47
Westin, G.	26-Jan	10:00AM	Coquina Salon A	49	Zhao, G.	25-Jan	2:30PM	Tomoka B	43
Wickleder, C.	25-Jan	3:20PM	Tomoka C	44	Zhao, H.	24-Jan	4:30PM	Coquina Salon A	26
Wiesner, V.L.	25-Jan	9:10AM	St. John	33	Zhao, H.	25-Jan	2:00PM	Halifax A/B	38
Wittmaier, C.	24-Jan	9:40AM	Tomoka B	21	Zheng, W.	25-Jan	11:20AM	Tomoka B	37
Wnuk, V.	25-Jan	2:00PM	St. John	39	Zheng, Y.	26-Jan	2:00PM	Coquina Salon D	51
Wolfe, D.E.	23-Jan	2:30PM	St. John	10	Zhou, J.	24-Jan	11:10AM	St. John	17
Woydt, M.	23-Jan	4:00PM	Coquina Salon D	10	Zhou, Y.	24-Jan	10:50AM	Coquina Salon C	15
Wu, J.	24-Jan	5:00PM	Coquina Salon A	26	Zhou, Y.	24-Jan	4:50PM	Tomoka C	29
Wu, T.	24-Jan	2:30PM	Coquina Salon A	26	Zhu, D.	24-Jan	11:50AM	St. John	17
					Zhuravleva, M.	24-Jan	9:00AM	Tomoka C	21
					Zou, Y.	24-Jan	9:40AM	Coquina Salon G	19

Poster Presenters

Name	Date	Time	Room	Page Number	Name	Date	Time	Room	Page Number
Adabifiroozjaei, E.	24-Jan	5:00PM	Ocean Center Arena	30	Larson, R.	24-Jan	5:00PM	Ocean Center Arena	31
Akram, M.	25-Jan	5:00PM	Ocean Center Arena	44	Lee, D.	24-Jan	5:00PM	Ocean Center Arena	29
Anderson, R.	25-Jan	5:00PM	Ocean Center Arena	44	Levy, A.	24-Jan	5:00PM	Ocean Center Arena	30
Apak, B.	24-Jan	5:00PM	Ocean Center Arena	29	Li, L.	25-Jan	5:00PM	Ocean Center Arena	46
Asghari, M.	25-Jan	5:00PM	Ocean Center Arena	45	Lin, C.	24-Jan	5:00PM	Ocean Center Arena	30
Ashikaga, T.	24-Jan	5:00PM	Ocean Center Arena	30	Lin, T.	25-Jan	5:00PM	Ocean Center Arena	45
Banda, M.	24-Jan	5:00PM	Ocean Center Arena	30	Ly, X.	25-Jan	5:00PM	Ocean Center Arena	44
Bangash, M.	25-Jan	5:00PM	Ocean Center Arena	44	Mann, J.K.	25-Jan	5:00PM	Ocean Center Arena	44
Ben Ayoun, D.	25-Jan	5:00PM	Ocean Center Arena	46	Masini, A.	25-Jan	5:00PM	Ocean Center Arena	45
Berutti, F.A.	24-Jan	5:00PM	Ocean Center Arena	29	Mehmandoustesfahani, E.	24-Jan	5:00PM	Ocean Center Arena	30
Biesuz, S.	25-Jan	5:00PM	Ocean Center Arena	45	Miagava, J.	24-Jan	5:00PM	Ocean Center Arena	30
Boulfrad, S.	25-Jan	5:00PM	Ocean Center Arena	46	Mitic, V.	24-Jan	5:00PM	Ocean Center Arena	30
Bucko, M.M.	24-Jan	5:00PM	Ocean Center Arena	30	Molin, S.	25-Jan	5:00PM	Ocean Center Arena	45
Chen, J.	24-Jan	5:00PM	Ocean Center Arena	29	Moorehead, C.	24-Jan	5:00PM	Ocean Center Arena	29
Chen, S.	24-Jan	5:00PM	Ocean Center Arena	29	Muccillo, E.N.	25-Jan	5:00PM	Ocean Center Arena	46
Chern Lin, J.	24-Jan	5:00PM	Ocean Center Arena	30	Nakamura, M.	24-Jan	5:00PM	Ocean Center Arena	30
Chou, T.	24-Jan	5:00PM	Ocean Center Arena	31	Nam, C.	24-Jan	5:00PM	Ocean Center Arena	30
Chuang, K.	24-Jan	5:00PM	Ocean Center Arena	30	Naoe, K.	24-Jan	5:00PM	Ocean Center Arena	29
Cruz, P.	24-Jan	5:00PM	Ocean Center Arena	29	Niuchi, T.	25-Jan	5:00PM	Ocean Center Arena	45
Cui, F.	24-Jan	5:00PM	Ocean Center Arena	29	Nozawa, T.	25-Jan	5:00PM	Ocean Center Arena	46
Danewalia, S.S.	24-Jan	5:00PM	Ocean Center Arena	31	Oh, H.	24-Jan	5:00PM	Ocean Center Arena	31
DeLucca, V.	24-Jan	5:00PM	Ocean Center Arena	29	Oh, S.	25-Jan	5:00PM	Ocean Center Arena	46
DeVries, M.	24-Jan	5:00PM	Ocean Center Arena	29	Ojard, G.	25-Jan	5:00PM	Ocean Center Arena	45
Estili, M.	25-Jan	5:00PM	Ocean Center Arena	45	Okada, G.	24-Jan	5:00PM	Ocean Center Arena	31
Fellah, M.	25-Jan	5:00PM	Ocean Center Arena	45	Ornek, M.	24-Jan	5:00PM	Ocean Center Arena	29
Fu, Z.	25-Jan	5:00PM	Ocean Center Arena	45	Packard, C.	25-Jan	5:00PM	Ocean Center Arena	45
Galic, S.	24-Jan	5:00PM	Ocean Center Arena	30	Park, E.	24-Jan	5:00PM	Ocean Center Arena	29
Gangwar, A.	24-Jan	5:00PM	Ocean Center Arena	30	Park, H.	24-Jan	5:00PM	Ocean Center Arena	30
Gianchandani, P.	25-Jan	5:00PM	Ocean Center Arena	44	Partyka, J.	25-Jan	5:00PM	Ocean Center Arena	45
Goldbach, C.M.	25-Jan	5:00PM	Ocean Center Arena	46	Paskaramoorthy, R.	25-Jan	5:00PM	Ocean Center Arena	45
Goulart, C.A.	25-Jan	5:00PM	Ocean Center Arena	45	Petrov, A.	24-Jan	5:00PM	Ocean Center Arena	30
Hashimoto, N.	25-Jan	5:00PM	Ocean Center Arena	46	Peys, A.	25-Jan	5:00PM	Ocean Center Arena	44
Herrera, G.M.	24-Jan	5:00PM	Ocean Center Arena	30	Ramírez, M.C.	25-Jan	5:00PM	Ocean Center Arena	46
Hiranaka, A.	24-Jan	5:00PM	Ocean Center Arena	30	Ratzker, B.	25-Jan	5:00PM	Ocean Center Arena	45
Hosseini, H.	25-Jan	5:00PM	Ocean Center Arena	44	Rodriguez, W.A.	25-Jan	5:00PM	Ocean Center Arena	45
Hsieh, Y.	25-Jan	5:00PM	Ocean Center Arena	44	Sa Ribeiro, R.A.	25-Jan	5:00PM	Ocean Center Arena	44
Hussainova, I.	24-Jan	5:00PM	Ocean Center Arena	30	Sabarou, H.	24-Jan	5:00PM	Ocean Center Arena	31
Igarashi, T.	24-Jan	5:00PM	Ocean Center Arena	30	Sado, M.	24-Jan	5:00PM	Ocean Center Arena	30
Izci, E.	25-Jan	5:00PM	Ocean Center Arena	46	Sakaguchi, M.	25-Jan	5:00PM	Ocean Center Arena	46
Javed, H.	25-Jan	5:00PM	Ocean Center Arena	45	Schmidt, T.	24-Jan	5:00PM	Ocean Center Arena	30
Ju, C.	24-Jan	5:00PM	Ocean Center Arena	30	Shafiee, S.	24-Jan	5:00PM	Ocean Center Arena	29
Kagawa, Y.	25-Jan	5:00PM	Ocean Center Arena	45	Shahbazian-Yassar, R.	25-Jan	5:00PM	Ocean Center Arena	46
Kajihara, K.	25-Jan	5:00PM	Ocean Center Arena	45	Shimada, H.	25-Jan	5:00PM	Ocean Center Arena	45
Kang, H.	24-Jan	5:00PM	Ocean Center Arena	30	Shugart, K.	24-Jan	5:00PM	Ocean Center Arena	31
Kannan, M.	25-Jan	5:00PM	Ocean Center Arena	45	Singh, S.	25-Jan	5:00PM	Ocean Center Arena	45
Kara, F.	25-Jan	5:00PM	Ocean Center Arena	44	Soltani, I.S.	24-Jan	5:00PM	Ocean Center Arena	29
Kara, I.	25-Jan	5:00PM	Ocean Center Arena	44	Strom, E.O.	24-Jan	5:00PM	Ocean Center Arena	31
Kartuzov, I.V.	24-Jan	5:00PM	Ocean Center Arena	29	Subhash, S.	25-Jan	5:00PM	Ocean Center Arena	45
Kasper, M.	24-Jan	5:00PM	Ocean Center Arena	31	Suzuki, S.	25-Jan	5:00PM	Ocean Center Arena	46
Katsiki, A.	25-Jan	5:00PM	Ocean Center Arena	44	Takahashi, N.	25-Jan	5:00PM	Ocean Center Arena	45
Keane, P.F.	25-Jan	5:00PM	Ocean Center Arena	44	Tanisan, E.I.	24-Jan	5:00PM	Ocean Center Arena	31
Khajavi, P.	25-Jan	5:00PM	Ocean Center Arena	45	Teocoli, F.	25-Jan	5:00PM	Ocean Center Arena	45
Kim, H.	24-Jan	5:00PM	Ocean Center Arena	30	Tian, Y.	24-Jan	5:00PM	Ocean Center Arena	31
Kim, S.	25-Jan	5:00PM	Ocean Center Arena	45	Tu, C.	24-Jan	5:00PM	Ocean Center Arena	29
Kim, Y.	24-Jan	5:00PM	Ocean Center Arena	30	Ueda, J.	24-Jan	5:00PM	Ocean Center Arena	31
Kireeva, N.	24-Jan	5:00PM	Ocean Center Arena	30	Van Bael, M.	24-Jan	5:00PM	Ocean Center Arena	30
Kobayashi, S.	25-Jan	5:00PM	Ocean Center Arena	44	Van der Biest, O.	24-Jan	5:00PM	Ocean Center Arena	30
Kocjan, A.	25-Jan	5:00PM	Ocean Center Arena	45	Wang, J.	24-Jan	5:00PM	Ocean Center Arena	31
Kokubun, I.	24-Jan	5:00PM	Ocean Center Arena	31	Wei, X.	25-Jan	5:00PM	Ocean Center Arena	45
Kopp, D.	24-Jan	5:00PM	Ocean Center Arena	29	Wu, W.	25-Jan	5:00PM	Ocean Center Arena	45
Koroglu, L.	25-Jan	5:00PM	Ocean Center Arena	46	Yang, Q.	25-Jan	5:00PM	Ocean Center Arena	45
Kovalcikova, A.	25-Jan	5:00PM	Ocean Center Arena	45	Yonezawa, T.	24-Jan	5:00PM	Ocean Center Arena	30
Krüger, S.	24-Jan	5:00PM	Ocean Center Arena	31	Yu, C.	25-Jan	5:00PM	Ocean Center Arena	44
Ku, N.	24-Jan	5:00PM	Ocean Center Arena	31	Yu, M.	25-Jan	5:00PM	Ocean Center Arena	44
Lan, H.	24-Jan	5:00PM	Ocean Center Arena	29	Zhou, J.	24-Jan	5:00PM	Ocean Center Arena	31

Monday, January 23, 2017

Plenary Session

Room: Coquina Salon D

Session Chairs: Andrew Gyekenyesi, Ohio Aerospace Institute; Jingyang Wang, Shenyang National Laboratory for Materials Science, Institute of Metal Research

8:30 AM

Opening Remarks

9:00 AM

(ICACC-PLEN-001-2017) Geopolymers: Structural Inorganic Polymers

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

9:40 AM

(ICACC-PLEN-002-2017) Additive-free hot-pressed silicon carbide ceramics: A material with exceptional properties

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

10:20 AM

Break

10:40 AM

(ICACC-PLEN-003-2017) MLCC/Inductor trends and technological evolution

H. Kishi^{*1}; 1. Taiyo Yuden Co., Ltd., Japan

11:20 AM

(ICACC-PLEN-004-2017) Fifteen Years of Commercializing Ceramic Medical Devices Using Nanotechnology

T. J. Webster^{*1}; 1. Northeastern University, USA

3rd Pacific Rim Engineering Ceramics Summit

Current Trends and Future Directions I

Room: Coquina Salon C

Session Chairs: Young-Wook Kim, University of Seoul; Takashi Goto, IMR Tohoku University

1:30 PM

(ICACC-PACRIM-001-2017) Additive Manufacturing of Light Weight Composite Materials and Structures: Technical Challenges and Opportunities (Invited)

M. Singh^{*1}; M. C. Halbig²; 1. Ohio Aerospace Institute, USA; 2. NASA Glenn Research Center, USA

2:00 PM

(ICACC-PACRIM-002-2017) The Ways Travelled and the Ways to go in Sintering, the Key Technique of Ceramic Fabrication (Invited)

S. L. Kang^{*1}; R. K. Bordia²; E. Olevsky³; 1. Korea Institute of Ceramic Engineering and Technology (KICET), Republic of Korea; 2. Clemson University, USA; 3. San Diego State University, USA

2:30 PM

(ICACC-PACRIM-003-2017) Laser oscillation of Lu₂O₃ transparent ceramics by spark plasma sintering (Invited)

T. Goto^{*1}; L. An¹; A. Ito¹; 1. IMR Tohoku University, Japan

3:00 PM

Break

3:20 PM

(ICACC-PACRIM-004-2017) Thermal Shock Resistance, Wear Behavior and Oxidation Resistance of Silicon Nitride Based Nanocomposites (Invited)

P. Sajgalik^{*1}; M. Hnatko¹; Z. Lencs¹; J. Dusz²; P. Tatarko²; A. Kovalcikova²; M. Kasiarova²; 1. Institute of Inorganic Chemistry, Slovak Academy of Sciences, Slovakia; 2. Institute of Materials Science, Slovak Academy of Sciences, Slovakia

3:50 PM

(ICACC-PACRIM-005-2017) Advanced protective ceramic coating for accident tolerant zircaloy fuel cladding (Invited)

J. Wang^{*1}; 1. Shenyang National Laboratory for Materials Science, Institute of Metal Research, China

4:20 PM

(ICACC-PACRIM-006-2017) Anisotropic properties of c-axis oriented SiC prepared by using strong magnetic field (Invited)

T. S. Suzuki^{*1}; 1. National Institute for Materials Science, Japan

4:50 PM

(ICACC-PACRIM-007-2017) Heat Resistant Liquid-Phase Sintered Silicon Carbide Ceramics with a Small Amount of Additives (Invited)

Y. Kim^{*1}; Y. Seo¹; 1. University of Seoul, Republic of Korea

6th Global Young Investigator Forum

Ceramics for Magnetic and Electric, Energy Conversion and Energy Storage

Room: Coquina Salon F

Session Chair: Eva Hemmer, University of Ottawa

1:30 PM

(ICACC-GYIF-001-2017) Multiscale Designing of Solar-Driven Photocatalysts (Invited)

G. Liu^{*1}; 1. Institute of Metal Research, CAS, China

2:00 PM

(ICACC-GYIF-002-2017) Redox site visualization in plasmonic photocatalyst composed of TiO₂ and Au nanoparticles (Invited)

G. Kawamura^{*1}; H. Muto¹; A. Matsuda¹; 1. Toyohashi University of Technology, Japan

2:30 PM

Break

Applications: Ceramic Sensors and Actuators, Energy Generation, Saving and Storage, Photo-catalysis, and Biomedical Applications

Room: Coquina Salon F

Session Chair: Derek King, UES, Inc.

3:30 PM

(ICACC-GYIF-004-2017) The versatile use of iron oxide nanoparticles in nanomedicine (Invited)

I. Gessner^{*1}; S. Ilyas¹; S. Siribball¹; E. Krakor¹; M. Schütz¹; T. Fischer¹; S. Mathur¹; 1. University of Cologne, Germany

4:00 PM

(ICACC-GYIF-005-2017) Synthesis and Application of Nanoscale Graphene Oxide-Doped Gelatin Hydrogels as Scaffolds for Tissue Engineering and Drug Delivery

A. P. Sridhar^{*1}; K. Sadhu¹; C. Marmorat¹; M. Simon²; M. H. Rafailovich¹; 1. Stony Brook University, USA; 2. Stony Brook University, USA

4:20 PM

(ICACC-GYIF-006-2017) Effect of strain rate on plastic deformation of hydroxyapatite

H. Hino^{*1}; S. Kobayashi¹; T. Furushima¹; 1. Tokyo Metropolitan University, Japan

4:40 PM

(ICACC-GYIF-007-2017) Multifunctional HA-TNT-PDA-Ag nanocomposite scaffold for bone tissue engineering

S. S. Bhosle¹; M. Taheri^{*1}; T. Shokuhfar¹; 1. University of Illinois at Chicago, USA

5:00 PM

(ICACC-GYIF-008-2017) Electrolytic Deposition of Calcium Phosphate on Metallic Substrates

M. K. Mahapatra¹; N. Jindal^{*1}; 1. University of Alabama at Birmingham, USA

5:20 PM

(ICACC-GYIF-009-2017) Development of a new biocompatible bismuth-free Aurivillius-like layered ferroelectric material $\text{BaIn}_2\text{Ta}_2\text{O}_9$

Y. Fujimoto^{*}; E. Nakamachi¹; Y. Morita¹; 1. Doshisha University, Japan

FS2: Advanced Ceramic Materials and Processing for Photonics and Energy

Photovoltaics and Solar Fuels

Room: Halifax A/B

Session Chairs: Francesco Enrichi, Centro Studi e Ricerche E. Fermi (Italy) and Luleå University of Technology (Sweden); Xuhui Sun, Soochow University

1:30 PM

(ICACC-FS2- 001- 2017) Efficient and Stable Organic-inorganic Hybrid Solar Cells Using Anodic Nanostructures (Invited)

O. K. Varghese^{*}; M. Paulose¹; A. Torabi¹; P. Kaur¹; 1. University of Houston, USA

2:00 PM

(ICACC-FS2- 002- 2017) Transition Metal Based Nanostructures for Efficient Solar Water Splitting (Invited)

J. Deng¹; H. Zhang¹; K. Nie¹; J. Zhong¹; X. J. Sun^{*}; 1. Soochow University, China

2:30 PM

(ICACC-FS2- 003- 2017) Advanced materials for energy application through solution synthesis (Invited)

G. Westin^{*}; 1. Uppsala University, Sweden

3:00 PM

Break

3:20 PM

(ICACC-FS2- 004- 2017) Assessing morphology and interfacial diffusion of MoO_3 in organic solar cells using x-ray and neutron scattering (Invited)

J. F. Martinez Hardigree^{*}; M. Riede¹; I. Ramirez¹; G. Mazzotta¹; A. Morel¹; P. Gutfreund²; D. Wermeille³; 1. University of Oxford, United Kingdom; 2. Institut Laue-Langevin, France; 3. ESRF, France

3:50 PM

(ICACC-FS2- 005- 2017) Rare earth ions and Ag nanoaggregates in silica-hafnia sol gel films as efficient down-converters for silicon solar cells (Invited)

F. Enrichi^{*}; C. Armellini¹; S. Belmokhtar²; A. Bouajaj³; E. Cattaruzza⁴; M. Ferrari⁵; F. Gonella⁴; M. Mardegan⁴; G. Righini⁵; L. Zur²; 1. Centro Studi e Ricerche E. Fermi (Italy) and Luleå University of Technology (Sweden), Italy; 2. CNR-IFN, Istituto di Fotonica e Nanotecnologie, CSMFO Lab. & FBK-CMM, Italy; 3. Laboratoire des Technologies Innovantes, LTI, Département de Génie industriel ENSA. Université Abdelmalek Essaâdi, Morocco; 4. Dipartimento di Scienze Molecolari e Nanosistemi, Università Ca' Foscari Venezia, Italy; 5. Centro Studi e Ricerche Enrico Fermi, Italy

FS3: Carbon Nanostructures and 2-D Materials and Composites

Focused Session 3: Carbon Nanostructures and 2-D Materials and Composites

Room: Coquina Salon A

Session Chair: Gustavo Costa, NASA Glenn Research Center

1:30 PM

(ICACC-FS3- 001- 2017) High Performance Energy Storage Carbons from Agricultural Byproducts (Invited)

D. Mitlin^{*}; 1. Clarkson U, USA

2:00 PM

(ICACC-FS3- 002- 2017) Graphene/Sulfur for advance Li-S battery (Invited)

F. Li^{*}; R. Fang¹; H. Cheng¹; 1. Institute of Metal Research, Chinese Academy of Science, China

2:30 PM

(ICACC-FS3- 003- 2017) Solid-state growth of carbon-supported ceramic nanostructures for electrocatalysis and lithium batteries (Invited)

K. Xiao¹; R. Amal¹; D. Wang^{*}; 1. University of New South Wales, Australia

3:00 PM

Break

3:20 PM

(ICACC-FS3- 004- 2017) Two-dimensional Structures of Tungsten Diselenide (WSe_2) by Liquid Exfoliation

D. Gerchman¹; F. A. Berutti¹; A. K. Alves^{*}; 1. UFRGS, Brazil

3:40 PM

(ICACC-FS3- 005- 2017) Controlled vacancy formation in $\text{Mo}_2\text{C MXene}$

Q. Tao^{*}; M. Dahlqvist¹; J. Lu¹; S. Kota²; R. Meshkian¹; J. Halim¹; J. Palisaitis¹; L. Hultman¹; M. W. Barsoum²; P. Persson¹; J. Rosen¹; 1. Linköping University, Sweden; 2. Drexel University, USA

S1: Mechanical Behavior and Performance of Ceramics & Composites

Mechanics, Characterization and Joining

Room: Coquina Salon D

Session Chairs: Rabih Mansour, The University of Akron;

Marion Bartsch, DLR - German Aerospace Center

1:30 PM

(ICACC-S1-001-2017) Interlaminar Fracture Properties of 2D Woven CMC at Room and High Temperature (Invited)

R. Mansour^{*}; Y. P. Singh¹; G. N. Morscher¹; 1. The University of Akron, USA

2:00 PM

(ICACC-S1-002-2017) Mechanical behavior of a wound all-oxide ceramic matrix composite

S. Hackemann^{*}; 1. DLR - German Aerospace Center, Germany

2:20 PM

(ICACC-S1-003-2017) Generating 3-dimensional microstructure models of porous ceramic matrix composites by means of X-ray tomography and FIB-slicing

M. Bartsch^{*}; K. Artzt¹; J. Wischek¹; M. Eggeler¹; P. Watermeyer¹; K. Kelm¹; A. Manero²; S. Raghavan²; P. Kenesei³; J. Okasinski³; J. Almer²; 1. DLR - German Aerospace Center, Germany; 2. University of Central Florida, USA; 3. Argonne National Laboratory, USA

2:40 PM

(ICACC-S1-004-2017) In-situ analyses of thermal barrier coating's elastic and inelastic deformation via synchrotron X-rays

A. Manero^{*}; B. Sarley¹; K. Knipe¹; J. Wischek²; C. Meid²; J. Almer²; J. Okasinski³; A. M. Karlsson⁴; M. Bartsch²; S. Raghavan¹; 1. University of Central Florida, USA; 2. DLR - German Aerospace Center, Germany; 3. Argonne National Lab, USA; 4. Cleveland State University, USA

3:00 PM

Break

3:20 PM

(ICACC-S1-005-2017) Electrical Resistance as a NDE tool for damage detection and health monitoring in Ceramic Matrix Composites

Y. P. Singh^{*}; M. J. Presby¹; G. N. Morscher¹; 1. The University of Akron, USA

3:40 PM

(ICACC-S1-006-2017) Apparent Fracture Toughness in Brittle Materials under Static and Fatigue Loading

O. Kravchenko*; S. Kravchenko; C. Sun; 1. Case Western Reserve University, USA; 2. Purdue University, USA

4:00 PM

(ICACC-S1-057-2017) Potentials of Niobium Carbide (NbC) as cutting tools and for wear protection

M. Woydt*; H. Mohrbacher; S. Huang; J. Vleugels; 1. BAM Federal Institute for Materials Research and Testing, Germany; 2. Katholieke Universiteit Leuven, Belgium; 3. Niobelcon bvba, Belgium

4:20 PM

(ICACC-S1-008-2017) Torsion shear strength of ceramics joined by brittle or ductile materials

L. Goglio*; 1. Politecnico di Torino, Italy

4:40 PM

(ICACC-S1-009-2017) Shear tests on joined materials

M. Ferraris*; L. Goglio; M. Salvo; F. Smeacetto; S. De La Pierre Des Ambrois; V. Casalegno; 1. Politecnico di Torino, Italy; 2. Politecnico di Torino, Italy

5:00 PM

(ICACC-S1-010-2017) Mechanical properties of ternary eutectic ceramic from room to very high temperature

S. Gourdin*; L. Marcin; M. Podgorski; L. Carroz; 1. Safran Tech - Safran Group, France; 2. RSA le Rubis SA, France

5:20 PM

(ICACC-S1-011-2017) Evaluation of Flash Sinter-Bonding method for producing ceramic-metal composites

C. Madec*; B. Frédéric; S. Le Gallet; E. Petitpas; B. Bettencourt; B. Salesse; F. Barthelemy; 1. NEXTER Systems, France; 2. University de Bourgogne Franche-Comté, France; 3. DGA, France

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

Thermal Barrier Coatings : Processing and Characterization

Room: St. John

Session Chairs: Douglas Wolfe, Pennsylvania State University; Bryan Harder, NASA Glenn Research Center

1:30 PM

(ICACC-S2-001-2017) Orientation dependent mechanical and thermal properties of spray deposited ceramics

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

1:50 PM

(ICACC-S2-002-2017) Microstructural Effects on Erosion Durability in Thermal Barrier Coatings

M. P. Schmitt*; A. K. Rai; J. M. Schreiber; T. J. Eden; D. E. Wolfe; 1. The Pennsylvania State University, USA; 2. UES, Inc., USA; 3. The Applied Research Laboratory at The Pennsylvania State University, USA

2:10 PM

(ICACC-S2-003-2017) Characterization of the Deposition Formation Dynamics of Suspension Plasma Spray Coatings using In-Situ and Ex-Situ Curvature Measurements

R. Chidambaram Seshadri*; G. Smith; V. Viswanathan; G. Dwivedi; S. Sampath; 1. Stony Brook University, USA

2:30 PM

(ICACC-S2-004-2017) Novel GAP/GZO Composites With High Temperature Phase Stability and Improved Durability

D. E. Wolfe*; 1. Pennsylvania State University, USA

2:50 PM

Break

3:10 PM

(ICACC-S2-005-2017) Thermal and Mechanical Properties of $ZrO_2-Y_2O_3$ Thermal Barrier Coatings by Thermal Exposure (Invited)

B. Jang*; K. Yasuda; S. Kim; Y. Oh; H. Kim; 1. National Institute for Materials Science (NIMS), Japan; 2. Tokyo Institute of Technology, Japan; 3. Korea Institute of Ceramic Engineering and Technology, Republic of Korea

3:40 PM

(ICACC-S2-006-2017) Thick, Durable, Low Thermal Conductivity Thermal Barrier YAG Coatings Using The Solution Precursor Plasma Spray Process

M. Gell*; E. H. Jordan; B. Nair; R. Kumar; C. Jiang; 1. University of Connecticut, USA; 2. University of Connecticut, USA; 3. HiFundall, USA

4:00 PM

(ICACC-S2-007-2017) Characteristics of Oxides in $ZrO_2-La_2O_3-Gd_2O_3$ Systems for TBC Applications (Invited)

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

4:30 PM

(ICACC-S2-008-2017) Measurement and Understanding of the Distribution of Residual Stress in APS TBC as a Function of Depth

C. Li*; R. Cernik; P. Xiao; Y. Chen; X. Zhang; S. Jaques; M. di Michiel; J. Behnen; 1. University of Manchester, United Kingdom; 2. ESRF, France

4:50 PM

(ICACC-S2-009-2017) Thermal Property Measurement for Thermal Barrier Coatings by Pulsed Thermal Imaging

J. Sun*; 1. Argonne National Lab, USA

S3: 14th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

SOFC/SOEC: Overview of Activities

Room: Crystal

Session Chair: Narottam Bansal, NASA Glenn Research Center

1:30 PM

(ICACC-S3-001-2017) Overview of NETL's SOFC Program and Accomplishments (Invited)

S. Markovich*; 1. DOE - National Energy Technology Laboratory, USA

2:00 PM

(ICACC-S3-002-2017) Achievements of NEDO projects on SOFC durability cooperated among industrial stack developers, research institutes and universities in Japan (Invited)

H. Yokokawa*; 1. The University of Tokyo, Japan

2:30 PM

(ICACC-S3-003-2017) Overview on SOFC activities in Germany and Austria (Invited)

M. Kusnezoff*; S. Megel; A. Michaelis; 1. Fraunhofer IKTS, Germany

3:00 PM

Break

3:20 PM

(ICACC-S3-004-2017) Leveraging Decades of SOFC Development Investments to Create a Renewable Energy Powered Synfuel Economy (Invited)

L. Frost; J. Elwell; S. Elangovan; J. Hartvigsen*; 1. Ceramtec, Inc., USA

Solid Oxide Fuel Cells

Room: Crystal

Session Chair: Mihails Kusnezoff, Fraunhofer IKTS

3:50 PM

(ICACC-S3-005-2017) Saint-Gobain's All-Ceramic SOFC Technology: Progress in Design and Performance (Invited)

A. Sarikaya^{*}; B. Barry¹; B. Feldman¹; Y. Takagi¹; J. Pietras¹; S. Poizeau¹; 1. Saint-Gobain, USA

4:20 PM

(ICACC-S3-006-2017) Solid Oxide Fuel Cell Technology Development at FuelCell Energy, Inc.

J. M. Barton^{*}; A. Torabi¹; C. Willman¹; H. Ghezal-Ayagh¹; E. Tang²; 1. FuelCell Energy, Inc., USA; 2. Versa Power Systems, Ltd, Canada

4:40 PM

(ICACC-S3-007-2017) Industrial-size demonstration of biogas-fed SOFC: Insight on fuel contaminants

M. Santarelli^{*}; A. Lanzini¹; M. Gandiglio¹; D. Papurello¹; 1. Politecnico di Torino, Italy

5:00 PM

(ICACC-S3-008-2017) Optimal Control of a Hybrid Solid Oxide Fuel Cell – Gas Turbine System based on Stall/ Surge Risk

M. Azizi^{*}; J. Brouwer¹; 1. National Fuel Cell Research Center, University of California, Irvine, USA

S4: Armor Ceramics

Ceramic Response to Ballistic Impact I

Room: Coquina Salon E

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

1:30 PM

(ICACC-S4-001-2017) The Effect of Impact Conditions on Fracture and Damage in Brittle Materials (Invited)

B. B. Aydelotte^{*}; B. Schuster¹; P. Jannotti¹; 1. US Army Research Laboratory, USA

2:00 PM

(ICACC-S4-002-2017) Analysis of the interaction of projectiles with ceramic targets by means of Flash X-ray cinematography and optical methods (Invited)

E. Strassburger^{*}; S. Bauer¹; 1. Fraunhofer EMI, Germany

2:30 PM

Break

Ceramic Response to Ballistic Impact II

Room: Coquina Salon E

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

3:20 PM

(ICACC-S4-003-2017) The Effect of Projectile Orientation, Shape, and Surface Conditions on Ballistic Impacts (Invited)

B. B. Aydelotte^{*}; B. Schuster¹; P. Jannotti¹; 1. US Army Research Laboratory, USA

3:50 PM

(ICACC-S4-004-2017) Tribochemical Reactions in Boron Carbide Impacted at High-Velocity

J. LaSalvia^{*}; V. Domnich²; B. Schuster¹; B. B. Aydelotte¹; E. R. Shanholtz¹; A. Giri¹; S. D. Walck¹; K. D. Behler¹; C. J. Marvel³; M. P. Harmer³; 1. Army Research Laboratory, USA; 2. Rutgers University, USA; 3. Lehigh University, USA; 4. Independent, USA

4:10 PM

(ICACC-S4-005-2017) Role of inertia in armor ceramics

E. Carton^{*}; G. Roebroeks¹; J. Weerheijm¹; A. Diederen¹; 1. TNO, Netherlands

4:30 PM

(ICACC-S4-006-2017) Studying Surface Waves and Failure Fronts in Glass Using a Combined Experimental and Computational Approach

J. McDonald^{*}; S. Satapathy¹; M. Pena²; M. Tabia³; B. Otoole³; 1. US Army Research Laboratory, USA; 2. National Security Technologies, LLC, USA; 3. University of Nevada Las Vegas, USA

4:50 PM

(ICACC-S4-007-2017) Influence of encased aluminum alloy on the ballistic performance of alumina armor plate

J. Lo^{*}; R. Santos¹; R. Zhang¹; D. Walsh¹; G. Birsan¹; F. Benkel¹; R. Bowes²; L. Goheen²; 1. CanmetMATERIALS, Canada; 2. CanmetCERL, Canada

5:10 PM

(ICACC-S4-008-2017) Hybrid Ceramic Composite Armor

J. Stiglich^{*}; A. Fortini¹; 1. Ultramet, USA

5:30 PM

(ICACC-S4-009-2017) Evaluation of temperature jump at the front of comminution and compaction of the ceramic target material at high-velocity impact

B. A. Galanov¹; V. V. Kartuzov^{*}; S. M. Ivanov¹; A. A. Pryadko¹; 1. IPMS, Ukraine

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

Thermal Energy Conversion and Energy Storage I

Room: Tomoka A

Session Chair: Palani Balaya, National University of Singapore

1:30 PM

(ICACC-S6-001-2017) Electrochemistry as a tool to explore the Na_xMoO₂ phase diagram (Invited)

C. H. Delmas^{*}; I. Vitoux¹; M. Suhomel²; J. Christian³; N. Sharma³; M. Guignard¹; 1. ICMCB, France; 2. APS -, USA; 3. School of Chemistry, Australia

2:10 PM

(ICACC-S6-002-2017) Development of Na-Ion Batteries for Energy Storage (Invited)

Y. Hu^{*}; 1. Institute of Physics, Chinese Academy of Sciences, China

2:40 PM

(ICACC-S6-003-2017) Design of new materials as electrode materials for Na ion batteries

W. Deriouché²; M. Freire¹; N. Amdouni²; A. Maignan¹; V. Pralong^{*}; 1. CNRS, France; 2. Unité de Recherche Physico-chimique des Matériaux Condensés, Tunisia

3:00 PM

Break

Thermal Energy Conversion and Energy Storage II

Room: Tomoka A

Session Chair: Shyue Ping Ong, University of California, San Diego

3:20 PM

(ICACC-S6-004-2017) Oxide-Based Solid State Electrolytes for All-Solid-State Li-Ion Batteries (Invited)

M. J. Hoffmann^{*}; T. Hupfer²; F. Lemke¹; E. Bucharsky¹; G. Schell¹; A. Hintennach³; 1. Karlsruhe Institute of Technology (KIT), Germany; 2. Robert Bosch GmbH, Germany; 3. Daimler AG, Germany

3:50 PM

(ICACC-S6-005-2017) Synthesis and Characterization of Nanostructured Li₇La₃Zr₂O₁₂ Solid Electrolytes using Electrospinning and Nanocellulose Templating (Invited)

C. K. Chan^{*}; 1. Arizona State University, USA

4:20 PM

(ICACC-S6-006-2017) $\text{Li}_x\text{La}_y\text{Zr}_z\text{O}_{12}$ Interface Modification for Li Dendrite Prevention (Invited)

C. Tsai^{*1}; V. Roddatis²; C. Chandran³; Q. Ma¹; S. Uhlenbruck¹; P. Heitjans³; O. Guillon¹; 1. Institute of Energy and Climate Research, Germany; 2. Institute of Materials Physics, Germany; 3. Institute of Physical Chemistry and Electrochemistry, Germany

4:50 PM

(ICACC-S6-007-2017) A new solid solution with NASICON structure and high ionic conductivity: $\text{Na}_{3+x}\text{Sc}_2\text{Si}_x\text{P}_{3-x}\text{O}_{12}$

O. Guillon^{*1}; M. Guin¹; F. Tietz¹; 1. Forschungszentrum Juelich, Germany

5:10 PM

(ICACC-S6-008-2017) Towards All Solid State Batteries using perovskite solid electrolytes

M. Lachal^{*1}; T. Bibienne¹; L. Groleau¹; M. Marmiesse¹; F. Bardé²; L. Castro²; M. Dolle¹; 1. University of Montréal, Canada; 2. Toyota Motor Europe, Belgium

S9: Porous Ceramics: Novel Developments and Applications

Innovations in Processing Methods & Synthesis of Porous Ceramics I

Room: Coquina Salon G

Session Chair: Paolo Colombo, University of Padova

1:30 PM

(ICACC-S9-001-2017) Porous ceramics development by additive manufacturing: Design, manufacturing and testing (Invited)

A. Ortona^{*1}; 1. SUPSI, Switzerland

2:00 PM

(ICACC-S9-002-2017) Highly porous B-doped hardystonite bioceramics from preceramic polymers and engineered fillers: From foams to 3D-printed scaffolds

H. Elsayed¹; P. Colombo¹; E. Bernardo^{*1}; 1. University of Padova, Italy

2:20 PM

(ICACC-S9-003-2017) Microstructural, mechanical and thermal characterization of alumina gel-cast foams manufactured with the use of agarose as gelling agent

T. Fey^{*1}; Z. Bodo¹; G. Peter¹; P. Marek²; 1. Friedrich-Alexander-University at Erlangen-Neurnberg, Germany; 2. Rzeszow University of Technology, Poland

2:40 PM

(ICACC-S9-004-2017) Preparation of porous polycrystalline ceramic solid electrolytes via thermal removal of sacrificial alkali halides

R. Muccillo^{*1}; T. Porfirio¹; 1. IPEN, Brazil

3:00 PM

Break

Innovations in Processing Methods & Synthesis of Porous Ceramics II

Room: Coquina Salon G

Session Chair: Tobias Fey, Friedrich-Alexander-University at Erlangen-Neurnberg

3:20 PM

(ICACC-S9-005-2017) Porous alumina ceramics fabricated by novel powder processing (Invited)

J. Tatami^{*1}; M. Iijima¹; 1. Yokohama National University, Japan

3:50 PM

(ICACC-S9-006-2017) Properties of Anisotropic Porous Alumina Fabricated by Alumina Platelets (Invited)

S. Honda^{*1}; K. Matsubara¹; Y. Daiko¹; S. Hashimoto¹; Y. Iwamoto¹; 1. Nagoya Institute of Technology, Japan

4:20 PM

(ICACC-S9-007-2017) Open Cell Geopolymer foams

P. Colombo^{*1}; C. Bai¹; 1. University of Padova, Italy

4:40 PM

(ICACC-S9-008-2017) Development of high porosity-high strength Si_3N_4 bodies prepared via different routes

F. Golestanfard^{*1}; M. Sadeghpour¹; P. Tabrizian¹; A. Parsi¹; 1. University of Science and Technology of Iran, Islamic Republic of Iran

5:00 PM

(ICACC-S9-009-2017) Fabrication and properties of porous alumina prepared by alumina slurry including aluminum and polysiloxane

K. Kita^{*1}; M. Fukushima¹; H. Hyuga¹; N. Kondo¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

S10: Virtual Materials (Computational) Design and Ceramic Genome

Modelling - Electrical Properties

Room: Ponce DeLeon

Session Chair: Michael Tonks, Pennsylvania State University

1:30 PM

(ICACC-S10-001-2017) Strategies for enhancing the thermoelectric performance of oxides (Invited)

U. Schwingenschlogl^{*1}; 1. KAUST, Saudi Arabia

2:00 PM

(ICACC-S10-002-2017) Thermoelectric thin film chromium- and scandium-based nitrides studied by an integrated theoretical-experimental approach (Invited)

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

2:30 PM

(ICACC-S10-003-2017) The Universal Conductive Network in Compounds with Chalcogenide Sublattices (Invited)

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

3:00 PM

Break

3:20 PM

(ICACC-S10-004-2017) Correlation between Grain Boundary Segregation and Resultant Ionic Conduction in Grain Boundaries (Invited)

M. Yoshiya^{*1}; T. Yokoi¹; 1. Osaka University, Japan

3:50 PM

(ICACC-S10-005-2017) Prediction of cubic-YSZ conductivity by applying the CALPHAD approach

M. Asadikiya^{*1}; Y. Zhong¹; 1. Florida International University, USA

4:10 PM

(ICACC-S10-006-2017) Genome-like Ion Parameters, Radii and Polarizability, For Predicting Temperature Dependent Material Properties

S. C. Tidrow^{*1}; 1. Alfred University, USA

4:30 PM

(ICACC-S10-007-2017) Computational Design: From a Simple Chemical Concept to 3D Topological Materials (Invited)

X. Chen^{*1}; 1. Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, China

5:00 PM

(ICACC-S10-008-2017) Accelerating Materials Design and Discovery using Computational Approaches: A Case Study in All-Solid-State Li-ion Battery (Invited)

Y. Mo^{*1}; 1. University of Maryland, College Park, USA

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

Production Root Technology I

Room: Coquina Salon H

Session Chair: Jacob Jones, North Carolina State University

1:30 PM

(ICACC-S11-001-2017) Pulverization of nanoparticles using nanocomposite particles prepared by mechanical treatment (Invited)

J. Tatami^{*1}; K. Jeong¹; M. Iijima¹; T. Takuma²; 1. Yokohama National University, Japan; 2. Kanagawa Academy of Science and Technology, Japan

2:00 PM

(ICACC-S11-002-2017) Advances in Nanocomposite Design: Towards Electronic and Biomedical Applications (Invited)

J. Andrew^{*1}; 1. University of Florida, USA

2:30 PM

(ICACC-S11-003-2017) Processing and Integration Science of Capacitors Based on Bi(M)O₃-BaTiO₃ Dielectrics for High Field and/or High Temperature Operation (Invited)

G. L. Brenneka^{*1}; M. Beuerlein¹; H. Brown-Shaklee²; N. Raengthon³; N. Triamnak⁴; N. Kumar⁴; D. Cann¹; 1. Colorado School of Mines, USA; 2. Sandia National Laboratories, USA; 3. Chulalongkorn University, Thailand; 4. Oregon State University, USA

3:00 PM

Break

Production Root Technology II

Room: Coquina Salon H

Session Chairs: Jennifer Andrew, University of Florida; Tadej Rojac, Jozef Stefan Institute

3:20 PM

(ICACC-S11-004-2017) Combination Effects of high-throughput bulk preparation system and high-pressure process (Invited)

K. Fujimoto^{*1}; M. Gibu¹; Y. Yamaguchi²; A. Aimi¹; 1. Tokyo University of Science, Japan; 2. National Institute of Advanced Industrial Science and Technology (AIST), Japan

3:50 PM

(ICACC-S11-005-2017) Processing issues in BiFeO₃ ceramics and thick films (Invited)

T. Rojac^{*1}; E. Khomyakova¹; M. Makarovic¹; J. Walker²; A. Bencan¹; B. Malic¹; 1. Jozef Stefan Institute, Slovenia; 2. Pennsylvania State University, USA

4:20 PM

(ICACC-S11-006-2017) Cold Sintering Process: A New Technique for Low-Temperature Processing of Ceramics and Ceramic-Based Composites (Invited)

H. Guo^{*1}; A. Baker¹; T. Bayer¹; J. Guo¹; S. Berbano¹; S. Funahashi²; C. A. Randall¹; 1. Pennsylvania State University, USA; 2. Murata Mfg. Co., Ltd, Japan

4:40 PM

(ICACC-S11-007-2017) Temperature Sensor for Battery Management System in Electrical Vehicle

S. Mhin^{*1}; 1. Korea Institute of Industrial Technology, Republic of Korea

5:00 PM

(ICACC-S11-008-2017) Design of Flexoelectric Piezoelectric Metamaterials of High Electromechanical Response (Invited)

B. Chu^{*1}; W. Zhou¹; P. Chen¹; Q. Pan¹; X. Zhang¹; 1. University of Science and Technology of China, China

5:30 PM

(ICACC-S11-009-2017) Ceramic processing of tubular, multilayered oxygen transport membranes (Invited)

A. B. Haugen^{*1}; S. Ovtar¹; J. Gurauskis²; A. Kaiser¹; R. Kiebach¹; P. Hendriksen¹; 1. Technical University of Denmark, Denmark; 2. Aenam IVS, Denmark

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

Materials Design, New Composition and Composites I

Room: Tomoka B

Session Chair: Michel Barsoum, Drexel University

1:30 PM

(ICACC-S12-001-2017) Zr-Based MAX Phases for Gen-IV Lead Fast Reactors (Invited)

K. Lambrinou^{*1}; T. Lapauw²; B. Tunca²; R. Delville¹; A. Weisenburger¹; A. Jianu³; J. Vleugels²; 1. SCK-CEN, Belgium; 2. KU Leuven, Belgium; 3. Karlsruhe Institute of Technology, Germany

2:00 PM

(ICACC-S12-002-2017) Novel Cr₂AlC MAX-phase/SiC fiber composites: Processing and properties

J. Gonzalez-Julian^{*1}; J. Llorente²; M. Bram¹; M. Belmonte²; O. Guillon¹; 1. Forschungszentrum Juelich, Germany; 2. Institute of Ceramics and Glass, CSIC, Spain

2:20 PM

(ICACC-S12-003-2017) First-principles-based evaluation of Ti₂AlC-Cr₂AlC phase diagram

T. Duong^{*1}; A. Talapatra¹; W. Son¹; M. Radovic¹; R. Arroyave¹; 1. Texas A&M University, USA

2:40 PM

(ICACC-S12-004-2017) Preparation and Properties of Ag/Ti₃AlC₂ composites as electrical contact materials

J. Ding^{*1}; Z. Sun¹; P. Zhang¹; W. Tian¹; M. Zhang¹; Y. Zhang¹; 1. Southeast University, China

3:00 PM

Break

Materials Design, New Composition and Composites II

Room: Tomoka B

Session Chairs: Miladin Radovic, Texas A&M University; Thierry Cabioch, University of Poitiers

3:20 PM

(ICACC-S12-005-2017) Out-of-plane Ordering in Mo-Containing Quaternary MAX Phases (Invited)

J. Halim^{*1}; B. Anasori¹; R. Meshkian¹; M. Dahlqvist¹; E. Moon²; J. Lu¹; S. May²; E. Caspi³; L. Hultman¹; P. Eklund¹; J. Rosen¹; M. W. Barsoum¹; 1. Linkoping University, Sweden; 2. Drexel University, USA; 3. Nuclear Research Centre, Israel

3:50 PM

(ICACC-S12-006-2017) Computational and experimental approach to structural, mechanical, and thermodynamic properties of Ti₃(SixAl_{1-x})C₂ (Invited)

W. Son^{*1}; H. Gao¹; A. Talapatra¹; T. Duong¹; M. Radovic¹; R. Arroyave¹; 1. Texas A&M University, USA

4:20 PM

(ICACC-S12-007-2017) A Review of Different Types of MAX-based Composite Systems for Multifunctional Applications

J. Nelson^{*1}; M. Olson¹; F. Al-Anazi¹; S. Ghosh¹; S. Gupta¹; 1. University of North Dakota, USA

4:40 PM

(ICACC-S12-008-2017) Synthesis and Characterization of a Nanolaminated Alumina-forming Boride: MoAlB

S. Kota^{*1}; E. Zapata-Solvas²; A. Ly²; J. Lu¹; O. Elkassabany¹; A. Huon¹; W. Lee²; L. Hultman⁴; S. May¹; M. W. Barsoum¹; 1. Drexel University, USA; 2. Imperial College London, United Kingdom; 3. Drexel University, USA; 4. Linkoping University, Sweden

4:40 PM

(ICACC-S12-009-2017) Intrinsic Alloying Behavior in M and A Sublattices in 211 and 312 MAX Phases: Insights from Ab Initio Calculations (Invited)

R. Arroyave^{*}; A. Talapatra¹; T. Duong¹; W. Son¹; H. Gao¹; M. Radovic¹; 1. Texas A&M University, USA

S14: Crystalline Materials for Electrical, Optical and Medical Applications

Optical Material 1

Room: Tomoka C

Session Chair: Mariya Zhuravleva, University of Tennessee

1:30 PM

(ICACC-S14-001-2017) Chalcogenide glass and glass ceramics for integrated photonics (Invited)

J. Li¹; G. Yin¹; J. Michon¹; Y. Huang¹; Q. Du¹; L. Li¹; H. Lin¹; A. Agarwal¹; A. Yadav²; K. Richardson²; J. Hu²; 1. Massachusetts Institute of Technology, USA; 2. University of Central Florida, USA

2:00 PM

(ICACC-S14-002-2017) Single crystal architecture in glass (SCAG): New active metamaterials for photonics (Invited)

D. Savvitskii¹; K. Veenhuizen²; S. McAnany¹; B. Aitken²; D. Nolan²; V. Dierolf¹; H. Jain¹; 1. Lehigh University, USA; 2. Corning Incorporated, USA

2:20 PM

(ICACC-S14-003-2017) Densification and translucency in RE:Y₂O₃ + MgO nanocomposites for mid-infrared solid-state lasers

V. L. Blair^{*}; N. Ku¹; Z. Fleischman¹; L. D. Merkle¹; 1. US Army Research Laboratory, USA; 2. US Army Research Laboratory, USA

2:40 PM

(ICACC-S14-004-2017) Doping erbium into the lattice of aluminum oxide

N. Ku^{*}; V. L. Blair¹; A. Rahane²; V. Kumar³; J. Synowczynski-Dunn¹; C. Moorehead²; R. E. Brennan¹; 1. U.S. Army Research Laboratory, USA; 2. Drexel University, USA; 3. Vijay Kumar Foundation, India

3:00 PM

Break

Piezo/Ferro

Room: Tomoka C

Session Chairs: Zuo-Guang Ye, Simon Fraser University; Elvira Fortunato, FCT-UNL

3:30 PM

(ICACC-S14-005-2017) Progress in Growth and Characterization of Pb(Zr_{1-x}Ti_x)O₃ [PZT] Single Crystals as High-T_c and High-Performance Piezoelectrics (Invited)

Z. Ye^{*}; 1. Simon Fraser University, Canada

4:00 PM

(ICACC-S14-006-2017) New Challenges for Metal Oxide Nanoparticles: From Optical Sensors to Biosensors (Invited)

E. Fortunato^{*}; R. Martins¹; 1. FCT-UNL, Portugal

4:30 PM

(ICACC-S14-007-2017) Influence of oxygen partial pressure and Al content on the resistivity and piezoelectric properties of Ca₃TaGa_{3-x}Al_xSi₂O₁₄ single crystals

X. Fu^{*}; E. Villora¹; Y. Kitanaka²; Y. Noguchi²; M. Miyayama²; K. Shimamura¹; N. Ohashi¹; 1. National Institute for Materials Science (NIMS), Japan; 2. The University of Tokyo, Japan

4:50 PM

(ICACC-S14-008-2017) A study on temperature insensitive relative permittivity in Ba[(Ga_xTa_x)Ti_(1-2x)]O₃ with different concentration of dipole-like dopant substitution

V. Kaliyaperumal Veerapandiyar^{*}; W. A. Schulze¹; S. Mixture¹; S. M. Pilgrim¹; D. M. Potrepka²; F. J. Crowne²; A. Tauber²; S. C. Tidrow¹; 1. Kazuo Inamori School of Engineering, Alfred University, USA; 2. U.S. Army Research Laboratory, Sensors Electron Devices Directorate, USA; 3. As contracted to the U. S. Army Research Laboratory from Geo-Centers Inc.; presently retired, USA

5:10 PM

(ICACC-S14-009-2017) Epitaxial thin films of ε-Fe₂O₃: A new multifunctional “super-oxide”?

L. Corbellini^{*}; C. Harnagea¹; C. Lacroix²; D. Ménard²; A. Pignolet¹; 1. INRS, Canada; 2. Ecole Polytechnique de Montreal, Canada

5:30 PM

(ICACC-S14-010-2017) Dielectric behavior and electromechanical coupling of Lanthanum modified Strontium Bismuth Titanate for transducer applications

S. Pasala^{*}; 1. Vardhaman College of Engineering, India

S15: Additive Manufacturing and 3-D Printing Technologies

Selective Laser Processing

Room: Coquina Salon B

Session Chair: Soshu Kiriha, Osaka University

1:30 PM

(ICACC-S15-001-2017) Additive Manufacturing in High-Value Added Ceramic Products Manufacturing Technologies (Invited)

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

2:00 PM

(ICACC-S15-002-2017) 3D printed monolithic catalysts: Development and performance

M. Schwentenwein^{*}; S. Schuh³; R. Koopmans³; C. Scharlemann²; Y. Batonneau⁴; C. Maleix⁴; R. Beauchet¹; J. Homa¹; 1. Lithoz GmbH, Austria; 2. University of Applied Sciences Wiener Neustadt, Austria; 3. Forschungs- und Technologietransfer GmbH, Austria; 4. Université de Poitiers, France

2:20 PM

(ICACC-S15-003-2017) Deformation Behavior of Low Temperature Borosilicate and Aluminophosphate Glass Systems

W. Yu^{*}; F. Wu¹; 1. National United University, Taiwan

2:40 PM

(ICACC-S15-004-2017) Laser Shock Processing of Ceramics for Improved Cracking Resistance

B. Cui^{*}; F. Wang¹; C. Zhang²; Y. Lu²; M. Nastasi¹; 1. University of Nebraska, Lincoln, USA; 2. University of Nebraska-Lincoln, USA

3:00 PM

Break

Ink Jet Printing

Room: Coquina Salon B

Session Chair: Martin Schwentenwein, Lithoz GmbH

3:20 PM

(ICACC-S15-005-2017) Additive Manufacturing (3D Printing) of Ceramics: Microstructure, Properties, and Product Examples

P. Karandikar^{*}; M. Watkins¹; A. McCormick¹; B. Givens¹; M. Aghajanian¹; 1. M Cubed Technology, Inc., USA

3:40 PM

(ICACC-S15-006-2017) Effect of additives in oxychloride cement used for the production of lightweight material by high-speed 3D printing

D. Cabiddu^{*}; V. M. Sglavo¹; 1. University of Trento, Italy

4:00 PM

(ICACC-S15-007-2017) Investigation of the Binder Jetting of Agglomerated Ceramic Powders on the Resulting Sintered Density

K. Myers*; 1. rp+m, USA

Stereolithography

Room: Coquina Salon B

Session Chairs: Tadachika Nakayama, Nagaoka Univ of Tech;
Surojit Gupta, University of North Dakota

4:20 PM

(ICACC-S15-008-2017) Fabrication of nanosized 3D structure by two photon absorption lithography and motion control by DC and Nano Pulsed Electric Field

T. Nakayama*; M. Herrera Salazar¹; N. Matsutani¹; T. Suzuki¹; H. Suematsu¹; K. Niihara¹;
1. Nagaoka Univ of Tech, Japan

4:40 PM

(ICACC-S15-009-2017) 3D Macro- and Micro- Additive Manufacturing of ceramics from preceramic polymers

J. E. Schmidt*; G. Della Giustina¹; L. Brigo¹; P. Colombo¹; G. Brusatin¹; 1. University of Padova, Italy

5:00 PM

(ICACC-S15-010-2017) Comparison of Dynamic Mask- and Vector-based Ceramic Stereolithography

S. Baumgartner*; J. Schönherr¹; M. Pfaffinger¹; J. Stampfl¹; 1. TU Wien, Austria

5:20 PM

(ICACC-S15-011-2017) Tribology of Ti3SiC2 Reinforced Polymer Matrix Composites (PMCs) fabricated by Additive Manufacturing

R. Dunnigan¹; M. Fuka¹; S. Gupta*; 1. University of North Dakota, USA

5:40 PM

(ICACC-S15-012-2017) Additive manufacturing of dense and strong silicon nitride-based ceramics

M. Schwentenwein*; A. A. Altun¹; B. Melrose²; N. Fecitt²; J. Homa¹; 1. Lithoz GmbH, Austria;
2. International Syalons, United Kingdom

6:00 PM

(ICACC-S15-013-2017) Stereolithographic Additive Manufacturing of Bulky Ceramic Components with Micro Geometric Structures to Modulate Energy and Materials Streamlines

S. Kirihaara*; 1. Osaka University, Japan

Tuesday, January 24, 2017

3rd Pacific Rim Engineering Ceramics Summit

Current Trends and Future Directions II

Room: Coquina Salon C

Session Chairs: Junichi Tatami, Yokohama National University; Hui Gu, Shanghai University

8:30 AM

(ICACC-PACRIM-008-2017) Novel concepts to design tough and reliable ceramic devices (Invited)

R. Bermejo*; Y. Chang²; R. Danzer¹; G. L. Messing²; 1. Montanuniversitaet Leoben, Austria;
2. Pennsylvania State University, USA

9:00 AM

(ICACC-PACRIM-009-2017) Development of Pin-point Controlled 3-Dimensional structure using Switching Nano-pulse Electric Field (Invited)

T. Nakayama*; H. Cho²; T. Suzuki¹; H. Suematsu¹; K. Niihara¹; 1. Nagaoka Univ of Tech, Japan;
2. Hanyang Univ, Republic of Korea

9:30 AM

(ICACC-PACRIM-010-2017) Transient intergranular glassy film to initiate bi-modal microstructure in engineering ceramics (Invited)

H. Gu*; 1. Shanghai University, China

10:00 AM

Break

10:20 AM

(ICACC-PACRIM-011-2017) Functionalization and design of advanced ceramics based on innovative powder processing (Invited)

J. Tatami*; 1. Yokohama National University, Japan

10:50 AM

(ICACC-PACRIM-012-2017) Fabrication of High Thermal Conductivity Silicon Nitride Substrates for Power Electronic Device Application (Invited)

Y. Zhou*; H. Hyuga¹; D. Kusano²; K. Hirao¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan; 2. Japan Fine Ceramics Co., Ltd., Japan

11:20 AM

(ICACC-PACRIM-013-2017) Ceramics for Fluorine-based Plasma Environment: Erosion Mechanism and Plasma Resistant Materials (Invited)

S. Lee*; S. Park¹; Y. Oh¹; H. Kim¹; 1. Korea Institute of Ceramic Engineering and Technology (KICET), Republic of Korea

11:40 AM

(ICACC-PACRIM-014-2017) Designing novel strategies for enhancing materials education for undergraduate students (Invited)

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

6th Global Young Investigator Forum

Advanced Ceramics and Coatings for Structural, Environmental, and Functional Applications

Room: Coquina Salon F

Session Chair: Valerie Wiesner, NASA Glenn Research Center

8:30 AM

(ICACC-GYIF-010-2017) Joining of Ceramics: The Role of Ceramics Fusion Welding (Invited)

D. King*; G. Hilmas²; W. Fahrenholtz²; 1. UES, Inc., USA; 2. Missouri University of Science & Technology, USA

9:00 AM

(ICACC-GYIF-011-2017) Synthesis and properties of ceramics derived from preceramic polymers

K. Kita*; M. Fukushima¹; H. Hyuga¹; N. Kondo¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

9:20 AM

(ICACC-GYIF-012-2017) Additive Manufacturing of Dense Ceramic Parts via Direct Ink Writing of Aqueous Suspensions

L. Rueschhoff*; W. Costakis¹; A. Diaz Cano¹; J. Youngblood¹; R. Trice¹; 1. Purdue University, USA

9:40 AM

(ICACC-GYIF-013-2017) Direct ink writing of geopolymers

G. Franchin*; L. Zeffiro¹; P. Scanferla¹; H. Elsayed¹; A. Baliello²; M. Pasetto²; P. Colombo¹;
1. University of Padova, Italy; 2. University of Padova, Italy

10:00 AM

Break

Ceramic Materials and Composites for Aerospace, Armor, Biological, Energy and Medical Applications

Room: Coquina Salon F

Session Chair: Go Kawamura, Toyohashi University of Technology

10:20 AM

(ICACC-GYIF-014-2017) $\text{Na}_3\text{V}_2(\text{PO}_4)_3$ as a Cathode Material for Sodium-ion Batteries

A. Murugappan*; M. Law*; P. Balaya*; 1. University of California, Berkeley, USA; 2. National University of Singapore, Singapore

10:40 AM

(ICACC-GYIF-015-2017) Enhancement of nitridation of silicon with various rare earth oxides addition and the reaction mechanism

T. Okuno*; Y. Zhou*; K. Hirao*; H. Hyuga*; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

11:00 AM

(ICACC-GYIF-016-2017) Solution carbothermal processing of nano phase ZrC powders

S. N. Katea*; G. Westin*; 1. Uppsala University, Sweden

11:20 AM

(ICACC-GYIF-017-2017) Effect of morphologies on strength and thermal conductivity in gelation-freezing derived porous ceramics

M. Fukushima*; H. Hyuga*; C. Matsunaga*; T. Ohji*; Y. Yoshizawa*; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

11:40 AM

(ICACC-GYIF-018-2017) Shaping of ceramic microspheres using vibrational droplet coagulation

J. Pype*; B. Michielsen*; S. Mullens*; V. Meynen*; 1. VITO, Belgium; 2. University of Antwerp, Belgium

FS2: Advanced Ceramic Materials and Processing for Photonics and Energy

Multi-functional Materials I

Room: Halifax A/B

Session Chairs: Gilles Lerondel, University of Technology of Troyes; Muhammet Toprak, KTH Royal Institute of Technology

8:30 AM

(ICACC-FS2- 006- 2017) $\text{ZnS-CaLa}_2\text{S}_4$ Infrared Optical Ceramics Sintered by a Field-Assisted Technology

Y. Li*; Y. Wu*; 1. Alfred University, USA

8:50 AM

(ICACC-FS2- 007- 2017) ZnO-PMMA quantum dots nanocomposites for electrical switching applications

M. S. Toprak*; V. Doddapaneni*; M. Saleemi*; F. Ye*; H. Edin*; 1. KTH Royal Institute of Technology, Sweden; 2. KTH Royal Institute of Technology, Sweden

9:10 AM

(ICACC-FS2- 008- 2017) 2D Materials Growth: Applications and Challenges (Invited)

M. Sijaj*; 1. UQAM, Canada

9:40 AM

(ICACC-FS2- 009- 2017) Nanostructured semiconducting metal oxides as flexible platform for solar energy exploitation (Invited)

I. Concina*; 1. Luleå University of Technology, Sweden

10:10 AM

Break

10:30 AM

(ICACC-FS2- 010- 2017) ZnO as a multifunctional photonic material: emphasis on enhanced optical properties and controllable nanostructuring (Invited)

G. J. Lerondel*; A. Gokarna*; K. Nomenyo*; A. Gwiazda*; C. Chevalier*; A. Rumyantseva*; 1. University of Technology of Troyes, France

11:00 AM

(ICACC-FS2- 011- 2017) Advanced porous graphene thin films for energy-efficient water filtration (Invited)

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

11:30 AM

(ICACC-FS2- 012- 2017) Conducting polymers and polymer-based nanocomposites: Their potential role on energy-related technology (Invited)

V. M. Castano*; 1. Universidad Nacional Autonoma de Mexico, Mexico

S1: Mechanical Behavior and Performance of Ceramics & Composites

SiC/SiC Materials

Room: Coquina Salon D

Session Chairs: Masaki Kotani, JAXA; Dietmar Koch, Institute of Structures and Design

8:30 AM

(ICACC-S1-012-2017) The conditions of fiber/matrix interface and matrix formation of the polymer-derived SiC/SiC composite towards the best mechanical properties (Invited)

M. Kotani*; K. Konaka*; S. Ogihara*; 1. Japan Aerospace Exploration Agency, Japan; 2. Tokyo University of Science, Japan

9:00 AM

(ICACC-S1-013-2017) Manufacturing of damage tolerant SiC/SiC ceramic matrix composites for long term applications

D. Koch*; B. Mainzer*; R. Jemmal*; 1. German Aerospace Center, Germany

9:20 AM

(ICACC-S1-015-2017) Effects of post heat-treatment on the mechanical properties of SiC/SiC composites fabricated by a hybrid route

P. Fitriani*; A. Sharma*; A. Septiadi*; D. Yoon*; 1. Yeungnam University, Republic of Korea

9:40 AM

(ICACC-S1-016-2017) Effects of braiding angle on damage mechanisms in SiC/SiC composite tubes characterized by X-ray computed tomography

Y. Chen*; L. Gélébart*; M. Bornert*; C. Chateau*; A. King*; C. Sauder*; 1. French Alternative Energies and Atomic Energy Commission, France; 2. Laboratoire Navier/ENPC/Université Paris-Est, France; 3. French National Synchrotron SOLEIL, France

10:00 AM

Break

10:20 AM

(ICACC-S1-017-2017) Electrical resistivity monitoring of SiC/SiC composites during ageing under oxidizing environments

C. Simon*; G. Camus*; F. Rebillat*; 1. Laboratoire des Composites Thermostructuraux, France

10:40 AM

(ICACC-S1-018-2017) Use of Electrical Resistance and Acoustic Emission During Fatigue of Woven SiC/SiC Composites under Different Conditions

Z. Han*; 1. University of Akron, USA

11:00 AM

(ICACC-S1-019-2017) High Velocity Impact of 3-D Woven SiC/SiC Ceramic Matrix Composites of Varying Architectures at Ambient and High Temperature

M. J. Presby^{*1}; R. K. Smith¹; G. N. Morscher¹; C. Iwano²; B. Sullivan²; 1. The University of Akron, USA; 2. Materials Research and Design, USA

11:20 AM

(ICACC-S1-020-2017) In situ observation of damage in SiC_f/SiC_m composites under load at high temperature

A. Singhal^{*1}; Y. Gao¹; Y. Zhou¹; E. Mailliet¹; H. Barnard²; D. Parkinson²; A. MacDowell²; G. Henson¹; 1. GE, USA; 2. Lawrence Berkeley National Laboratory, USA

11:50 AM

(ICACC-S1-021-2017) Rare earth disilicate fiber coatings for SiC/SiC CMCs

E. E. Boakye^{*1}; P. Mogilevsky¹; T. Parthasarathy¹; T. Key¹; M. Cinibulk¹; R. Hay²; S. Opeka¹; 1. UES Inc., USA; 2. Air Force Research Laboratory, USA

12:10 PM

(ICACC-S1-080-2017) Failure analysis and sub-critical crack growth (SCG) characterization of Pt-Al₂O₃ high temperature co-fired (HTCC) ceramics

R. Tandon^{*1}; C. Newton¹; A. Thom²; A. Knudsen³; 1. Sandia National Laboratories, USA; 2. Medtronic Inc, USA; 3. Kyocera North America, USA

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

Environmental Barrier Coatings I: Processing & Characterization

Room: St. John

Session Chairs: Kang Lee, NASA Glenn Research Center; Peter Mechnich, German Aerospace Center (DLR)

8:30 AM

(ICACC-S2-010-2017) The water-vapor corrosion behaviors of EBC-coated CMC materials (Invited)

Y. Wang^{*1}; 1. Northwestern Polytechnical University, China

9:00 AM

(ICACC-S2-011-2017) Nano-Structured Ceramic Coatings to Stabilize SiC Against Reaction in High Temperature Steam

A. Hoskins^{*1}; C. Musgrave¹; A. Weimer¹; 1. University of Colorado Boulder, USA

9:20 AM

(ICACC-S2-012-2017) Quantitative measurement of delamination toughness of oxide EBC layer from SiC/SiC substrate

Y. Aoki^{*1}; Y. Kagawa¹; 1. The University of Tokyo, Japan

9:40 AM

(ICACC-S2-013-2017) Development of environmental barrier coatings for ceramic materials

H. Klemm^{*1}; K. Schönfeld¹; W. Kunz¹; 1. FhG IKT Dresden, Germany

10:00 AM

Break

10:20 AM

(ICACC-S2-014-2017) Environmental Barrier Coatings for Ceramic Matrix Composites – An Overview (Invited)

K. N. Lee^{*1}; 2. van Roode²; D. Zhu¹; T. Kashyap³; V. L. Wiesner¹; 1. NASA Glenn Research Center, USA; 2. Mark van Roode & Associates, USA; 3. Pratt & Whitney, USA

10:50 AM

(ICACC-S2-015-2017) Oxygen Tracer Diffusion in Yttrium Silicates

R. A. Golden^{*1}; E. Opila¹; 1. University of Virginia, USA

11:10 AM

(ICACC-S2-016-2017) EBC slurry infiltrated matrix/coatings for woven SiC/SiC composites

J. Zhou^{*1}; G. G. Chase¹; A. S. Almansour²; G. N. Morscher⁴; B. J. Harder²; 1. the University of Akron, USA; 2. NASA Glenn Research Center, USA; 3. NASA Glenn Research Center, USA; 4. the University of Akron, USA

11:30 AM

(ICACC-S2-017-2017) Tantalum-based Ceramic Coatings for Extremely Corrosive Environments and Fiber Interface Coatings for High Temperature Fiber-reinforced CMCs

J. Stiglich^{*1}; B. Williams¹; D. Gambale¹; 1. Ultramet, USA

11:50 AM

(ICACC-S2-018-2017) Environment Stability and Oxidation Behavior of HfO₂-Si and YbGd(O) Based Environmental Barrier Coating Systems for SiC/SiC Ceramic Matrix Composites

D. Zhu^{*1}; S. Farmer¹; T. R. McCue¹; B. J. Harder¹; J. Hurst¹; 1. NASA Glenn Research Center, USA

12:10 PM

(ICACC-S2-019-2017) High Temperature Environmental Barrier Coatings Deposited via Plasma Spray- Physical Vapor Deposition (PS-PVD)

B. J. Harder^{*1}; D. Zhu¹; 1. NASA Glenn Research Center, USA

S3: 14th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Solid Oxide Electrolysis Cell

Room: Crystal

Session Chair: Ayhan Sarikaya, Saint-Gobain

8:30 AM

(ICACC-S3-009-2017) Solid Oxide Fuel Cell Based Technologies for Power Generation and Chemical Production (Invited)

P. Miranda^{*1}; N. Minh²; 1. Coppe-Federal University of Rio de Janeiro, Brazil; 2. University of California, San Diego, USA

9:00 AM

(ICACC-S3-010-2017) Critical Evaluation of Dynamic Reversible Chemical Energy Storage with High Temperature Electrolysis (Invited)

D. McVay^{*2}; J. Brouwer²; F. Ghigliazza¹; 1. SOLIDpower, Italy; 2. University of California, Irvine, USA

9:30 AM

(ICACC-S3-011-2017) Electrochemical In-situ Upgrading of Bio-oil Using Solid Oxide Electrolysis Stack

S. Elangovan^{*1}; D. Larsen¹; E. Mitchell¹; J. Hartvigsen¹; J. Mosby¹; B. Millett¹; J. Elwell¹; P. Billen²; S. Spataro²; D. Santosa³; 1. Ceramtec, Inc., USA; 2. Drexel University, USA; 3. Pacific Northwest National Lab, USA

9:50 AM

(ICACC-S3-012-2017) Solid Oxide Electrolysis Development for Oxygen Production by In-situ Resource Utilization on Mars

J. Hartvigsen¹; S. Elangovan¹; J. Elwell^{*1}; D. Larsen¹; T. Hafen¹; E. Mitchell¹; L. Clark¹; T. Meaders¹; 1. Ceramtec, Inc., USA

10:10 AM

Break

Thermodynamic Stability

Room: Crystal

Session Chair: S. Elangovan, Ceramtec, Inc.

10:30 AM**(ICACC-S3-013-2017) Thermodynamic Stability Maps for the $\text{La}_{0.6}\text{Sr}_{0.4}\text{Co}_{0.2}\text{Fe}_{0.8}\text{O}_{3\pm\delta}$ - CO_2 - O_2 System for Application in Solid Oxide Fuel Cells**S. Darvish^{*1}; Y. Zhong¹; 1. Florida International University, USA**10:50 AM****(ICACC-S3-014-2017) A thermodynamic approach on the chemical stability of lanthanum chromite-based perovskite with yttrium-stabilized zirconia**H. Sabarou^{*1}; Y. Zhong¹; 1. Florida International University, USA**11:10 AM****(ICACC-S3-015-2017) Reactivity of SrO/Sr in SOFCs**X. Yin^{*1}; R. Spatschek¹; L. Bencze²; L. Singheiser¹; 1. Forschungszentrum Juelich, Germany; 2. Eötvös Loránd University, Hungary**11:30 AM****(ICACC-S3-016-2017) Weight Loss Mechanism of $(\text{La}_{0.8}\text{Sr}_{0.2})_{0.98}\text{MnO}_{3\pm\delta}$ During Thermal Cycles**S. Darvish^{*1}; Y. Zhong¹; 1. Florida International University, USA**S4: Armor Ceramics****Materials Modeling**

Room: Coquina Salon E

Session Chair: Sikhandia Satapathy, U.S. Army Research Laboratory

8:30 AM**(ICACC-S4-010-2017) Validation and optimization of boron carbide interatomic potentials using XRD (Invited)**S. Coleman^{*1}; E. Hernandez-Rivera¹; D. Taylor¹; J. Synowczynski-Dunn¹; M. Tschopp¹; 1. US Army Research Laboratory, USA**9:00 AM****(ICACC-S4-011-2017) Nanotwins in Boron Carbide and Related Materials (Invited)**Q. An^{*1}; 1. University of Nevada Reno, USA**9:30 AM****(ICACC-S4-012-2017) Molecular-dynamic modeling of propagation of shock wave in porous ceramic materials**I. V. Kartuzov^{*1}; V. L. Bekenev¹; V. V. Kartuzov¹; 1. IPMS, Ukraine**9:50 AM****Break****Materials Characterization and Mechanical Behavior I**

Room: Coquina Salon E

Session Chair: Jeffrey Swab, U.S. Army Research Laboratory

10:20 AM**(ICACC-S4-013-2017) Polymorph-level variability and amorphization resistance of boron carbide: Experiments and atomistic modeling**A. P. Awasthi^{*1}; C. Kunka¹; G. Subhash¹; 1. University of Florida, USA**10:40 AM****(ICACC-S4-014-2017) Raman-Active Constituents of Boron Carbide**C. Kunka^{*1}; A. P. Awasthi¹; G. Subhash¹; 1. University of Florida, USA**11:00 AM****(ICACC-S4-015-2017) Grain Boundary Characterization of High-Purity Boron Carbide with Al_2O_3 and SiO_2 Additives**C. J. Marvel^{*1}; K. D. Behler²; S. D. Walck²; J. LaSalvia²; M. P. Harmer¹; 1. Lehigh University, USA; 2. US Army Research Laboratory, USA**11:20 AM****(ICACC-S4-016-2017) Meso-scale microstructural flaw quantification in boron carbide using microCT**C. Moorehead^{*2}; J. M. Sietins¹; J. Swab¹; 1. US Army Research Laboratory, USA; 2. Drexel University, USA**11:40 AM****(ICACC-S4-017-2017) Diffusion bonding of Boron Carbide to Silicon to study the rate of diffusion of Silicon into Boron Carbide and its effect on mechanical properties**C. Besnard^{*1}; A. Bhowmik¹; T. Giovannini²; Y. Patel¹; P. Brown³; F. Giuliani²; L. Vandeperre¹; 1. Imperial College London, United Kingdom; 2. Imperial College London, United Kingdom; 3. Defence Science and Technology Laboratory Porton Down, United Kingdom**S6: Advanced Materials and Technologies for Direct Thermal Energy Conversion and Rechargeable Energy Storage****Thermal Energy Conversion and Energy Storage III**

Room: Tomoka A

Session Chair: Olivier Guillon, Forschungszentrum Juelich

8:30 AM**(ICACC-S6-009-2017) Quantifying defects in battery materials (Invited)**M. Casas-Cabanas^{*1}; 1. CIC energiGUNE, Spain**9:00 AM****(ICACC-S6-010-2017) Impacts of anionic vacancies on the local and electronic structures of Iron-based Oxyfluoride Electrodes (Invited)**D. Dambournet^{*1}; 1. Sorbonne Universités, France**9:30 AM****(ICACC-S6-011-2017) Advanced Analysis of Nonequilibrium Phase Transition between LiFePO_4 and FePO_4 during Battery Operation (Invited)**Y. Orikasa^{*1}; 1. Ritsumeikan University, Japan**10:00 AM****Break****Thermal Energy Conversion and Energy Storage IV**

Room: Tomoka A

Session Chair: Valérie Pralong, CNRS

10:20 AM**(ICACC-S6-012-2017) Controlling and characterizing defects in electrochemically active MnO_2 nanosheet assemblies (Invited)**S. Mixture^{*1}; P. Metz¹; P. Gao¹; T. Hey¹; 1. Alfred University, USA**10:50 AM****(ICACC-S6-013-2017) Humidity propelled washable and wearable energy storage device using carbon nanotubes (Invited)**C. Subramaniam^{*1}; M. Jha¹; M. Singh¹; D. Banerjee¹; 1. Indian Institute of Technology Bombay, India**11:20 AM****(ICACC-S6-014-2017) Unique crystallization behavior of $\text{Na}_2\text{MnP}_2\text{O}_7$ glass**T. Honma^{*1}; M. Tanabe¹; C. Akatsuka¹; T. Komatsu¹; 1. Nagaoka University of Technology, Japan**11:40 AM****(ICACC-S6-015-2017) Design and Processing of Ceramics for Low Cost Sodium Batteries**M. Stelter^{*1}; R. Weidl¹; M. Schulz¹; 1. Fraunhofer IKTS, Germany

S7: 11th International Symposium on Nanostructured Materials: Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental and Health Applications

Smart Sensors I

Room: Coquina Salon A

Session Chairs: Yakup Gönüllü, University of Cologne; Sanjay Mathur, University of Cologne

8:30 AM

(ICACC-S7-001-2017) Nano-material based stretchable bio-environmental sensors driven by integrated micro-supercapacitor array (Invited)

J. Ha^{*1}; 1. Korea University, Republic of Korea

9:00 AM

(ICACC-S7-002-2017) Ceramic Gas Sensors to Oxide Nano-heterostructures: A Materials Design (Invited)

S. Akbar^{*1}; D. Miller¹; 1. The Ohio State University, USA

9:30 AM

(ICACC-S7-003-2017) Highly selective and sensitive electrochemical gas sensors based on p-n semiconducting oxide heterostructures (Invited)

C. Sun^{*1}; 1. National Energy Technology Lab, USA

9:50 AM

(ICACC-S7-004-2017) Plasma deposition of metal oxide layers for selective gas sensing application

Y. Gönüllü^{*1}; S. Mathur¹; T. Fischer¹; J. Leduc¹; 1. University of Cologne, Germany

10:10 AM

(ICACC-S7-005-2017) Scalable Nanostructure Integration for Multimode Gas Sensing at High Temperature (Invited)

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

Smart Sensors II

Room: Coquina Salon A

Session Chairs: Chenhu Sun, National Energy Technology Lab; Pu-Xian Gao, University of Connecticut

10:30 AM

(ICACC-S7-006-2017) Metal oxides nanophotonic and plasmonic applications in chemical sensing (Invited)

G. Faglia^{*1}; 1. University of Brescia, Italy

11:00 AM

(ICACC-S7-007-2017) Dry printing of carbon nanotubes for transparent, flexible and stretchable touch sensors (Invited)

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

11:30 AM

(ICACC-S7-008-2017) Integrated metal oxide nanowires for chemical sensors

T. Fischer^{*1}; Y. Gönüllü¹; S. Mathur¹; 1. University of Cologne, Germany

11:50 AM

(ICACC-S7-009-2017) Hydrogen sensing characteristics of highly sensitive and reliable GaN based gas sensor (Invited)

S. Jung¹; M. Lee¹; K. Baik²; S. Jang^{*1}; 1. Dankook University, Republic of Korea; 2. Hongik University, Republic of Korea

12:10 PM

(ICACC-S7-010-2017) Probing the complex surfaces of oxide materials (Invited)

G. Tabacchi^{*1}; 1. Università Insubria, Italy

S9: Porous Ceramics: Novel Developments and Applications

Innovations in Processing Methods & Properties of Porous Ceramics I

Room: Coquina Salon G

Session Chair: Sawao Honda, Nagoya Institute of Technology

8:30 AM

(ICACC-S9-010-2017) Highly porous Y-Si-O silicates as high-temperature thermal insulator: Optimal processing and properties (Invited)

J. Wang^{*1}; 1. Shenyang National Laboratory for Materials Science, Institute of Metal Research, China

9:00 AM

(ICACC-S9-011-2017) Experimental investigation and numerical modeling of mechanical behavior in porous carbon materials

E. Kojo^{*1}; R. Inoue¹; Y. Kogo¹; 1. Tokyo University of Science, Japan

9:20 AM

(ICACC-S9-012-2017) Main parameters governing the radiative properties of silicon carbide open-cell foams up to T = 1300 K

B. Rousseau^{*1}; 1. CNRS LTN, France

9:40 AM

(ICACC-S9-013-2017) Thermomechanical characterization of porous LSCF with different pore structures and porosity

Y. Zou^{*1}; F. Schulze-Küppers¹; M. Balaguer¹; J. Malzbender¹; 1. Forschungszentrum Juelich, Germany

10:00 AM

Break

Mechanical Properties of Porous Ceramics

Room: Coquina Salon G

Session Chair: Jingyang Wang, Shenyang National Laboratory for Materials Science, Institute of Metal Research

10:20 AM

(ICACC-S9-014-2017) Bending Strength Test of Porous Ceramics using Small Size Specimen

S. Honda^{*1}; K. Yasuda²; T. Ono³; H. Kita⁴; M. Takahashi⁵; Y. Takahashi⁶; S. Tanaka⁷; S. Taruta⁸; T. Mitsuoka⁹; H. Muto¹⁰; S. Yamamoto¹¹; Y. Yoshizawa¹²; 1. Nagoya Institute of Technology, Japan; 2. Tokyo Institute of Technology, Japan; 3. Kyocera, Japan; 4. Nagoya University, Japan; 5. Ehime University, Japan; 6. Noritake Company Limited, Japan; 7. Nagaoka University of Technology, Japan; 8. Shinshu University, Japan; 9. NGK Spark Plug Co., Ltd., Japan; 10. Toyohashi University of Technology, Japan; 11. Asuzac, Japan; 12. AIST, Japan

10:40 AM

(ICACC-S9-015-2017) Linearity Condition on Weibull Plot of Bending Strength Data of Porous Ceramics

K. Yasuda^{*1}; 1. Tokyo Institute of Technology, Japan

11:00 AM

(ICACC-S9-016-2017) Effects of platelets addition on the microstructure and uniaxial compressive response of ice-templated porous alumina

D. Ghosh^{*1}; M. Banda¹; H. Kang¹; V. Kamaha¹; 1. Old Dominion University, USA

11:20 AM

(ICACC-S9-017-2017) Adaptation of the Chevron-Notch Beam Fracture Toughness Method to Diesel Particulate Filters

A. Wereszczak^{*1}; O. Jadaan²; M. Modugno¹; G. Hatala²; M. Lance¹; 1. Oak Ridge National Lab, USA; 2. University of Mount Union, USA

11:40 AM

(ICACC-S9-018-2017) Comparative Analysis of Synthesis and Mechanical Characterization of Porous Ceramics

M. Mehr^{*1}; J. Pineiro-Llanes¹; J. C. Nino¹; 1. University of Florida, USA

S10: Virtual Materials (Computational) Design and Ceramic Genome

Modelling - Mechanical behavior

Room: Ponce DeLeon

Session Chairs: Wai-Yim Ching, University of Missouri-Kansas City;
Masato Yoshiya, Osaka University

8:30 AM

(ICACC-S10-009-2017) Stochastic Dependence of Microstructure-sensitive Damage Formation/Propagation in Ceramic Continuous Fiber Reinforced Ceramic Matrix Composites (Invited)

A. Samuel¹; S. Hawkins²; C. Blake³; S. Bricker⁴; J. Simmons⁵; T. Whitlow⁶; J. Pierce⁷; M. Braginsky⁸; C. P. Przybyla⁹; 1. Air Force Research Laboratory, USA; 2. University of California, Santa Barbara, USA; 3. Wright State University, USA; 4. University of Texas A&M, USA; 5. University of Dayton Research Institute, USA

9:00 AM

(ICACC-S10-010-2017) Extended Finite Element Analysis of the Fracture Behavior of ZrB₂-Carbon Ultra-High Temperature Ceramics

L. Jarvis¹; M. Asle Zaeem¹; W. Fahrenholtz¹; G. Hilmas¹; J. Watts¹; 1. Missouri University of Science & Technology, USA

9:20 AM

(ICACC-S10-011-2017) Numerical and Experimental Analysis of a 3D Carbon/Carbon Composite under Four-point Bending

A. Este¹; B. Toson¹; J. Saliba²; J. El Yagoubi³; S. Morel⁴; E. Martin⁴; 1. CEA, France; 2. University Bordeaux, France; 3. University Bordeaux, France; 4. LCTS - CNRS, France

9:40 AM

(ICACC-S10-012-2017) Multi-Phase-Field Modeling of Crack Propagation in Polycrystalline ZrB₂-Based Ceramics

A. Emdadi¹; M. Asle Zaeem¹; W. Fahrenholtz¹; G. Hilmas¹; 1. Missouri University of Science & Technology, USA

10:00 AM

Break

10:20 AM

(ICACC-S10-013-2017) Tensile and compression experiment on an amorphous zeolitic imidazolate framework (ZIF) model (Invited)

W. Ching¹; 1. University of Missouri-Kansas City, USA

10:50 AM

(ICACC-S10-014-2017) Theoretical Investigations on Atomic Structures and Bonding during Plastic Deformation in Ionic Crystals (Invited)

K. Matsunaga¹; 1. Nagoya University, Japan

11:20 AM

(ICACC-S10-015-2017) Strain effects on energetic responses of oxygen vacancy in KTaO₃

J. Xi¹; Y. Zhang²; W. J. Weber¹; 1. University of Tennessee, USA; 2. Oak Ridge National Laboratory, USA

11:40 AM

(ICACC-S10-016-2017) Theoretical Investigations on the High Temperature Structure and Mechanical Properties of TM₂ (TM = Ti, Zr, Hf) (Invited)

H. Xiang¹; Y. Zhou¹; Z. Feng¹; Z. Li¹; 1. Aerospace Research Institute of Materials and Processing Technology, China

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

Production Root Technology III

Room: Coquina Salon H

Session Chairs: Ali Erdemir, Argonne National Lab; Kyoung Il Moon, KITECH

8:30 AM

(ICACC-S11-010-2017) Quantum Mechanically Guided Materials Design for Surface Engineering (Invited)

J. M. Schneider¹; 1. RWTH Aachen University, Germany

9:00 AM

(ICACC-S11-011-2017) Friction and Wear Behavior of MXenes under Dry Sliding Conditions (Invited)

G. Ramirez¹; S. Kota²; O. L. Eryilmaz²; Y. Gogotsi²; M. W. Barsoum²; A. Erdemir¹; 1. Argonne National Laboratory, USA; 2. Drexel University, USA

9:30 AM

(ICACC-S11-012-2017) Flexible ceramic coatings: Role of energy (Invited)

J. Musil¹; G. Remnev²; 1. University of West Bohemia, Czech Republic; 2. National Research Tomsk Polytechnic University, Russian Federation

10:00 AM

Break

10:20 AM

(ICACC-S11-020-2017) Smart powder processing of advanced materials and their recycling (Invited)

M. Naito¹; A. Kondo¹; T. Kozawa¹; 1. Osaka University, Japan

10:50 AM

(ICACC-S11-014-2017) Two-step Loading in Pulsed Electric Current Sintering of MoO₃ for Production of Radioactive Isotopes

H. Suematsu¹; S. Sato¹; M. Seki¹; M. Nanko²; K. Tsuchiya³; K. Nishikata³; T. Suzuki⁴; T. Nakayama⁴; K. Niihara⁴; 1. Nagaoka University of Technology, Japan; 2. Nagaoka University of Technology, Japan; 3. Japan Atomic Energy Agency, Japan; 4. Nagaoka University of Technology, Japan

11:10 AM

(ICACC-S11-015-2017) Study of Shielding Method to Reduce Leakage Magnetic Field of an Opening in a Magnetically Shielded Room

H. Sugiyama¹; 1. National Institute of Technology, Kagoshima College, Japan

11:30 AM

(ICACC-S11-016-2017) Effect of calcium salts on reaction of dicalcium phosphate dihydrate (DCPD) with fluoride ion

S. Muroyama¹; M. Tafu²; S. Takamatsu²; T. Toshima²; Y. Matsushita¹; T. Fujita¹; 1. Chiyoda Ute Co. Ltd., Japan; 2. National Institute of Technology, Toyama College, Japan

11:50 AM

(ICACC-S11-017-2017) Nanocomposite Mo-Cu-N and Mo-Cu-X N (X=Cr, Ni, W, B) coatings deposited by reactive magnetron sputtering process with single alloying target

H. Park¹; C. Byun¹; K. Moon¹; 1. KITECH, Republic of Korea

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

Materials Design, New Composition and Composites III

Room: Tomoka B

Session Chairs: Surojit Gupta, University of North Dakota;
Guorui Zhao, Institute of Metal Research

8:30 AM

(ICACC-S12-010-2017) Ultra-high temperature ceramic matrix composites (UHTCMCs) (Invited)

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

9:00 AM

(ICACC-S12-011-2017) ZrB₂-MoSi₂ Dual-Scale Composite Architectures: Overcoming the Strength-to-Toughness Trade-off for High Temperature Structural Applications

F. Monteverde^{*}; S. Failla¹; C. Melandri¹; D. Sciti¹; R. J. Grohsmeyer²; G. Hilmas²; W. Fahrenholtz²; 1. CNR-ISTEC, Italy; 2. Missouri University of Science and Technology, USA

9:20 AM

(ICACC-S12-012-2017) Evidence for the possibility to tune the substitution rate in [Ti_(1-y)Cu_y]₃[Al_xCu_(1-x)]₂ MAX phase solid solution

S. Dubois^{*}; M. Nechiche²; T. Cabioch¹; V. Brunet¹; P. Chartier¹; V. Mauchamp¹; S. Azem²; A. Joulain¹; 1. PPRIME Institute, France; 2. Université Mouloud Mamerri, Algeria

9:40 AM

(ICACC-S12-013-2017) Processing and Elevated Temperature Mechanical Properties of ZrB₂-Based Laminates

C. Wittmaier^{*}; W. Fahrenholtz¹; G. Hilmas¹; 1. Missouri University of Science & Technology, USA

10:00 AM

Break

Methods for Improving Damage Tolerance, Oxidation and Thermal Shock Resistance

Room: Tomoka B

Session Chairs: Zhe Cheng, Florida International University;
Frederic Monteverde, CNR-ISTEC

10:20 AM

(ICACC-S12-014-2017) Tailored Interfaces for Engineered High Temperature Propulsion Materials (Invited)

A. Ghoshal^{*}; M. Murugan¹; M. J. Walock¹; B. Barnett¹; A. Nieto¹; M. S. Pepi¹; J. Swab¹; D. Zhu²; W. Gamble¹; 1. US Army Research Laboratory, USA; 2. NASA Glenn Research Center, USA

10:50 AM

(ICACC-S12-015-2017) Anti-oxidation and mechanical performance of a BN interface in an ultra-high temperature useful C_f/C composite

P. S. Makurunge^{*}; I. Sigalas¹; 1. University of the Witwatersrand, South Africa

Structure Stability under Extreme Environments I

Room: Tomoka B

Session Chairs: Zhe Cheng, Florida International University;
Frederic Monteverde, CNR-ISTEC

11:10 AM

(ICACC-S12-016-2017) Compression Creep of HfB₂ and HfB₂-SiC at 1500°C in Argon: Effects of Grain Size and SiC Content

A. DeGregoria¹; M. Ruggles-Wrenn^{*}; 1. Air Force Institute of Technology, USA

11:30 AM

(ICACC-S12-017-2017) Evolution of Irradiation Defects in Ti₂AlC during Heavy Ion Irradiation

B. Cui^{*}; F. Wang¹; Q. Su²; M. Nastasi¹; 1. University of Nebraska, Lincoln, USA; 2. University of Nebraska-Lincoln, USA

11:50 AM

(ICACC-S12-018-2017) Ceramic Matrix Composites for Air Cooled Rotating Detonation Engines

D. King^{*}; G. Wilks¹; T. Parthasarathy¹; M. Cinibulk¹; S. Theuerkauf¹; C. Stevens²; 1. Air Force Research Laboratory, USA; 2. Air Force Research Laboratory, USA

S14: Crystalline Materials for Electrical, Optical and Medical Applications

Scintillator

Room: Tomoka C

Session Chairs: Yimin Wang, Radiation Monitoring Devices, Inc.

8:30 AM

(ICACC-S14-011-2017) II-VI and Oxide Materials for Radiation Detection and Conversion (Invited)

J. McCloy^{*}; K. Lynn¹; 1. Washington State University, USA

9:00 AM

(ICACC-S14-012-2017) High Energy Resolution Scintillators for Nuclear Nonproliferation Applications (Invited)

M. Zhuravleva^{*}; A. Lindsey¹; L. Stand¹; Y. Wu¹; M. Koschan¹; C. Melcher¹; 1. University of Tennessee, USA

9:30 AM

(ICACC-S14-013-2017) The complementary relationship of scintillation and storage luminescence of inorganic crystalline materials (Invited)

T. Yanagida^{*}; 1. Nara Institute of Science and Technology, Japan

10:00 AM

Break

10:20 AM

(ICACC-S14-014-2017) X-Ray and Neutron Imaging Screens (Invited)

N. Cherepy^{*}; 1. Lawrence Livermore Nat'l Lab, USA

10:50 AM

(ICACC-S14-015-2017) Transparent Ceramic Scintillators for X-ray Radiography Applications (Invited)

Y. Wang^{*}; J. Glodo¹; R. Shawgo¹; C. Brecher¹; W. Rhodes¹; K. Shah¹; 1. Radiation Monitoring Devices, Inc., USA

11:20 AM

(ICACC-S14-016-2017) Development of X-ray Imaging Plates with Sub-micrometer Resolution Based on Intervalence Change of Sm for Synchrotron Radiation Therapy (Invited)

G. Okada^{*}; J. Ueda²; S. Tanabe²; A. Edgar³; N. Kawaguchi¹; T. Yanagida¹; G. Belev⁴; T. Wysokinski²; D. Chapman¹; S. Kasap¹; 1. Nara Institute of Science and Technology, Japan; 2. Kyoto University, Japan; 3. Victoria University of Wellington, New Zealand; 4. University of Saskatchewan, Canada; 5. Canadian Light Source, Canada

S15: Additive Manufacturing and 3-D Printing Technologies

Emerging Additive Manufacturing

Room: Coquina Salon B

Session Chair: Paolo Colombo, University of Padova

8:30 AM

(ICACC-S15-014-2017) In operando non-destructive evaluation techniques for additive manufacturing (Invited)

A. Michaelis*; 1. Fraunhofer IKTS, Germany

9:00 AM

(ICACC-S15-015-2017) Additive Manufacturing of Components for Turbine Engine and Electric Motor Applications

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

9:20 AM

(ICACC-S15-016-2017) 3D Printing of Kaolinite Clay Ceramics

C. Revelo¹; H. A. Colorado*; 1. Universidad de Antioquia, Colombia

9:40 AM

(ICACC-S15-017-2017) A Novel Cell Laden TiO₂ Nanotube-Hydrogel Composite Bioink for Bioprinting of Dental and Orthopedic Structures

S. Shafiee*; E. Firlar¹; S. Patel¹; T. Shokuhfar¹; 1. UIC, USA

10:00 AM

Break

Direct Writing & Fused Deposition

Room: Coquina Salon B

Session Chair: Michael Halbig, NASA Glenn Research Center

10:20 AM

(ICACC-S15-018-2017) Direct ink-writing of ceramic matrix composites from a preceramic polymer and fillers

G. Franchin*; L. Wahl¹; P. Colombo¹; 1. University of Padova, Italy

10:40 AM

(ICACC-S15-019-2017) Tribological Behavior of PLA and ABS-Based Polymer Matrix Composites Fabricated by Fused Deposition Modeling Process

S. Gupta*; M. Fuka¹; R. Dunnigan¹; M. C. Halbig²; M. Singh³; 1. University of North Dakota, USA; 2. NASA Glenn Research Center, USA; 3. Ohio Aerospace Institute, USA

11:00 AM

(ICACC-S15-020-2017) Bi-Material Additive Manufacturing: Tensile Study of Additively Manufactured Polymer Composites

G. Acosta Quiros*; M. Singh²; M. C. Halbig³; B. A. Lerch³; 1. University of Miami, USA; 2. Ohio Aerospace Institute, USA; 3. NASA Glenn Research Center, USA

3rd Pacific Rim Engineering Ceramics Summit

Energy and Environmental Issues I

Room: Coquina Salon C

Session Chairs: Makio Naito, Osaka University; Wei Pan, Tsinghua University

1:30 PM

(ICACC-PACRIM-015-2017) Smart powder processing of advanced materials for energy and environments (Invited)

M. Naito*; T. Kozawa¹; A. Kondo¹; 1. Osaka University, Japan

2:00 PM

(ICACC-PACRIM-016-2017) An overview of the intelligent self-healing catalyst for automotive emissions control (Invited)

H. Tanaka*; 1. Kwansei Gakuin University, Japan

2:30 PM

(ICACC-PACRIM-041-2017) Laser Drilling and Cutting Using Fiber Lasers (Invited)

S. Jiang*; 1. AdValue Photonics Inc, USA

3:00 PM

Break

3:20 PM

(ICACC-PACRIM-018-2017) Development of Low Thermal conductivity Materials by Defect Engineering (Invited)

W. Pan*; 1. Tsinghua University, China

3:50 PM

(ICACC-PACRIM-019-2017) Microstructure Evolution and Fabrication of Low Thermal Conductivity ZrO₂ Based Composites (Invited)

B. Jang*; Y. Oh²; S. Kim²; H. Kim²; 1. National Institute for Materials Science (NIMS), Japan; 2. Korea Institute of Ceramic Engineering and Technology, Republic of Korea

4:20 PM

(ICACC-PACRIM-020-2017) The study on process variables of SiC Radiant Tube including In-situ Joining (Invited)

Y. Kim*; H. Shin¹; 1. Inocera inc., Republic of Korea

4:40 PM

(ICACC-PACRIM-026-2017) Characterization of ZrN, ZrO₂ and β'-Zr₂O₁₁N₂ nanoparticles synthesized by PWD

L. V. Do*; H. Suematsu¹; T. Ogawa¹; 1. Nagaoka University of Technology, Japan

6th Global Young Investigator Forum

Magnetic and Electric, Energy Conversion and Energy Storage

Room: Coquina Salon F

Session Chair: Daniele Benetti, Institut National de la Recherche Scientifique

1:30 PM

(ICACC-GYIF-019-2017) Fabrication of metal halide perovskite nanocrystals and their applications in photo- and piezo-electronic device (Invited)

X. Zhang*; 1. Southern University of Science and Technology, China

2:00 PM

(ICACC-GYIF-020-2017) Efficient Processing of Heavily Filled Composites by UV Curing

V. Christensen*; M. Krohn²; P. Chan³; A. Natarajan³; 1. The Pennsylvania State University, USA; 2. GE Oil & Gas, USA; 3. GE Global Research, USA

2:20 PM

(ICACC-GYIF-021-2017) Colloidal Quantum Dots for Efficient and Durable Photoelectrochemical Hydrogen Production

L. Jin*; H. Zhao¹; A. Vomiero²; F. Rosei¹; 1. Institut National de la Recherche Scientifique, Canada; 2. Luleå University of Technology, Sweden

2:40 PM

(ICACC-GYIF-022-2017) Enhanced Decomposition of Plastic Waste through Photocatalysis

T. Colburn*; T. Toops¹; 1. Oak Ridge National Lab, USA

3:00 PM

Break

Frontiers in Ceramic Chemistry and Physics: New Precursors for Functional Ceramics, Ceramics and Catalysis, Functional Surfaces and Thin Films

Room: Coquina Salon F

Session Chair: Isabel Gessner, University of Cologne

3:20 PM

(ICACC-GYIF-023-2017) Impact of Deposition Technique and Process Parameter on Titanium Oxide and BFCO Thin Film Deposition

D. Benetti^{*1}; R. Nouar²; R. Nechache¹; H. Pepin¹; A. Sarkissian²; F. Rosei¹; J. MacLeod³; 1. Institut national de la recherche scientifique, Canada; 2. Plasmionique Inc, Canada; 3. Queensland University Of Technology, Australia

3:40 PM

(ICACC-GYIF-024-2017) Gas Phase Synthesis of Nanostructures Materials Using Molecular Precursors

T. Fischer^{*1}; Y. Gönüllü¹; S. Mathur¹; 1. University of Cologne, Germany

4:00 PM

(ICACC-GYIF-025-2017) Transition metal (Cr, Mn, and Fe) doping into Ti₃AlC₂ to fabricate doped-MXene

K. Shima^{*1}; K. Kawahara¹; M. Inada¹; N. Enomoto¹; K. Hayashi¹; 1. Kyushu University, Japan

4:20 PM

(ICACC-GYIF-026-2017) Stabilization through epitaxial strain of the magnetoelectric ε-Fe₂O₃

L. Corbellini^{*1}; C. Lacroix¹; C. Harnagea¹; D. Ménard²; A. Pignolet¹; 1. INRS, Canada; 2. Ecole Polytechnique de Montreal, Canada

4:40 PM

(ICACC-GYIF-027-2017) Magneto-transport properties of magnetoelectric multilayers using ferroelectric tunnel junction

T. Yokota^{*1}; S. Maeda¹; J. Mlyabe¹; 1. Nagoya Institute of Technology, Japan

FS2: Advanced Ceramic Materials and Processing for Photonics and Energy

Multi-functional Materials II

Room: Halifax A/B

Session Chairs: Clara Santato, Ecole Polytechnique de Montreal; Farid Akhtar, Stockholm University

1:30 PM

(ICACC-FS2- 013- 2017) Multifunctional Cerium Oxide Nanoparticles (Invited)

E. Traversa^{*1}; 1. Xi'an Jiaotong University, China

2:00 PM

(ICACC-FS2- 014- 2017) Design and Engineering 1D/2D materials for clean energy applications (Invited)

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

2:30 PM

(ICACC-FS2- 015- 2017) Nano-structured Hierarchically Porous Adsorbents for Clean Energy (Invited)

F. Akhtar^{*1}; 1. Stockholm University, Sweden

3:00 PM

Break

3:20 PM

(ICACC-FS2- 016- 2017) Multifunctional metal oxide films: Exploring the combination of electrochromism and electrochemical energy storage in electrolyte-gated transistors (Invited)

C. Santato^{*1}; 1. Ecole Polytechnique de Montreal, Canada

3:50 PM

(ICACC-FS2- 017- 2017) Photolithographically Patterned Metal Oxide Electrolyte-Gated Transistors (Invited)

F. Ciccoira^{*1}; I. Valitova¹; 1. Polytechnique Montreal, Canada

4:20 PM

(ICACC-FS2- 018- 2017) Nanoscale interface formation in Graphene and 2D MoS₂ layers based novel 2D junction devices (Invited)

B. R. Mehta^{*1}; 1. Indian Institute of Technology Delhi, India

S1: Mechanical Behavior and Performance of Ceramics & Composites

Mechanical Testing

Room: Coquina Salon D

Session Chairs: Jonathan Salem, NASA Glenn Research Center; George Quinn, American Dental Association Foundation

1:30 PM

(ICACC-S1-022-2017) Flaw Type Effects in Slow Crack Growth Testing (Invited)

J. Salem^{*1}; 1. NASA Glenn Research Center, USA

2:00 PM

(ICACC-S1-023-2017) International Standards for Properties and Performance of Advanced Ceramics: Over Three Decades of High-Quality and Rigorous ASTM Standards

M. G. Jenkins^{*1}; J. Salem²; S. T. Gonczy³; J. D. Helfinstine⁴; G. D. Quinn⁵; 1. Bothell Engineering and Science Technologies, USA; 2. NASA Glenn Research Center, USA; 3. Gateway Materials Technology, Inc., USA; 4. Corning Incorporated, USA; 5. National Institute for Standards and Technology, USA

2:20 PM

(ICACC-S1-024-2017) Fracture Toughness of Glasses as Measured by the SCF and SEPB Methods

G. D. Quinn^{*1}; J. Swab²; 1. National Institute of Standards and Technology, USA; 2. US Army Research Laboratory, USA

2:40 PM

(ICACC-S1-025-2017) A New ASTM Test Standard for the Open Hole Tensile Strength of Fiber-Reinforced Ceramic Matrix Composites

S. T. Gonczy^{*1}; Y. Katoh²; 1. Gateway Materials Technology, USA; 2. Oak Ridge National Lab, USA

3:00 PM

Break

3:20 PM

(ICACC-S1-026-2017) Notch Variation and Control Mode Effects on Fracture Toughness of Silicon Nitride

B. Huasmann^{*1}; J. Salem²; 1. Case Western Reserve University, USA; 2. NASA Glenn Research Center, USA

3:40 PM

(ICACC-S1-027-2017) Fracture toughness measurement on small ceramic components and specimens

T. Lube^{*1}; S. Rasche²; S. Strobl³; T. Nindhia⁴; 1. Montanuniversität Leoben, Austria; 2. Udayana University, Indonesia; 3. SKF Engineering & Research Centre, Netherlands; 4. MPFA an der Bauhaus-Universität, Germany

4:00 PM

(ICACC-S1-028-2017) In-Situ Double Torsion Technique on Ultra-High Temperature Ceramics

L. Reyes^{*1}; C. Rudolf²; P. Nautiyal³; B. Boesl⁴; A. Agarwal¹; 1. Florida International University, USA

4:20 PM

(ICACC-S1-029-2017) Tensile testing of ceramic balls: A round robin exercise

T. Lube^{*1}; O. Schöppel²; S. Strobl³; R. Morrell⁴; J. Dusza⁴; A. Karakuscu³; R. Danzer¹;
1. Montanuniversität Leoben, Austria; 2. SKF Österreich AG, Austria; 3. SKF Engineering & Research Centre, Netherlands; 4. Institute of Materials Research of SAS, Slovakia; 5. National Physical Laboratory, United Kingdom

4:40 PM

(ICACC-S1-030-2017) Damage Evolution Behavior of Monolithic SiC and SiC/SiC Composite Hybrid Rod under Compressive Loading

Y. Kagawa^{*1}; S. Arai¹; K. Yonekura¹; T. Takagi²; M. Ukai³; M. Uchihashi³; S. Suyama³;
1. The University of Tokyo, Japan; 2. Ibiden Co. Ltd, Japan; 3. Toshiba Corporation, Japan

5:00 PM

(ICACC-S1-031-2017) Study of crack behaviour in layered ceramics with strong interfaces under bending load

L. Nahlik^{*1}; K. Stegnerova¹; P. Hutar¹; 1. Institute of Physics of Materials Academy of Sciences of the Czech Republic, Czech Republic

5:20 PM

(ICACC-S1-032-2017) Improved methods for in-situ micron scale fracture toughness testing of transparent armor materials

F. Cui^{*1}; A. Kundu¹; R. Vinci¹; 1. Lehigh University, USA

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

Environmental Barrier Coatings II: Processing and Characterization

Room: St. John

Session Chair: Hagen Klemm, FhG IKTS Dresden

1:30 PM

(ICACC-S2-020-2017) Microstructural Change of Aerosol Deposited Mullite Coating for EBCs under Heat Exposure

A. Iuchi^{*1}; T. Mizuno¹; T. Shibuya¹; M. Hasegawa¹; 1. Yokohama National University, Japan

1:50 PM

(ICACC-S2-021-2017) Preparation of Ytterbium Silicate Coatings by Double Electron Beam Physical Vapor Deposition and Their Material Characteristics

T. Yokoi^{*1}; N. Yamaguchi¹; K. Nakahira¹; S. Kitaoka¹; M. Takata¹; 1. Japan Fine Ceramics Center, Japan

2:10 PM

(ICACC-S2-022-2017) Crack growth tests in air plasma-sprayed yttria coatings for alumina CMCs

S. Hackemann^{*1}; M. Hilleringmann¹; P. Mechnich¹; M. Bartsch¹; 1. DLR - German Aerospace Center, Germany

2:30 PM

(ICACC-S2-023-2017) APS YAG Coatings for Al₂O₃/Al₂O₃ Ceramic Matrix Composites

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

2:50 PM

Break

CMAS-related TBC/EBC Degradation and Mitigation Strategies I

Room: St. John

Session Chair: Douglas Wolfe, Pennsylvania State University

3:10 PM

(ICACC-S2-024-2017) Microstructural investigation of molten sand infiltration and chemical interactions with thermal barrier coatings protecting hot-section gas turbine engines components

M. J. Walock^{*1}; B. Barnett¹; A. Ghoshal¹; M. Murugan¹; J. Swab²; M. S. Pepi²; D. Zhu³; R. T. Pegg⁴; C. Rowe⁵; K. Kerner⁵; 1. US Army Research Laboratory, USA; 2. US Army Research Laboratory, USA; 3. NASA Glenn Research Center, USA; 4. US Army Aviation and Missile Research Development and Engineering Center, USA; 5. US Navy Naval Air Systems Command, USA

3:30 PM

(ICACC-S2-025-2017) Thermal cycling performance of thermal barrier coatings with CMAS corrosion: Parameters affecting life

A. Harris^{*1}; E. H. Jordan¹; 1. University of Connecticut, USA; 2. University of Connecticut, USA

3:50 PM

(ICACC-S2-026-2017) CMAS Interactions with Advanced Environmental Barrier Coatings Deposited via Plasma Spray-Physical Vapor Deposition

B. J. Harder^{*1}; V. L. Wiesner¹; D. Zhu¹; N. S. Johnson²; 1. NASA Glenn Research Center, USA; 2. Colorado School of Mines, USA

4:10 PM

(ICACC-S2-027-2017) Effect of Biofuel Impurities on the Hot Corrosion of Yttria-Stabilized Zirconia Thermal Barrier Coatings

J. H. Ramirez Velasco^{*1}; H. Kenttämää¹; G. Kilaz²; R. Trice³; 1. Purdue University, USA; 2. Purdue University, USA; 3. Purdue University, USA

4:30 PM

(ICACC-S2-028-2017) High Temperature Interactions between Environmental Barrier Coating Ceramics and Calcium-magnesium-alumino-silicate (CMAS) Glass

L. R. Turcer^{*1}; A. R. Krause¹; H. Garces¹; N. P. Padture¹; 1. Brown University, USA

4:50 PM

(ICACC-S2-029-2017) Kinetics of Thermal Barrier Oxide Interactions with Molten Silicates

C. S. Holgate^{*1}; D. L. Poerschke¹; C. G. Levi¹; 1. University of California, Santa Barbara, USA

S3: 14th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Reaction Kinetics and Modeling

Room: Crystal

Session Chair: Harumi Yokokawa, The University of Tokyo

1:30 PM

(ICACC-S3-017-2017) From In-Situ to In-Operando Evaluation of SOFC Cathodes for Enhanced ORR Activity and Durability (Invited)

E. Wachsman^{*1}; G. Cohn¹; Y. Huang¹; C. Pellegrielli¹; 1. University of Maryland, USA

2:00 PM

(ICACC-S3-018-2017) On the Link Between Oxygen Surface Exchange and Bulk Oxygen Anion Transport in SOFC Cathode Materials (Invited)

A. Tomkiewicz¹; M. Tamimi¹; A. Huq²; S. McIntosh^{*1}; 1. Lehigh University, USA; 2. Oak Ridge National Lab, USA

2:30 PM

(ICACC-S3-019-2017) Determination of Infiltrated Mixed Ionic and Electronic Conducting Nano-Particle Oxygen Surface Exchange Resistance through Finite Element Modeling of 3D Reconstructed Microstructures

T. E. Burye¹; J. Nicholas^{*1}; 1. Michigan State University, USA

2:50 PM

Break

3:10 PM

(ICACC-S3-020-2017) Roles of Oxygen Lattice Defects on the Oxygen Reduction Reaction Kinetics in Solid Oxide Fuel Cell Cathodes (Invited)

X. Liu^{*1}; 1. West Virginia University, USA

Air Electrode

Room: Crystal

Session Chair: Eric Wachsman, University of Maryland

3:40 PM

(ICACC-S3-021-2017) Surface Reaction of Cathode Materials for Solid Oxide Fuel Cells (Invited)

K. Yashiro^{*1}; H. Chiba¹; H. Sato¹; R. Budiman¹; S. Hashimoto¹; T. Kawada¹; 1. Tohoku University, Japan

4:10 PM

(ICACC-S3-022-2017) Tailoring the Nanostructure of LSM to Achieve High Power Output for SOFCs Operating at 600°C (Invited)

E. Traversa^{*1}; 1. Xi'an Jiaotong University, China

4:40 PM

(ICACC-S3-023-2017) A-site Non-stoichiometry Lanthanum Strontium Cobalt Ferrite as Cathode Material for Intermediate Temperature Solid-Oxide Fuel Cell

L. Ge^{*1}; B. Ingram¹; D. Carter¹; 1. Argonne National Lab, USA

5:00 PM

(ICACC-S3-024-2017) Electrochemical Properties and Oxygen Exchange Kinetics of Doped SrCoO_{3-δ} Cathode Materials

G. Cohn^{*1}; J. Wang²; C. Pellegrinelli¹; K. Huang²; E. Wachsman¹; 1. University of Maryland, USA; 2. University of South Carolina, USA

5:20 PM

(ICACC-S3-025-2017) Impedance Characterization of Polarization-Induced Activation and Degradation in LSM Based Cathodes

J. Liu^{*1}; H. Finklea¹; M. Yan¹; H. Abernathy¹; P. Ohodnicki¹; G. Hackett¹; 1. National Energy Technology Laboratory, USA

5:40 PM

(ICACC-S3-026-2017) The crucial role of cation order in LnBaCo₂O_{8+δ} perovskite materials used as SOFC cathode

N. Zhang^{*1}; 1. West Virginia University, USA

S4: Armor Ceramics

Materials Characterization and Mechanical Behavior II

Room: Coquina Salon E

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

1:30 PM

(ICACC-S4-027-2017) A Modified Dynamic Expanding Cavity Model for High Pressure and High Strain Rate Response of Ceramics

S. Bavdekar^{*1}; G. Parsard¹; G. Subhash¹; 1. University of Florida, USA

1:50 PM

(ICACC-S4-019-2017) Dynamic Failure of Damaged Advanced Ceramics

C. Lo¹; E. Krinsky²; T. R. Walter³; T. Sano²; B. Schuster²; K. T. Ramesh²; J. Hogan^{*1}; 1. University of Alberta, Edmonton, Canada; 2. Johns Hopkins University, USA; 3. US Army Research Laboratory, USA

2:10 PM

(ICACC-S4-020-2017) Compression Strength of Armor Ceramics

J. Swab^{*1}; C. Meredith¹; W. Gamble¹; 1. Army Research Laboratory, USA

2:30 PM

(ICACC-S4-021-2017) TEM Characterization of Deformation Mechanisms in Several Commercial Silicon Carbide Variants Subjected to Knoop Indentation

S. D. Walck^{*1}; J. LaSalvia¹; S. G. Hirsch¹; K. D. Behler¹; 1. Army Research Laboratory, USA

2:50 PM

(ICACC-S4-022-2017) Investigation of Indentation-Induced Amorphization in B_{4-x}C (x = 0.2... 4.8)

V. Domnich^{*1}; M. Schaefer¹; K. Kuwelkar¹; R. A. Haber¹; 1. Rutgers University, USA

3:10 PM

Break

Materials Characterization and Mechanical Behavior III

Room: Coquina Salon E

Session Chair: Steven Kilczewski, U.S. Army Research Laboratory

3:30 PM

(ICACC-S4-023-2017) In situ visualization of crack propagation in Boron Carbide (Invited)

A. F. Leong^{*2}; A. K. Robinson²; K. Fezza³; T. Sun³; B. Schuster⁴; D. Casem⁴; P. K. Lambert¹; T. C. Hufnagel¹; 1. Johns Hopkins University, USA; 2. Johns Hopkins University, USA; 3. Argonne National Lab, USA; 4. US Army Research Laboratory, USA

4:00 PM

(ICACC-S4-024-2017) Which One Has More Influence on Fracture Strength of Ceramics: Pressure or Strain Rate?

G. Subhash^{*1}; 1. University of Florida, USA

4:20 PM

(ICACC-S4-025-2017) Static and Dynamic Compression and Hardness response of 3D-printed Alumina

M. Banks^{*1}; M. DeVries¹; G. Subhash¹; 1. University of Florida, USA

4:40 PM

(ICACC-S4-026-2017) Failure of Granular Boron Carbide under Extreme Loading

M. Serge¹; M. Homel²; J. Loiseau³; T. R. Walter⁴; P. Motamedi¹; C. Lo¹; E. B. Herbold²; A. J. Higgins²; B. Schuster²; T. Sano²; J. Hogan^{*1}; 1. University of Alberta, Edmonton, Canada; 2. Lawrence Livermore National Laboratory, USA; 3. McGill University, Canada; 4. US Army Research Laboratory, USA

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

Thermal Energy Conversion and Energy Storage V

Room: Tomoka A

Session Chair: Claude Delmas, ICMCB

1:30 PM

(ICACC-S6-016-2017) Understanding the Effect of Structure and Chemistry on Alkali Conductivity (Invited)

S. Ong^{*1}; 1. University of California, San Diego, USA

2:00 PM

(ICACC-S6-017-2017) First-principles study of superconcentrated electrolytes for electrochemically stable and fast-charging lithium-ion batteries (Invited)

K. Sodeyama^{*1}; 1. Japan Science and Technology Agency (JST), Japan

2:30 PM

(ICACC-S6-018-2017) Superconcentrated electrolytes for lithium batteries (Invited)

Y. Yamada^{*1}; A. Yamada¹; 1. The University of Tokyo, Japan

3:00 PM

Break

Thermal Energy Conversion and Energy Storage VI

Room: Tomoka A

Session Chair: Yuki Yamada, The University of Tokyo

3:20 PM

(ICACC-S6-019-2017) Defect chemistry of lithium ion conducting oxides: $\text{Li}_{3-x}\text{La}_{2/3-x}\text{TiO}_3$ and $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ (Invited)

X. Guo^{*1}; 1. Huazhong University of Science and Technology, China

3:50 PM

(ICACC-S6-020-2017) Rechargeable solid state lithium batteries based on garnet ceramic electrolytes (Invited)

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

4:20 PM

(ICACC-S6-021-2017) Mechanical Degradation of All Solid-State Batteries: Mesoscale modeling of energy storage materials (Invited)

G. Bucci^{*1}; Y. Chiang¹; W. C. Carter¹; 1. Massachusetts Institute of Technology, USA

4:50 PM

(ICACC-S6-022-2017) Direct preparation of composite granules composed of cathode and electrolyte particles for all-solid-state Li-ion batteries by mechanical method

T. Kozawa^{*1}; A. Kondo¹; K. Fukuyama¹; M. Naito¹; H. Koga²; H. Iba²; 1. Osaka University, Japan; 2. Toyota Motor Corporation, Japan

S7: 11th International Symposium on Nanostructured Materials: Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental and Health Applications

Solar Fuels I

Room: Coquina Salon A

Session Chair: Teresa Andreu, Catalonia Institute for Energy Research

1:30 PM

(ICACC-S7-011-2017) Air-Stable High Photocurrent Perovskite Solar Cells Based on $\text{CH}_3\text{NH}_3\text{PbI}_3$ -NiO Nanoparticles Composite (Invited)

Y. Hahn^{*1}; 1. Chonbuk National University, Republic of Korea

2:00 PM

(ICACC-S7-012-2017) The impact and diversity of surface chemistry and functionalization on membrane separation technology (Invited)

V. Meynen^{*1}; 1. University Antwerp, Belgium

2:30 PM

(ICACC-S7-013-2017) Hybrid Perovskite Photodetectors (Invited)

T. Wu^{*1}; 1. KAUST, Saudi Arabia

3:00 PM

(ICACC-S7-014-2017) Boron nitride based nanostructured materials for energy, environmental and health applications (Invited)

P. Miele^{*1}; 1. Université de Montpellier, France

Solar Fuels II

Room: Coquina Salon A

Session Chair: Yang Yang, University of Central Florida

3:30 PM

(ICACC-S7-015-2017) Enhancing Photon Harvesting via Plasmonic Nanostructures (Invited)

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

4:00 PM

(ICACC-S7-016-2017) Highly Efficient Solar Driven Catalytic Processes at Semiconductor Metal Oxide Photo-Electrodes (Invited)

R. Solarska^{*1}; 1. University of Warsaw, Poland

4:30 PM

(ICACC-S7-017-2017) Colloidal core/shell QDs for solar driven hydrogen production (Invited)

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

5:00 PM

(ICACC-S7-018-2017) Fabrication of perovskite solar cells using oxide nanostructured arrays

J. Wu^{*1}; S. Lin¹; H. Cho¹; S. Lu¹; 1. National Cheng Kung University, Taiwan

5:20 PM

(ICACC-S7-019-2017) Effects of A and B Sites Doping on the Properties of Hybrid Perovskites for Photovoltaic Applications (Invited)

L. Malavasi^{*1}; P. Quadrelli¹; C. Milanese¹; M. Patrini²; 1. INSTM and University of Pavia, Italy; 2. University of Pavia and CNISM, Italy

S8: 11th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT11)

Novel Ceramic Processing I

Room: Coquina Salon B

Session Chairs: Takashi Goto, IMR Tohoku University; Valerie Wiesner, NASA Glenn Research Center

1:30 PM

(ICACC-S8-001-2017) Closed-loop Sustainable Processing of CaCO_3 - SiO_2 [CaSiO_3] Composites (Invited)

R. Riman^{*1}; K. Blinn¹; R. Anderson¹; D. Kopp¹; 1. Rutgers University, USA

2:00 PM

(ICACC-S8-002-2017) Processing of SHS Derived Ti_2AlN Active Precursors Powders: Materials and their Properties (Invited)

J. Lis^{*1}; L. R. Chlubny¹; C. Kapusta²; 1. AGH University of Science and Technology, Poland; 2. AGH University of Science and Technology, Poland

2:20 PM

(ICACC-S8-003-2017) Finite Element Analysis of Self-propagating High-temperature Synthesis of Nitrides

V. Doddapaneni^{*1}; J. Lin¹; A. Hiranaka²; T. Akiyama²; S. Lin¹; 1. Lamar University, USA; 2. Hokkaido University, Japan

2:40 PM

(ICACC-S8-004-2017) Highly flexible and transparent TiO_2 Nanowire UV detector via electrospinning assembling

Y. Wang^{*1}; 1. Tsinghua University, China

3:00 PM

Break

3:20 PM

(ICACC-S8-005-2017) Electrospun separators for structural battery applications (Invited)

J. Liang^{*}; 1. WPI, USA

3:40 PM

(ICACC-S8-006-2017) Synthesis of lithium titanate hydrate nanotubes by planetary ball milling and their conversion to $\text{Li}_4\text{Ti}_5\text{O}_{12}$ anode for Li-ion batteries

S. Suzuki^{*}; T. Kozawa¹; T. Murakami¹; M. Naito¹; 1. Osaka University, Japan

4:00 PM

(ICACC-S8-007-2017) Improvement of thermal conductivity and transmittance in AlN by microstructure control

T. S. Suzuki^{*}; K. Imai¹; T. Nishimura²; H. Kiyono¹; Y. Sakka²; 1. Shibaura Institute of Technology, Japan; 2. National Institute for Materials Science (NIMS), Japan

4:20 PM

(ICACC-S8-008-2017) Towards Developing Comprehensive Understanding about Tribological Behavior of MAX Reinforced Metal (MRM) Composites

F. Al-Anazi^{*}; S. Ghosh¹; S. Gupta¹; 1. University of North Dakota, USA

S9: Porous Ceramics: Novel Developments and Applications

Innovations in Processing Methods & Properties of Porous Ceramics II

Room: Coquina Salon G

Session Chair: Carolina Tallon, Virginia Tech

1:30 PM

(ICACC-S9-020-2017) Fabrication and properties of piezoelectric composites with various oriented microstructures created by freeze casting route

M. Fukushima^{*}; T. Fujiwara²; T. Fey³; K. Kakimoto¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan; 2. Nagoya Institute of Technology, Japan; 3. University of Erlangen-Nuremberg, Germany

1:50 PM

(ICACC-S9-021-2017) Thermomechanical Properties of Novel Composite Materials, containing Fine Ceramic Fibres, designed for use as Diesel Particulate Filters

A. J. Houston^{*}; J. Dean¹; B. Clyne¹; 1. University of Cambridge, United Kingdom

2:10 PM

(ICACC-S9-022-2017) Microstructure and property of porous mullite with whiskers framework by sol-gel process

J. Yang^{*}; D. Zeng¹; 1. Xi'an Jiaotong University, China

2:30 PM

Break

Innovations in Processing Methods & Applications of Porous Ceramics

Room: Coquina Salon G

Session Chair: Manabu Fukushima, National Institute of Advanced Industrial Science and Technology (AIST)

3:20 PM

(ICACC-S9-023-2017) Analysis of novel combustion and chemical conversion processes within porous ceramics (Invited)

D. Trimis^{*}; 1. Karlsruhe Institute of Technology, Germany

3:50 PM

(ICACC-S9-024-2017) Overcoming Challenges in Processing and Near-Net-Shaping of Multi-Scale Porous UHTCs (Invited)

C. Tallon^{*}; 1. Virginia Tech, USA

4:20 PM

(ICACC-S9-025-2017) Approaching high thermal stability and low thermal conductivity in porous SiC nanostructures

P. Wan^{*}; J. Wang¹; 1. Institute of Metal Research, Chinese Academy of Sciences, China

4:40 PM

(ICACC-S9-026-2017) Foam-reinforced Thermal Insulation for High Temperature and Cryogenic Temperature Applications

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

S10: Virtual Materials (Computational) Design and Ceramic Genome

Molecular Dynamics and Nuclear Materials Modeling

Room: Ponce DeLeon

Session Chairs: Haixuan Xu, Oak Ridge National Lab; William Weber, University of Tennessee

1:30 PM

(ICACC-S10-017-2017) Integrating Computational and Advanced Electron Microscopy Techniques to Characterize Ion Tracks in Ceramic Oxides (Invited)

W. J. Weber^{*}; R. Sachan²; E. Zarkadoulas²; D. S. Aidhy²; M. F. Chisholm²; Y. Zhang²; 1. University of Tennessee, USA; 2. Oak Ridge National Lab, USA; 3. University of Wyoming, USA

2:00 PM

(ICACC-S10-018-2017) Atomistic to Mesoscale Modeling of Microstructural Evolution and Thermal Transport in UO_2 based Nuclear Fuels (Invited)

X. Bai^{*}; M. R. Tonks²; Y. Zhang²; J. Hales²; 1. Virginia Tech, USA; 2. Pennsylvania State University, USA; 3. Idaho National Laboratory, USA

2:30 PM

(ICACC-S10-019-2017) What makes the thermal conductivity of UO_2 reactor fuel so low, and how can we improve it? (Invited)

M. R. Tonks^{*}; C. Stanek²; D. Andersson²; F. Hilty²; 1. Pennsylvania State University, USA; 2. Los Alamos National Lab, USA; 3. Pennsylvania State University, USA

3:00 PM

Break

3:20 PM

(ICACC-S10-020-2017) Energy deposition and dissipation in coupled electronic and atomic subsystems in SiC (Invited)

Y. Zhang^{*}; H. Xue²; E. Zarkadoulas²; R. Sachan¹; W. J. Weber²; 1. Oak Ridge National Laboratory, USA; 2. University of Tennessee, USA

3:50 PM

(ICACC-S10-021-2017) Ab Initio Molecular Dynamics Investigation of Low Energy Recoils in Nuclear Materials (Invited)

B. Liu^{*}; Y. Gao¹; W. J. Weber²; 1. Shanghai University, China; 2. University of Tennessee, USA

4:20 PM

(ICACC-S10-022-2017) MEAM Parameter Space Optimization for Elemental Boron

E. Hernandez^{*}; M. Tschopp¹; M. Baskes²; 1. U.S. Army Research Lab, USA; 2. Mississippi State University, USA

4:40 PM

(ICACC-S10-023-2017) Quantifying Similarities Between Gaussian-based Spectral Responses and its Application to Virtual Materials Characterization

E. Hernandez^{*}; S. Coleman¹; M. Tschopp¹; 1. US Army Research Laboratory, USA

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

Production Root Technology IV

Room: Coquina Salon H

Session Chairs: Hisayuki Suematsu, Nagaoka University of Technology; Junichi Tatami, Yokohama National University

1:30 PM

(ICACC-S11-018-2017) Collapse Probability of Granules in Ceramic Powder Compact during Cold Isostatic Pressing (Invited)

K. Yasuda^{*1}; S. Tanaka²; M. Naito³; 1. Tokyo Institute of Technology, Japan; 2. Nagaoka University of Technology, Japan; 3. Osaka University, Japan

2:00 PM

(ICACC-S11-019-2017) Corrosion Measurements on High-Temperature Alloys under Humid Gas Atmospheres by Thermogravimetry and Mass spectrometry (Invited)

E. Post^{*1}; 1. NETZSCH Geraetebau GmbH, Germany

2:30 PM

(ICACC-S11-013-2017) Motion control of the 3D nanostructured printed materials with electric field (Invited)

T. Nakayama^{*1}; M. Herrera Salazar¹; H. Suematsu¹; K. Niihara¹; 1. Nagaoka Univ of Tech, Japan

3:00 PM

Break

3:20 PM

(ICACC-S11-021-2017) New Multifunctional Ceramic Coatings: Properties and High-Temperature Behavior (Invited)

P. Zeman^{*1}; J. Vlcek¹; J. Musil¹; 1. University of West Bohemia, Czech Republic

3:50 PM

(ICACC-S11-022-2017) Developing the root technology for the future of advanced ceramics in Japan (Invited)

H. Sato^{*1}; T. Shiozawa¹; 1. Japan Fine Ceramics Association, Japan

4:20 PM

(ICACC-S11-023-2017) Control of Particle Size and Copper Content by Electrical Circuit Parameter on Pulsed Wire Discharge in Liquid

T. Murayama^{*1}; Y. Tokoi¹; 1. National Institute of Technology, Nagaoka College, Japan

4:40 PM

(ICACC-S11-024-2017) Preparations and Optical Evaluations of the Tin Phosphate Glass

K. Motoki^{*2}; S. Kamada¹; T. Kozai¹; T. Fujihara²; T. Konishi²; N. Uehara³; M. Kamano²; 1. Tokushima university, Japan; 2. National Institute of Technology, Anan College, Japan; 3. National Institute of Technology (NIT), Japan

5:00 PM

(ICACC-S11-025-2017) Self-crack healing and strength improvement in Yb₂Si₂O₇/SiC nanocomposites

S. T. Nguyen^{*1}; T. Nakayama¹; H. Suematsu¹; T. Suzuki¹; K. Niihara¹; 1. Nagaoka University of Technology, Japan

5:20 PM

(ICACC-S11-026-2017) Firing Processes of Ceramics measured by Thermal Analysis Instruments coupled to Evolved Gas Apparatus

E. Post^{*1}; 1. NETZSCH Geraetebau GmbH, Germany

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 Chairs: Ryan Grohsmeyer, Missouri University of Science and Technology; Eric Wuchina, Naval Research Lab

1:30 PM

(ICACC-S12-019-2017) Cyclic Ablation of High Emissivity Sm-Doped ZrB₂/SiC Coatings

A. Brenner^{*1}; A. Pena¹; A. Stubbers¹; R. Trice¹; 1. Purdue University, USA

1:50 PM

(ICACC-S12-020-2017) Oxidation behavior of Ti₂AlC powders in flowing air

F. Kong^{*1}; K. Feng¹; N. Li¹; X. Qi¹; Y. Zheng¹; X. He¹; R. Wang¹; Y. Bai¹; 1. Harbin Institute of Technology, China

2:10 PM

(ICACC-S12-021-2017) Thermo-chemical surface instabilities of SiC-ZrB₂ ceramics in high enthalpy dissociated supersonic airflows

F. Monteverde^{*1}; R. Savino²; A. Cecere²; 1. CNR-ISTEC, Italy; 2. University of Naples Federico II, Italy

2:30 PM

(ICACC-S12-022-2017) Development of high temperature brazing for joining of thermostructural composites

C. Madec^{*1}; L. Chaffron¹; S. Frédéric²; L. Salim²; F. Manuel¹; C. Valérie¹; B. Alain³; B. Pierre³; F. Marc³; B. Frédéric⁴; 1. CEA, France; 2. Université de Technologie de Troyes, France; 3. Université de technologie Belfort-Montbéliard, France; 4. Université de Bourgogne, France; 5. Mersen Boostec, France

2:50 PM

Break

Novel Processing Methods

Room: Tomoka B

Session Chairs: Konstantina Lambrinou, SCK-CEN; Woongrak Son, Texas A&M University

3:10 PM

(ICACC-S12-023-2017) Additive Manufacturing of HfB₂ Parts

E. Feilden^{*1}; D. Glymond¹; F. Giuliani¹; E. Saiz¹; L. Vandeperre¹; 1. Imperial College, United Kingdom

3:30 PM

(ICACC-S12-024-2017) The incubation temperature effect on Sn whisker growth behavior on Ti₃SnC

P. Zhang^{*1}; Z. Sun²; Y. Liu¹; J. Ding¹; C. Ling¹; Y. Zhang¹; 1. Southeast University, China; 2. National Institute of Advanced Industrial Science and Technology (AIST), Japan

3:50 PM

(ICACC-S12-025-2017) Influence of Hot-Pressing Time on Phase Evolution of SHS Obtained Ti₃AlC₂ Active Precursor Powders

L. R. Chlubny^{*1}; J. Lis¹; P. Borowiak¹; K. Chabior¹; 1. AGH University of Science and Technology, Poland

4:10 PM

(ICACC-S12-026-2017) Formation of TaB₂-Based Ceramics for Concentrated Solar Towers as Solar Collector

K. Gurcan^{*1}; E. Ayas¹; 1. Anadolu University, Turkey

4:30 PM

(ICACC-S12-027-2017) Synthesis of Nano-TaC powder using modified spark plasma sintering apparatus and its densification

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

S14: Crystalline Materials for Electrical, Optical and Medical Applications

Optical Material 2

Room: Tomoka C

Session Chair: Romain Gaume, University of Central Florida

1:30 PM

(ICACC-S14-017-2017) Direct imaging of light emission centers in two-dimensional crystals and their luminescence and photocatalytic properties (Invited)

S. Ida^{*1}; T. Ishihara¹; 1. Kyushu University, Japan

2:00 PM

(ICACC-S14-018-2017) Analysis of carrier trapping centers on persistent phosphors (Invited)

J. Ueda^{*1}; 1. Kyoto University, Japan

2:30 PM

(ICACC-S14-019-2017) ZnO-Based Thin Films & Nanostructures for Energy Harvesting Applications (Invited)

D. Rogers^{*1}; F. Teherani¹; E. Sandana¹; P. Bove¹; 1. Nanovation, France

3:00 PM

Break

Semiconductor

Room: Tomoka C

Session Chairs: Didier Chaussende, CNRS; Gabriel Ferro, Université Claude Bernard Lyon 1

3:20 PM

(ICACC-S14-020-2017) Self-seeded growth of 3C-SiC from the vapour phase (Invited)

D. Chaussende^{*1}; T. Ouisse¹; O. Chaix-Pluchery¹; I. Gelard¹; E. Sarigiannidou¹; J. Dedulle¹; 1. CNRS, Univ. Grenoble Alpes, France

3:50 PM

(ICACC-S14-021-2017) The role of C vacancy on the mechanism of nitrogen incorporation into 4H-SiC during epitaxy (Invited)

G. Ferro^{*1}; D. Chaussende²; 1. Université Claude Bernard Lyon 1, France; 2. Université Grenoble Alpes, France

4:20 PM

(ICACC-S14-022-2017) Preparation of Vanadium-doped SiC powder for growing semi-insulating SiC bulk crystal (Invited)

S. Jeong^{*1}; E. Jung¹; Y. Kwon¹; M. Lee¹; Y. Kim¹; 1. Korea Institute of Ceramic Engineering and Technology (KICET), Republic of Korea

4:50 PM

(ICACC-S14-023-2017) Optoelectronic Properties in Ultra-small near Infrared Alloyed Nanoplatelets

Y. Zhou^{*1}; M. Celikin¹; A. Camellini²; G. Sirigu²; X. Tong¹; L. Jin¹; H. Zhao¹; M. Zavelani Rossi²; F. Rosei¹; 1. INRS-EMT, Canada; 2. Politecnico di Milano, Italy

Poster Session A

Room: Ocean Center Arena

5:00 PM

(ICACC-FS2-P001-2017) Light Gated Zinc-Tin Oxide (ZTO) Thin Film Transistor Fabricated via Solution Process

I. Wang¹; J. Li¹; J. Chen^{*1}; 1. National Cheng Kung University, Taiwan

(ICACC-FS2-P002-2017) Photovoltaic responses and first-principles calculation in ITO/(Bi_{1-x}Nd_x)FeO₃ ceramics/Au heterostructure

C. Tu^{*1}; Y. Huang¹; C. Lin¹; Y. Hsieh¹; 1. Fu Jen Catholic University, Taiwan

(ICACC-FS3-P003-2017) Developing Novel PMMA assisted Graphene Liquid Cells for In Situ Scanning/Transmission Electron Microscopy(S/TEM) Imaging via Extrusion 3D Printer

S. Shafiee^{*1}; E. Firlar¹; R. Shahbazian-Yassar²; T. Shokuhfar¹; 1. UIC, USA; 2. University of Illinois at Chicago, USA

(ICACC-FS3-P004-2017) A Facile Method to Synthesize Highly Conductive Polymer Derived Ceramics with Arbitrary Shapes by Built-in Conductive Networks

S. Chen^{*1}; L. Zhai²; 1. University of Central Florida, USA; 2. University of Central Florida, USA

(ICACC-S2-P005-2017) Development of Aerosol Deposition Apparatus with In-situ Pretreatment System of Ceramic Particles

K. Naoe^{*1}; M. Nishiki¹; 1. Hitachi, Ltd., Japan

(ICACC-S2-P006-2017) Air plasma spray preparation of HfO₂/mullite/Mo(Si,Al)₂ environmental barrier coatings

H. Lan^{*1}; 1. Institute of Process Engineering/CAS, China

(ICACC-S2-P007-2017) Fabrication and Properties of Plasma Resistant YAS(Y₂O₃-Al₂O₃-SiO₂) coated Al₂O₃ Ceramics

E. Park^{*1}; H. Lee¹; 1. Kumoh National Institute of Technology, Republic of Korea

(ICACC-S4-P008-2017) Micro scale fracture behavior of rare earth doped magnesium aluminate spinel

F. Cui^{*1}; A. Kundu¹; R. Vinci¹; 1. Lehigh University, USA

(ICACC-S4-P009-2017) Raman Mapping of Amorphization Zones in Sphere-Impacted Boron Carbide

P. Cruz^{*1}; G. Parsard¹; G. Subhash¹; 1. University of Florida, USA

(ICACC-S4-P010-2017) Observations of nanostructured explosion phase of boron nitride by emulsion detonation synthesis

M. Ornek^{*1}; K. M. Reddy²; K. Xie²; C. Hwang³; A. Burgess³; J. Calado⁴; V. Domnich⁵; S. L. Miller⁵; K. Hemker²; R. A. Haber¹; 1. Rutgers University, USA; 2. Johns Hopkins University, USA; 3. SprayWerks Technologies Inc, Canada; 4. Innovnano, Materiais Avançados, Portugal; 5. H&M Analytical Services Inc, USA

(ICACC-S4-P011-2017) Computer modeling of process of projectile penetration into hybrid armor panel with regular and irregular packed ceramic discrete elements

I. V. Kartuzov^{*1}; O. Mikhaylov²; 1. IPMS NASU, Ukraine; 2. IPMS NASU, Ukraine

(ICACC-S4-P012-2017) Deformation and shock response of boron carbide

M. DeVries^{*1}; A. P. Awasthi¹; G. Subhash¹; 1. University of Florida, USA

(ICACC-S4-P013-2017) MicroCT used to assess de-agglomeration and de-gassing methods for improvement of ISOBAM gel casting system for alumina

C. Moorehead^{*2}; J. M. Sietins¹; V. L. Blair¹; 1. US Army Research Laboratory, USA; 2. Drexel University, USA

(ICACC-S4-P014-2017) Ballistic Performance of Boron Carbide Ceramics Prepared by Spark Plasma Sintering

B. Apak^{*1}; M. Cengiz²; G. Goller¹; O. Yucel¹; F. Cinar Sahin¹; 1. Istanbul Technical University, Turkey

(ICACC-S4-P015-2017) Growth of silver nanoparticles stimulate spectroscopic properties of Er³⁺ doped phosphate glasses: Heat treatment effect

I. s. Soltani^{*1}; 1. Faculty of Tunis Manar, Tunisia

(ICACC-S4-P137-2017) The Effect of Powder Oxygen Content on the Microstructure and Mechanical Properties of Silicon Carbide

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

(ICACC-S4-P138-2017) Hydrothermal Vapor Synthesis of MgAl₂O₄ powders

D. Kopp^{*1}; R. Riman¹; 1. Rutgers, The State University of New Jersey, USA

(ICACC-S7-P016-2017) Synthesis of V-doped TiO₂ nanoparticles using the oxidant peroxide method and microwave-assisted hydrothermal treatment

A. Garcia¹; F. A. Berutti^{*1}; A. K. Alves¹; C. P. Bergmann¹; 1. UFRGS, Brazil

(ICACC-S7-P017-2017) Nature-inspired Nano-pillar Structures for Anti-microbial surface properties

S. Han¹; S. Ji²; A. Abdullah¹; D. Kim¹; S. Yoon³; H. Lim⁴; D. Lee^{*1}; 1. Chung-Ang University, Republic of Korea; 2. Yonsei University, Republic of Korea; 3. Chung-Ang University, Republic of Korea; 4. Korea Institute of Machinery and Materials, Republic of Korea

(ICACC-S7-P018-2017) Flexible piezoelectric energy harvesters based on the CNTs-doped 0-3 PZT/Epoxy nanocomposite

H. Kim^{*}; S. Lee¹; 1. Electronics and Telecommunications Research Institute, Republic of Korea

(ICACC-S7-P019-2017) Fabrication and Characterization of WO₃ nanofibers synthesized via hydrothermal methods

S. Park¹; C. Nam^{*}; 1. Hannam University, Republic of Korea; 2. Hannam University, Republic of Korea

(ICACC-S7-P020-2017) Photovoltaic effects in atmosphere controlling neodymium doped BiFeO₃ multiferroic ceramics

C. Lin^{*}; Y. Huang¹; C. Tu¹; 1. Fu Jen Catholic University, Taiwan

(ICACC-S7-P021-2017) Direct evidence of local ferroelectric ordering in Ba_{0.9}Ca_{0.1}Ti_{0.9}Zr_{0.1}O₃ thin films

D. Dorantes¹; O. Solis-Canto¹; G. M. Herrera^{*}; J. Holguin-Momaca²; S. Olive-Mendez³; D. Morales¹; G. Tapia-Padilla¹; 1. CIMAV, Mexico; 2. CIMAV, Mexico; 3. CONACyT CIMAV, Mexico; 4. CONACyT CIMAV, Mexico

(ICACC-S7-P022-2017) Structural and magnetic characterization of Zr-substituted magnetite (Zr_xFe_{3-x}O₄, 0 ≤ x ≤ 1)

A. Gangwar^{*}; 1. IIT BHU Varanasi, India

(ICACC-S7-P023-2017) The low-temperature chemical synthesis of an LTO based material for Li-ion batteries

D. De Sloovere¹; W. Marchal¹; F. Ulul¹; M. Van Bael^{*}; A. Hardy¹; 1. Hasselt University, Belgium

(ICACC-S7-P024-2017) 3D structured indium tin oxide electrodes via ultrasonic spray deposition on high-aspect ratios

E. van den Ham¹; G. Bonneux¹; K. Elen¹; G. Maino¹; M. Van Bael^{*}; A. Hardy¹; 1. Hasselt University, Belgium

(ICACC-S7-P025-2017) The effect of polymer agent and porosity on photocatalytic properties and surface wettability of TiO₂ nanocoating fabricated by sol-gel

E. Mehmandoustesfahani^{*}; M. Ghorbani¹; 1. Sharif University of Technology, Islamic Republic of Iran

(ICACC-S7-P140-2017) Photocatalytic Activity of Nanocrystalline SnO₂-doped TiO₂

J. Miagava^{*}; D. Gouvêa²; 1. Insper, Brazil; 2. University of Sao Paulo, Brazil

(ICACC-S8-P026-2017) Fracture of gamma-alon – h-BN anisotropic composites

M. M. Bucko^{*}; 1. AGH University of Science and Technology, Poland

(ICACC-S8-P028-2017) Hermetic crystal oscillator substrate use a direct bonded copper method

K. Chuang^{*}; K. Chiu¹; 1. Industrial Technology Research Institute, Taiwan

(ICACC-S8-P029-2017) High-temperature heat treatment giving enhanced visible light photocatalytic activity to TiO₂ with high concentration Nb doping

T. Yonezawa^{*}; Y. Tsujimoto¹; C. Zhang²; T. Uchikoshi¹; T. Ishigaki¹; 1. Hosei University, Japan; 2. National Institute for Materials Science (NIMS), Japan

(ICACC-S8-P030-2017) Boron Carbide powders: Specialized development for advanced sintering applications

T. Schmidt^{*}; S. E. Vogel²; 1. H.C. Starck GmbH, Germany; 2. H.C. Starck NA Trading LLC, USA

(ICACC-S8-P031-2017) Fabrication of AlN fibers via combustion synthesis with Mg additive

A. Hiranaka^{*}; J. Lin²; S. Lin²; T. Akiyama¹; 1. Hokkaido University, Japan; 2. Lamar University, USA

(ICACC-S8-P032-2017) Improvement of transparency in textured Alumina by slip casting in a magnetic field and SPS

T. Ashikaga^{*}; H. Kiyono¹; T. S. Suzuki¹; 1. Shibaura Institute of Technology, Japan; 2. National Institute for Materials Science (NIMS), Japan

(ICACC-S8-P033-2017) Low magnetic field orientation of Si₃N₄ ceramics using multilayered-graphene coated composite particles

M. Sado^{*}; T. Takuma²; J. Tatami¹; M. Iijima¹; 1. Yokohama National University, Japan; 2. Kanagawa Academy of Science and Technology, Japan

(ICACC-S8-P034-2017) Ceramics Grain Cluster Boundary Fractal Micro-capacitors

V. Mitic^{*}; L. Kocić²; V. Paunovic³; Z. Vosika³; 1. Serbian Academy of Sciences, Serbia; 2. Faculty of Electronic Engineering, Serbia; 3. Faculty of Electronic Engineering, Serbia

(ICACC-S8-P035-2017) Additive manufacturing of complex-shape graded TiC-steel composites

A. Levy^{*}; A. Miriyev²; A. Elliott³; S. Babu⁴; N. Frage¹; 1. Ben-Gurion University of the Negev, Israel; 2. Columbia University, USA; 3. Manufacturing Demonstration Facility, USA; 4. University of Tennessee, USA

(ICACC-S8-P036-2017) Electrical, Mechanical, and Thermal Properties of Silicon Carbide-Boron Nitride Composites

Y. Seo¹; Y. Kim^{*}; 1. University of Seoul, Republic of Korea

(ICACC-S8-P037-2017) Effect of heat treatment in α/β two-phase field on the structure and mechanical properties of Ti-7.5Mo alloy

J. Chern Lin^{*}; Y. Peng¹; C. Ju¹; 1. National Cheng-Kung University, Taiwan

(ICACC-S8-P038-2017) Anorthite (CaAl₂Si₂O₈)-Aluminum Interface: Kinetics of High-Temperature Interactions

E. Adabifiroozjaei^{*}; H. Ma¹; P. Koshi¹; C. C. Sorrell¹; 1. The University of New South Wales, Australia

(ICACC-S9-P039-2017) Highly active Ce-doped mesoporous alumina catalyst

I. Hussainova^{*}; M. Aghayan¹; M. A. Rodríguez²; R. Mnatsakanyan³; B. Maaten¹; F. Rubio-Marcos¹; 1. Tallinn University of Technology, Estonia; 2. Instituto de Cerámica y Vidrio, CSIC, Spain; 3. Institute of Chemical Physics, Armenia

(ICACC-S9-P040-2017) Platelets-induced stiffening and strengthening of ice-templated highly porous alumina scaffolds

H. Kang^{*}; M. Banda¹; N. Dhavale¹; D. Ghosh¹; 1. Old Dominion University, USA

(ICACC-S9-P041-2017) A comparison of microstructure and uniaxial compressive response of ice-templated alumina scaffolds fabricated from two different particle sizes

M. Banda^{*}; N. Dhavale¹; H. Kang¹; D. Ghosh¹; 1. Old Dominion University, USA

(ICACC-S9-P042-2017) Cellulose Particles as Pore Creator for Ceramics

A. Czarnetzke¹; S. Galic^{*}; C. Brandes²; S. Kroll¹; K. Rezwani¹; 1. J. Rettenmaier & Sohne GmbH & Co KG, Germany; 2. Universität Bremen, Germany

(ICACC-S10-P043-2017) The model of amorphisation in ceramic nanostructured electrolytes

V. Pervov^{*}; A. Petrov^{*}; 1. Frumkin Institute of Physicochemical Chemistry and Electrochemistry RAS, Russian Federation; 2. Kurnakov Institute of General and Inorganic Chemistry RAS, Russian Federation

(ICACC-S10-P044-2017) First-principles calculations of high-efficiency abrasive grain for GaN chemical mechanical polishing

T. Igarashi^{*}; K. Kawaguchi¹; Y. Ootani¹; T. Nishimatsu¹; Y. Higuchi¹; N. Ozawa¹; M. Kubo¹; 1. Institute for Materials Research, Tohoku University, Japan

(ICACC-S10-P045-2017) Tribochemical Reaction Dynamics of Carbon Nitride Thin Films by Tight-Binding Quantum Chemical Molecular Dynamics Simulations

M. Nakamura^{*}; S. Sato²; Y. Ootani¹; Y. Higuchi¹; N. Ozawa¹; K. Adachi²; M. Kubo¹; 1. Tohoku University, Japan; 2. Tohoku University, Japan

(ICACC-S10-P047-2017) Unraveling Composition-Structure-Ionic Conductivity Relationships in Garnet-Type Solid Electrolytes Using Cheminformatics Approaches

N. Kireeva^{*}; V. Pervov²; 1. Frumkin Institute of Physical Chemistry and Electrochemistry RAS, Russian Federation; 2. Kurnakov Institute of general and inorganic chemistry RAS, Russian Federation

(ICACC-S11-P046-2017) Effect of addition of friction modifiers on tribological behavior of semi-carbonized Cu/phenolic-derived semi-metallic friction material

C. Ju^{*}; H. Huang¹; M. Hung¹; C. Su¹; H. Lin¹; K. Lee²; J. Chern Lin¹; 1. National Cheng-Kung University, Taiwan; 2. I-Shou University, Taiwan

(ICACC-S11-P048-2017) Reactive Texturing of Y-TZP and Ce-TZP in Very High Magnetic Field

O. Van der Biest^{*}; D. Vriami¹; E. Beaugnon²; 1. KU Leuven, Belgium; 2. Laboratoire National des Champs Magnétiques Intenses, France

(ICACC-S11-P049-2017) The influence of process temperature on the nitriding behavior of austenitic stainless steel

H. Park^{*}; K. Moon¹; 1. KITECH, Republic of Korea

(ICACC-S11-P050-2017) Mechanical Properties of Duplex plasma nitriding/DLC film on AISI4140 steel

H. Park^{*}; M. Kim¹; K. Moon¹; 1. KITECH, Republic of Korea

(ICACC-S11-P051-2017) Effects of Si Powder Characteristics on Sintered Reaction-Bonded Silicon Nitride (SRBSN) Ceramics with High Thermal Conductivity

H. Oh*¹; H. Lee¹; 1. Kumoh National Institute of Technology, Republic of Korea

(ICACC-S12-P052-2017) Oxidation behavior of a Mo(Si,Al)₂ composite at 1700°C in low aO₂ environment

K. M. Hellström¹; E. O. Strom*²; 1. Swerea IVF, Sweden; 2. Sandvik Heating Technology, Sweden

(ICACC-S12-P053-2017) Synthesis and evaluation of oxygen-free precursor for SiC/ZrC composite ceramics

Y. Tian*²; M. Ge¹; S. Yu¹; X. Lv¹; W. Zhang¹; 1. Institute of Process Engineering/CAS, China; 2. University of Chinese Academy of Sciences, China

(ICACC-S12-P054-2017) Improved Conductive Coatings for High Resolution Quantitative Analysis of UHTCs

K. Shugart*¹; K. Crispin²; P. Gopon³; 1. UES, Inc., USA; 2. The Pennsylvania State University, USA; 3. University of Wisconsin-Madison, USA

(ICACC-S12-P055-2017) Ceramic Coatings on the Zr Cladding and Their Corrosion Behavior in Steam at High Temperature

J. Zhou*¹; 1. Ningbo Institute of Industrial Technology, Chinese Academy of Science, China

(ICACC-S14-P056-2017) Fabrication of nitride phosphor particle dispersed transparent α-SiAlON ceramic composites

I. Kokubun*¹; J. Tatami¹; M. Iijima¹; T. Takuma²; M. Yokouchi³; 1. Yokohama National University, Japan; 2. Kanagawa Academy of Science and Technology, Japan; 3. Kanagawa Industrial Technology Center, Japan

(ICACC-S14-P057-2017) Insight into orange persistent luminescence mechanism in Ca₃Si₂O₇:Eu²⁺-Ln³⁺ (Ln=Sm, Tm) based on vacuum referred binding energy diagram

R. Maki¹; J. Ueda*¹; S. Tanabe¹; 1. Kyoto University, Japan

(ICACC-S14-P058-2017) Near Infrared Emitting Scintillators for Remote and Online Measurements based on Optical Fibre Coupled Configuration

G. Okada*¹; N. Kawaguchi¹; T. Yanagida¹; 1. Nara Institute of Science and Technology, Japan

(ICACC-S14-P059-2017) Synthesis and processing of CaF₂ and ZnS nanocomposites for IR transparent windows

N. Ku*¹; V. L. Blair¹; 1. U.S. Army Research Laboratory, USA

(ICACC-S14-P060-2017) Degradation mechanism of piezoelectric materials

H. Sabarou*¹; Y. Zhong¹; 1. Florida International University, USA

(ICACC-S14-P061-2017) Thermodynamic study on PMN-PT single crystals

H. Sabarou*¹; Y. Zhong¹; 1. Florida International University, USA

(ICACC-S14-P062-2017) Development of glass-cladded single-crystalline LiNbO₃ optical fiber

J. Wang*¹; 1. National Sun Yat-Sen University, Taiwan

(ICACC-S14-P063-2017) Optical and conducting properties of MnF₂ containing oxyfluoride borosilicate glasses

S. S. Danewalia*¹; N. Gupta¹; S. Aggarwal¹; G. Sharma¹; K. Singh¹; 1. Thapar University, Patiala, India

(ICACC-S14-P064-2017) Processing of Doped Hafnia Ceramics for Fundamental Structure Studies

M. Kasper*¹; B. Johnson¹; S. Jones¹; C. Chung¹; J. Jones¹; 1. North Carolina State University, USA

(ICACC-S14-P065-2017) A IGZO based p-type metal oxide semiconductor

T. Chou*¹; S. Chiou¹; T. Huang¹; K. Chiu¹; 1. Industrial Technology Research Institute, Taiwan

(ICACC-S14-P066-2017) MHfO₃ (M = Ca, Sr) as Novel Host Lattices for Eu²⁺ Ions

S. Krüger*¹; C. Wickleder¹; 1. University Siegen, Germany

(ICACC-S15-P067-2017) On the design of novel polymer matrix composites (PMCs) by Streolithography (SL)

D. Blue¹; E. Kramer¹; L. Yutzenka¹; R. Larson*¹; R. Dunnigan¹; S. Gupta¹; 1. University of North Dakota, USA

(ICACC-S15-P068-2017) Rheological Modifications of Sanitaryware Slurries for Additive Manufacturing

E. I. Tanisan*¹; S. Tarhan²; F. Kara¹; 1. Anadolu University, Turkey; 2. Kaleseramik, Turkey

Wednesday, January 25, 2017

3rd Pacific Rim Engineering Ceramics Summit

Energy and Environmental Issues II

Room: Coquina Salon C

Session Chairs: Ziqi Sun, Queensland University of Technology; Zoltan Lences, Institute of Inorganoc Chemistry, Slovak Academy of Sciences

8:30 AM

(ICACC-PACRIM-021-2017) Ultrathin 2D metal oxide nanosheets for sustainable applications (Invited)

Z. Sun*¹; 1. Queensland University of Technology, Australia

9:00 AM

(ICACC-PACRIM-022-2017) Towards Solid Oxide Fuel Cells (SOFCs) with Proton Conducting Electrolytes Operating at Low Temperature: Is the Scale-up Feasible? (Invited)

E. Traversa*¹; 1. Xi'an Jiaotong University, China

9:30 AM

(ICACC-PACRIM-023-2017) Computational Design of High Performance Solid Oxide Fuel Cell Materials (Invited)

H. Kwon¹; J. Han*¹; 1. University of Seoul, Republic of Korea

10:00 AM

Break

10:20 AM

(ICACC-PACRIM-024-2017) Experimental and Theoretical Approach to Lanthanide-Doped LaSi₃N₅ Phosphors (Invited)

Z. Lences*¹; I. Ibrahim¹; P. Sajgalik¹; L. Benčo²; 1. Institute of Inorganoc Chemistry, Slovak Academy of Sciences, Slovakia; 2. University of Vienna, Austria

10:50 AM

(ICACC-PACRIM-025-2017) Recent development and properties of white silicon oxycarbides derived from polymer precursors in a hydrogen atmosphere (Invited)

M. Narisawa*¹; K. Sasakawa¹; S. Takeuchi¹; H. Inoue¹; 1. Osaka Prefecture University, Japan

11:20 AM

(ICACC-PACRIM-044-2017) Updated Composite Materials Handbook-17 (CMH-17) Volume 5 — Ceramic Matrix Composites

R. Andrulonis*¹; 1. Wichita State University, USA

6th Global Young Investigator Forum

Special topic: Professional Development for the Early-career Ceramic Engineer

Room: Coquina Salon F

Session Chair: Kathleen Shugart, UES, Inc.

8:30 AM

(ICACC-GYIF-028-2017) Critical Business Knowledge for the Early-career Ceramic Engineer (Invited)

K. Brosnan*¹; 1. GE Global Research, USA

10:00 AM

Break

Special topic: Networking for Early-Career Ceramic Engineers

Room: Coquina Salon F

Session Chair: Jesse Angle, Exponent

10:20 AM

(ICACC-GYIF-029-2017) Professional Networks: Who? What? Why?

K. Shugart*; 1. UES, Inc., USA

10:40 AM

(ICACC-GYIF-030-2017) Dreaming of a career in science: What comes first - network or mobility?

E. Hemmer*; 1. University of Ottawa, Canada

11:00 AM

Invited Career Panel

FS2: Advanced Ceramic Materials and Processing for Photonics and Energy

Photonics, Electronics and Sensing I

Room: Halifax A/B

Session Chairs: Riad Nechache, École de technologie supérieure (ETS); Peter Mascher, McMaster University

8:30 AM

(ICACC-FS2- 019- 2017) Processing and Optical Properties of Semiconductor Core Optical Fibers

M. Ordu¹; J. Guo¹; B. Tai¹; S. Erramilli¹; S. Ramachandran¹; S. Basu¹; 1. Boston University, USA

8:50 AM

(ICACC-FS2- 020- 2017) Comparison of optical properties of CsPbBr₃ and CsPb₂Br₅ (Invited)

J. Bao¹; 1. University of Houston, USA

9:20 AM

(ICACC-FS2- 021- 2017) Rare Earth Doped Silicon-based Nanostructures and Their Role in Silicon Photonics (Invited)

P. Mascher*; Z. Khatami¹; J. Miller¹; J. Wojcik¹; 1. McMaster University, Canada

9:50 AM

Break

10:10 AM

(ICACC-FS2- 022- 2017) Photonic and plasmonic confinement in self-assembled nanostructures for control and manipulation of light emission, sensing, and harvesting (Invited)

J. A. Zapien¹; 1. City University of Hong Kong, Hong Kong

10:40 AM

(ICACC-FS2- 023- 2017) Carbon/ perovskite hybrid materials based photodetectors (Invited)

R. Nechache*; 1. École de technologie supérieure (ETS), Canada

11:10 AM

(ICACC-FS2- 024- 2017) Synthesis of small Al/Al₂O₃ nanoparticles for plasmonics (Invited)

J. Plain*; 1. Université de technologie de Troyes, France

S1: Mechanical Behavior and Performance of Ceramics & Composites

Environmental Effects and Thermo-mechanical Performance

Room: Coquina Salon D

Session Chairs: Marina Ruggles-Wrenn, Air Force Institute of Technology; Randall Hay, Air Force Research Laboratory

8:30 AM

(ICACC-S1-033-2017) Creep of HI-NICALON™ S Fiber Tows at 700°C in Air and in Silicic Acid-saturated Steam (Invited)

M. Piper¹; M. Ruggles-Wrenn*; 1. Air Force Institute of Technology, USA

9:00 AM

(ICACC-S1-034-2017) Modeling of Different Fiber Type and Content SiC/SiC Minicomposite Creep Behavior

A. S. Almansour*; G. N. Morscher²; 1. NASA Glenn Research Center, USA; 2. University of Akron, USA

9:20 AM

(ICACC-S1-035-2017) Fiber Strength, Oxidation and Scale Crystallization Kinetics, and Scale Dewetting after Si(OH)₄ Saturated Steam Exposure of SiC Fibers at 500 to 1600C

R. Hay*; 1. Air Force Research Laboratory, USA

9:40 AM

(ICACC-S1-036-2017) A new temperature dependent first matrix cracking stress model for the unidirectional fiber reinforced ceramic matrix composites

W. Li*; Y. Deng¹; R. Wang²; 1. Chongqing University, China; 2. Chongqing University of Science and Technology, China

10:00 AM

Break

10:20 AM

(ICACC-S1-037-2017) Creep-Rupture Behavior of Notched Oxide/ Oxide Ceramic Matrix Composite in a Combustion Environment

A. K. Singh*; V. Sabelkin¹; S. Mall¹; 1. Air Force Institute of Technology, USA

10:40 AM

(ICACC-S1-038-2017) Estimation of micro-crack behaviour in particulate ceramic composite under conditions of subcritical crack growth

K. Stegnerova*; L. Nahlik¹; Z. Majer¹; P. Hutar¹; 1. Institute of Physics of Materials, Academy of Sciences of the Czech Republic, Czech Republic

11:00 AM

(ICACC-S1-039-2017) Diesel Particulate Filters: Understanding Thermal Chemical Conditions Lead to Early Failures

K. Yang*; 1. Lehigh University, USA

11:20 AM

(ICACC-S1-040-2017) Microcrack trapping process of discontinuous carbon fiber-SiC/C minicomposite phase in discontinuous carbon fiber-reinforced SiC matrix composites

Y. Atsumi*; K. Kajihara¹; Y. Kagawa¹; 1. The university of Tokyo, Japan

11:40 AM

(ICACC-S1-041-2017) Effect of test parameters on the mechanical properties of single tow SiC mini-composite

K. Kawanishi*; 1. IHI Corporation, Japan

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

CMAS-related TBC/EBC Degradation and Mitigation Strategies II

Room: St. John

Session Chairs: Valerie Wiesner, NASA Glenn Research Center; Peter Mechnich, German Aerospace Center (DLR)

8:30 AM

(ICACC-S2-030-2017) Thermochemistry of CaO-MgO-Al₂O₃-SiO₂ (CMAS) and Advanced Thermal and Environmental Barrier Coating Systems

G. Costa^{*}; D. Zhu¹; 1. NASA Glenn Research Center, USA

8:50 AM

(ICACC-S2-031-2017) Comparison of CMAS resistance of YSZ, YAG and Gadolinium Zirconate TBCs

R. Kumar^{*}; E. H. Jordan²; M. Gell¹; 1. University of Connecticut, USA; 2. University of Connecticut, USA

9:10 AM

(ICACC-S2-032-2017) Calcium-magnesium-aluminosilicate (CMAS) interactions with advanced environmental barrier coating candidate material

V. L. Wiesner^{*}; N. S. Johnson²; D. Scales³; B. J. Harder¹; N. Bansal¹; 1. NASA Glenn Research Center, USA; 2. Colorado School of Mines, USA; 3. University of Washington, USA

9:30 AM

(ICACC-S2-033-2017) On the role of process induced microstructural variants on CMAS interactions in plasma sprayed single and multilayer coatings

V. Viswanathan¹; E. Gildersleeve^{*}; G. Dwivedi¹; S. Sampath¹; 1. Stony Brook University, USA

9:50 AM

Break

10:10 AM

(ICACC-S2-034-2017) Ytria-Rich Zirconia Thermal Barrier Coatings: An Approach to Enhance Calcium-Magnesium-Aluminum-Silicate (CMAS) Resistance

R. Naraparaju^{*}; J. Gomez²; U. Schulz²; C. V. Ramana²; 1. DLR - German Aerospace Center, Germany; 2. The University of Texas, El Paso, USA

10:30 AM

(ICACC-S2-035-2017) Spreading dynamic of viscous volcanic ash droplets onto EB-PVD and APS thermal barrier coatings

W. Song^{*}; F. B. Wadsworth¹; T. I. Yilmaz¹; U. Schulz²; D. B. Dingwell¹; 1. LMU Munich, Germany; 2. DLR - German Aerospace Center, Germany

10:50 AM

(ICACC-S2-036-2017) Effect of CMAS Corrosion on Thermal Conductivity and Mechanical Stresses in Lanthanide Zirconate Pyrochlore Coating Materials

J. Fergus^{*}; A. Bakal¹; W. Deng¹; H. Wang¹; K. Roebbecke¹; 1. Auburn University, USA

11:10 AM

(ICACC-S2-037-2017) Investigation of Rare Earth (RE) titanates as potential Environmental Barrier Coating (EBC) constituents for mitigation of CMAS attack

R. Webster^{*}; E. Opila¹; 1. University of Virginia, USA

11:30 AM

(ICACC-S2-038-2017) Mechanical and Chemical Consequences of CMAS Interaction with Y2Si2O7 Environmental Barrier Coating

W. D. Summers^{*}; 1. UCSB, USA

S3: 14th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Fuel Electrode

Room: Crystal

Session Chairs: Scott Barnett, Northwestern Univ; Tatsumi Ishihara, Kyushu University

8:30 AM

(ICACC-S3-027-2017) LaFeO₃ based oxide anode for reversible solid oxide fuel cells and applied for co-electrolysis of CO₂/H₂O (Invited)

T. Ishihara^{*}; K. Wu¹; K. Hosoi¹; S. Ida¹; 1. Kyushu University, Japan

9:00 AM

(ICACC-S3-028-2017) Solid Oxide Fuel Cells on Hydrocarbon Fuels at Low-Temperatures

M. Abdul Jabbar^{*}; C. Gore²; K. Pan²; B. Blackburn²; E. Wachsman²; 1. University of Maryland, USA; 2. Redox Power Systems, LLC, USA

9:20 AM

(ICACC-S3-029-2017) Redox Stability and Electrochemical Performance of Co Doped Sr₂Fe_{1-x}Mo_{1-x}O_{6-δ} for Solid-Oxide Fuel Cells

H. Qi^{*}; T. Thomas¹; E. Sabolsky¹; X. Liu¹; J. Zondlo¹; R. Hart²; E. Jezek²; 1. West Virginia University, USA; 2. GE, USA

9:40 AM

(ICACC-S3-030-2017) Development of a thermal spray, redox stable, ceramic anode for metal supported SOFC (Invited)

V. K. Srivastava^{*}; R. Hart¹; R. Northey¹; E. Jezek¹; L. Rosenweig¹; P. Thomas¹; M. Alinger³; L. Leblanc²; E. Sabolsky²; T. Thomas²; X. Liu²; J. Zondlo²; H. Qi²; S. Bancheri¹; 1. GE Global Research, USA; 2. Department of Mechanical and Aerospace Engineering, USA; 3. GE Fuel Cell, USA

10:10 AM

Break

10:30 AM

(ICACC-S3-031-2017) Infiltration of SOFC Anodes for Improved Performance at High Fuel Utilization

Y. Lu¹; P. Gasper¹; U. Pal¹; S. Gopalan¹; S. Basu^{*}; 1. Boston University, USA

10:50 AM

(ICACC-S3-032-2017) Low-Temperature Solid Oxide Cells With Thin (La,Sr)(Ga,Mg)O₃ (LSGM) Electrolytes: Effect of Infiltrated Anode

Z. Gao¹; C. Ng^{*}; M. Y. Lu¹; S. Barnett¹; 1. Northwestern Univ, USA

11:10 AM

(ICACC-S3-033-2017) Understanding Poisoning of Proton Conducting SOFC Anode by Hydrogen Sulfide and Carbon Dioxide

S. Sun^{*}; Z. Cheng¹; 1. Florida International University, USA

11:30 AM

(ICACC-S3-034-2017) Ni-Cu Spinel Catalysts for Reforming of Hydrocarbons on Solid Oxide Fuel Cell Anodes

S. Mixture^{*}; P. Sowinski¹; 1. Alfred University, USA

S4: Armor Ceramics

Advances in Synthesis and Processing I

Room: Coquina Salon E

Session Chair: Kristopher Behler, U.S. Army Research Laboratory; Hywel Jones, Sheffield Hallam University

8:30 AM

(ICACC-S4-028-2017) B₂O₃ Synthesis and Powder Properties

C. M. Weiss^{*}; 1. US Army Research Laboratory, USA

8:50 AM

(ICACC-S4-029-2017) Boron carbide room temperature injection molding and pressureless sintering

A. Diaz Cano^{*}; R. Trice^{*}; J. Youngblood¹; 1. Purdue University, USA

9:10 AM

(ICACC-S4-030-2017) Preparation of Boron Carbide with SiC Intergranular Phase

C. Hwang^{*}; S. DiPietro²; K. Xie²; Q. Yang¹; A. Khan¹; V. Domnich¹; K. Hemker²; R. A. Haber¹; 1. Rutgers University, USA; 2. Exothermics, Inc, USA; 3. Johns Hopkins University, USA

9:30 AM

(ICACC-S4-031-2017) The Effect of Silica and Alumina-based Additives on the Densification and Microstructure of Hot-Pressed Boron Carbide

K. D. Behler^{*}; J. LaSalvia²; C. A. Voigt³; S. D. Walck⁴; 1. U.S. Army Research Lab (SURVICE Engineering), USA; 2. U.S. Army Research Lab, USA; 3. U.S. Army Research Lab (CQL), USA; 4. U.S. Army Research Lab (SURVICE Engineering), USA

9:50 AM

Break

Advances in Synthesis and Processing II

Room: Coquina Salon E

Session Chair: Jerry LaSalvia, U.S. Army Research Laboratory; Hywel Jones, Sheffield Hallam University

10:20 AM

(ICACC-S4-032-2017) Progress in Developing Time-Temperature-Transformation (TTT) Diagrams for Grain Boundary Complexion Transitions (Invited)

M. P. Harmer^{*}; 1. Lehigh University, USA

10:50 AM

(ICACC-S4-033-2017) Effect of Additives on the Densification Kinetics and Microstructure of Hot-Pressed Boron Suboxide

K. D. Behler^{*}; J. LaSalvia²; E. R. Shanholtz²; C. A. Voigt³; L. R. Vargas-Gonzalez²; S. D. Walck³; 1. U.S. Army Research Lab (SURVICE Engineering), USA; 2. U.S. Army Research Lab, USA; 3. U.S. Army Research Lab (ORISE), USA; 4. U.S. Army Research Lab (CQL), USA; 5. U.S. Army Research Lab (SURVICE Engineering), USA

11:10 AM

(ICACC-S4-034-2017) High Temperature Coupling of Boron Carbide and Silicon Hexaboride for Diffusion Mapping and Mechanical Testing

A. M. Etzold^{*}; R. A. Haber¹; V. Domnich¹; A. Khan¹; 1. Rutgers University, USA

11:30 AM

(ICACC-S4-035-2017) Flash sintering of armor ceramics

V. L. Blair^{*}; J. H. Yu¹; N. Ku¹; B. McWilliams¹; J. Campbell¹; R. E. Brennan¹; 1. US Army Research Laboratory, USA

11:50 AM

(ICACC-S4-036-2017) Carbon Distribution in Transparent MgAl₂O₄ Spinel Synthesized by Spark-Plasma-Sintering (SPS) Processing

K. Morita^{*}; B. Kim¹; H. Yoshida¹; Y. Sakka¹; 1. National Institute for Materials Science (NIMS), Japan

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

Thermal Energy Conversion and Energy Storage VII

Room: Tomoka A

Session Chair: Xiangxin Guo, Shanghai Institute of Ceramics, Chinese Academy of Sciences

8:30 AM

(ICACC-S6-023-2017) Stabilization of Battery Electrode-Electrolyte Interfaces Employing Nanocrystals with Passivating Epitaxial Shells (Invited)

J. Cabana^{*}; 1. University of Illinois at Chicago, USA

9:00 AM

(ICACC-S6-024-2017) Thermochemical investigation of layered LiNi_xMn_xCo_{1-2x}O₂ (0≤x≤0.5) compounds as promising lithium ion battery cathode materials

H. J. Seifert^{*}; M. Masoumi¹; T. L. Reichmann¹; D. M. Cupid¹; 1. Karlsruhe Institute of Technology, Germany

9:20 AM

(ICACC-S6-025-2017) Structure and Electrochemical Properties of a New Lithium Iron Vanadate

Y. Benabed^{*}; L. Castro²; V. Razafindramananan²; N. Penin²; J. Darriet²; M. Dolle¹; 1. University of Montreal, Canada; 2. Institut de Chimie de la Matière Condensée de Bordeaux, France

9:40 AM

(ICACC-S6-026-2017) Lithium Recovery from Used Li-ion Batteries using an Innovative Electrodialysis Method with a Lithium Ionic Superconductor

T. Hoshino^{*}; 1. National Institutes for Quantum and Radiological Science and Technology (QST), Japan

10:00 AM

Break

Thermal Energy Conversion and Energy Storage VIII

Room: Tomoka A

Session Chair: Yongsheng Hu, Institute of Physics, Chinese Academy of Sciences

10:20 AM

(ICACC-S6-027-2017) Regulating Electrochemical and Chemical Reactions in Metal-oxygen and Li-ion Batteries (Invited)

J. Liu^{*}; 1. Shanghai Institute of Ceramics, CAS, China

10:50 AM

(ICACC-S6-028-2017) Redox processes and materials design for lithium-sulfur and lithium-oxygen batteries (Invited)

Y. Lu^{*}; Q. Zou¹; Z. Liang¹; Z. Li¹; 1. The Chinese University of Hong Kong, Hong Kong

11:20 AM

(ICACC-S6-029-2017) Amorphous Li₂O₂: Chemical Synthesis and Electrochemical Properties (Invited)

Z. Peng^{*}; 1. Changchun Institute of Applied Chemistry, China

11:50 AM

(ICACC-S6-030-2017) The Interactions Between Lithium Polysulfides and N-doped Graphene: A Density Functional Theory Study

L. Yin^{*}; J. Liang¹; F. Li¹; H. Cheng¹; 1. Insitute of Metal Research, Chinese Academy of Sciences, China

S7: 11th International Symposium on Nanostructured Materials: Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental and Health Applications

Solar Fuels III

Room: Coquina Salon A

Session Chair: Saim Emin, University of Nova Gorica

8:30 AM

(ICACC-S7-020-2017) Interfacial architecture of perovskite solar cells-MAPbX₃, CsPbX₃, and MASnPbX₃- (Invited)

S. Moriya¹; K. Hamada¹; D. Hirotani¹; Y. Ogomi¹; T. Ripolles¹; Q. Shen²; T. Toyoda²; K. Yoshino³; T. Minemoto⁴; S. Pandey¹; T. Ma¹; S. Hayase^{*}; 1. Kyushu Institute of Technology, Japan; 2. The University of Electro-communications, Japan; 3. University of Miyazaki, Japan; 4. Ritsumeikan University, Japan

9:00 AM

(ICACC-S7-021-2017) Composite Nanostructures for High-Efficiency Excitonic Solar Cells (Invited)

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

9:30 AM

(ICACC-S7-022-2017) Design, Synthesis, and Structure-Function Relationship of Amphiphilic Organic Ligands for Stable Nanoparticle Dispersions in various solvents (Invited)

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

10:00 AM

(ICACC-S7-023-2017) Luminescent silica nanoparticles to increase the efficiency of silicon solar cells (Invited)

F. Enrichi^{*}; 1. Museo Storico della Fisica e Centro Studi e Ricerche Enrico Fe, Italy

Solar Fuels IV

Room: Coquina Salon A

Session Chair: Alberto Vomiero, Lulea University of Technology

10:30 AM

(ICACC-S7-024-2017) Multifunctional materials for electronics and photonics (Invited)

F. Rosei^{*}; 1. INRS, Canada

11:00 AM

(ICACC-S7-025-2017) Sustainable solar fuels using earth abundant materials (Invited)

T. Andreu^{*}; 1. IREC, Spain

11:30 AM

(ICACC-S7-026-2017) Photoelectrochemical Water Splitting Studies with Nanostructured n- and p-Type Semiconductor Electrodes (Invited)

S. Emin^{*}; M. Valant¹; 1. University of Nova Gorica, Slovenia

11:50 AM

(ICACC-S7-027-2017) Mo/Cu(InGa)Se₂ interface control for enhanced solar cell performance (Invited)

W. Kim^{*}; S. Kwon¹; J. Koo¹; 1. Yeungnam University, Republic of Korea

12:10 PM

(ICACC-S7-028-2017) Nanostructured Zinc Oxide: Enabling multifunctionality through modulation of material aspect (Invited)

I. Concina^{*}; 1. Lulea University of Technology, Sweden

12:30 PM

(ICACC-S7-029-2017) Stability Studies Of Doped Organic-Inorganic Hybrid Perovskites

I. M. Asuo^{*}; 1. Institut national de la recherche scientifique (INRS-EMT), Canada

S8: 11th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT11)

Novel Ceramic Processing II

Room: Coquina Salon B

Session Chairs: Zhengyi Fu, Wuhan University of Technology; Richard Sisson, WPI

8:30 AM

(ICACC-S8-009-2017) Aquacasting: A new UV based reactive tape casting concept (Invited)

T. Graule^{*}; C. Durif¹; P. Ozog¹; D. Kata²; 1. Empa, Switzerland; 2. AGH University of Science and Technology, Poland

9:00 AM

(ICACC-S8-010-2017) The Challenge and the Opportunity for Manufacture of Zinc Magnesium Oxide Ceramics

J. Yang^{*}; T. Lin¹; J. Young¹; B. Manett¹; E. Medvedovski²; 1. SCI Engineered Materials, USA; 2. Endurance Technologies Inc., Canada

9:20 AM

(ICACC-S8-011-2017) Conductive glass-carbon composites for heating elements produced by two component powder injection molding (PIM)

J. C. Schilm^{*}; A. Rost¹; A. Mannschatz¹; A. Mueller-Koehn¹; T. Moritz¹; A. Michaelis¹; 1. Fraunhofer Gesellschaft, Germany

9:40 AM

(ICACC-S8-012-2017) Manufacturing Near-Net Shaped Silicon Nitride Specimens with Aligned Microstructures via Room-Temperature Injection Molding

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

10:00 AM

Break

10:20 AM

(ICACC-S8-013-2017) New Sintering Process for High Density and Limited Grain Growth with Plastic Deformation as Dominating Mechanism (Invited)

Z. Fu^{*}; 1. Wuhan University of Technology, China

10:40 AM

(ICACC-S8-014-2017) Observation of particles in silica slurry with high-concentration

S. Tanaka^{*}; Y. Nagasawa¹; 1. Nagaoka University of Technology, Japan

11:00 AM

(ICACC-S8-015-2017) Synthesis of Nanocrystalline Ultrahigh Temperature Ceramic Powders via Rapid Single Step High Temperature Spray Pyrolysis

P. Foroughi^{*}; A. Behrens¹; Z. Cheng¹; 1. Florida International University, USA

11:20 AM

(ICACC-S8-016-2017) Numerical Analysis of Inhomogeneous Behavior in Friction Stir Processing by Using a new Coupled Method of MPS and FEM

H. Serizawa^{*}; F. Miyasaka²; 1. Osaka University, Japan; 2. Osaka University, Japan

11:40 AM

(ICACC-S8-017-2017) The Aqueous Corrosion Response of Ti(C,N)-Ni₃Al Cermets With Various Reaction-Formed Binder Contents

Z. Memarrashidi¹; K. P. Plucknett^{*}; 1. Dalhousie University, Canada

S9: Porous Ceramics: Novel Developments and Applications

High SSA Ceramics I

Room: Coquina Salon G

Session Chair: Paolo Falcato, Graz University of Technology

8:30 AM

(ICACC-S9-027-2017) Mesoporous K/Fe-Al-O Nano-Fiber Catalyst by Electrospinning (Invited)

G. S. Grader^{*}; G. E. Shter¹; O. Dinner¹; O. Elishav¹; V. Halperin¹; V. Beilin¹; 1. Technion - Israel Institute of Technology, Israel

9:00 AM

(ICACC-S9-028-2017) Quantitative evaluation of adsorption-photodecomposition property on mesoporous silica-titania (Invited)

M. Inada^{*}; K. Hayashi¹; J. Hojo¹; 1. Kyushu University, Japan

9:30 AM

(ICACC-S9-029-2017) Ultraviolet to near infrared-light-driven photocatalysis of mesoporous SiO₂-TiO₂ deposited with Au nanorods

T. Okuno^{*}; G. Kawamura¹; H. Muto¹; A. Matsuda¹; 1. Toyohashi University of Technology, Japan

9:50 AM

Break

High SSA Ceramics II

Room: Coquina Salon G

Session Chair: Miki Inada, Kyushu University

10:10 AM

(ICACC-S9-030-2017) Ceramics for Metal-Organic Frameworks (MOFs) based devices (Invited)

P. Falcaro^{*}; 1. Graz University of Technology, Austria

10:40 AM

(ICACC-S9-031-2017) Mesoporous 3D polymer derived TiN/Si₃N₄ nanocomposites monoliths as platinum supports for H₂ generation from NaBH₄

A. Lale^{*}; U. B. Demirci¹; S. Bernard¹; 1. Institut Europeen des Membrane, France

11:00 AM

(ICACC-S9-032-2017) Ultralight polymer-derived ceramic aerogel for effective wide bandwidth electromagnetic absorption properties

G. Shao^{*}; W. Zhao¹; R. Zhang²; L. An³; 1. Zhengzhou University, China; 2. Provincial key laboratory of Aviation Materials and Application Technology, Zhengzhou University of Aeronautics, China; 3. University of Central Florida, USA

11:20 AM

(ICACC-S9-033-2017) Polymer-derived Si-O-C-N aerogels as sorbent materials for water purification

E. Zera^{*}; E. Brancaccio²; M. C. Bruzzoniti²; A. Geleta¹; G. D. Sorarù¹; 1. University of Trento, Italy; 2. University of Turin, Italy; 3. SOLID Power SpA, Italy

S10: Virtual Materials (Computational) Design and Ceramic Genome

Modelling by DFT methods

Room: Ponce DeLeon

Session Chairs: Per Eklund, Linköping University; Katsuyuki Matsunaga, Nagoya University

8:30 AM

(ICACC-S10-024-2017) Theoretical insights and predictions of mechanical properties and electronic structure of ternary layered borides MoAlB using density functional theory (Invited)

Y. Bai^{*}; X. Qi¹; N. Li¹; F. Kong¹; X. He¹; R. Wang¹; 1. Harbin Institute of Technology, China

9:00 AM

(ICACC-S10-025-2017) Chemical bonding and electronic-structure in MAX phases and MXenes as viewed by density functional theory and x-ray spectroscopy (Invited)

M. Magnuson^{*}; 1. Linköping University, Sweden

9:30 AM

(ICACC-S10-026-2017) Defect Stability and Transport in SrTiO₃/PbTiO₃ Superlattice from Density Functional Theory (Invited)

H. Xu^{*}; L. Zhang¹; V. Cooper²; P. Kent³; 1. University of Tennessee, USA; 2. Oak Ridge National Lab, USA; 3. Oak Ridge National Lab, USA

10:00 AM

Break

10:20 AM

(ICACC-S10-027-2017) Modeling of Point Defect Ordering in Nonstoichiometric ZrC and TiC with B1 Structure

G. Zhou¹; J. Wang¹; H. Wang^{*}; J. Zhang¹; J. Wang¹; R. Yang¹; 1. Institute of Metal Research, Chinese Academy of Sciences, China

10:40 AM

(ICACC-S10-028-2017) Construction of Energy Diagrams of Mn⁴⁺ and Ce³⁺ in Oxides Based on First-Principles Calculations (Invited)

K. Ogasawara^{*}; 1. Kwansei Gakuin University, Japan

11:10 AM

(ICACC-S10-029-2017) Perovskites for efficient oxygen evolution reactions: Design guidelines from ab initio calculations (Invited)

H. Tahini^{*}; X. Tan¹; S. Smith¹; 1. UNSW, Australia

11:40 AM

(ICACC-S10-030-2017) Ab initio Modeling of the Electronic Structures and Physical Properties of Alkali Doped Silicate Glass

K. Baral^{*}; W. Ching¹; 1. University of Missouri, Kansas City, USA

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

Materials Design, New Composition and Composites IV

Room: Tomoka B

Session Chairs: Anindya Ghoshal, US Army Research Laboratory; Jesus Gonzalez-Julian, Forschungszentrum Juelich

8:30 AM

(ICACC-S12-028-2017) The Science of Entropy-Stabilized Materials for Ultra-High Temperature Applications (Invited)

E. Opila^{*}; P. Hopkins¹; D. Brenner²; J. Maria²; S. Curtarolo³; J. Luo⁴; K. Vecchio⁴; 1. University of Virginia, USA; 2. North Carolina State University, USA; 3. Duke University, USA; 4. University of California, San Diego, USA

9:00 AM

(ICACC-S12-029-2017) Performance Optimization of ZrB₂-MoSi₂-SiC Dual Composite Architectures for High Temperature Structural Applications

R. J. Grohsmeyer^{*}; G. Hilmas¹; W. Fahrenholtz¹; S. Failla²; F. Monteverde²; C. Melandri²; D. Sciti²; 1. Missouri University of Science and Technology, USA; 2. Institute of Science and Technology for Ceramics, Italy

9:20 AM

(ICACC-S12-030-2017) 40% increase in Cr₂AlC self-healing rate by minute Si additions

L. Shang¹; K. Pradeep¹; S. Sandlöbes²; M. to Baben³; J. M. Schneider^{*}; 1. RWTH Aachen University, Germany; 2. Institut für Metallkunde und Metallphysik, Germany; 3. GTT-Technologies, Germany

9:40 AM

(ICACC-S12-031-2017) Pressureless sintering of TiC from submicron carbide powders

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

10:00 AM

Break

Processing-microstructure-property Relationships of Existing Systems I

Room: Tomoka B

Session Chairs: Leszek Chlubny, AGH University of Science and Technology; Joseph Halim, Drexel University

10:20 AM

(ICACC-S12-032-2017) MeB₂ ultra-high temperature ceramics (UHTCs) With Hexagonal-metal Ductile-like Behavior

E. Zapata-Solvas^{*1}; D. Gomez-Garcia²; A. Dominguez-Rodriguez²; W. Lee¹; 1. Imperial College London, United Kingdom; 2. University of Seville, Spain

10:40 AM

(ICACC-S12-033-2017) Tribological, Nanomechanical and Oxidation Properties of the Cold-sprayed MAX phase Ti₂AlC Coating

A. Loganathan^{*1}; C. Rudolf¹; C. Zhang¹; T. Laha²; B. Boesl¹; A. Agarwal¹; 1. Florida International University, USA; 2. Indian Institute of Technology Kharagpur, India

11:00 AM

(ICACC-S12-034-2017) Microstructure Evolvment and Mechanical Properties of Tantalum Carbides (Ta₂C) Composites Enhanced by the Addition of SiC

H. Liu^{*1}; L. Liu²; F. Ye²; 1. University of Manchester, United Kingdom; 2. Harbin Institute of Technology, China

11:20 AM

(ICACC-S12-035-2017) Alkali treated Ti₃C₂T_x MXenes (Alk-Ti₃C₂T_x) and their dye adsorption performance

W. Zheng^{*1}; Z. Sun¹; P. Zhang¹; X. Qin¹; Y. Wang¹; Y. Zhang¹; 1. School of Materials Science and Engineering, Southeast University, China

11:40 AM

(ICACC-S12-036-2017) Effect of synthesis and sintering parameters on densification and mechanical properties of Titanium Diboride (TiB₂) ceramics

A. M. Celik^{*1}; R. A. Haber¹; W. Rafanillo¹; 1. Rutgers University, USA

S13: Advanced Materials for Sustainable Nuclear Fission and Fusion Energy

Processing, Joining, and Coating for Ceramic Fuels and Materials

Room: Coquina Salon H

Session Chairs: Monica Ferraris, Politecnico di Torino; Christian Deck, General Atomics

8:30 AM

(ICACC-S13-001-2017) Production of Fully Ceramic Microencapsulated Fuels with Low Enriched Uranium for Irradiation Testing (Invited)

K. Terrani^{*1}; J. Kiggans¹; J. McMurray¹; C. Ang¹; 1. Oak Ridge National Lab, USA

8:50 AM

(ICACC-S13-002-2017) Design, Evaluation and Manufacturing of Integrated TRISO-Inspired Fuel

S. Harrison^{*1}; J. Pegna¹; J. Schreiner¹; R. Goduguchinta¹; K. Williams¹; E. Vaaler¹; K. Shirvan²; B. Hiscox²; 1. Free Form Fibers, USA; 2. Massachusetts Institute of Technology, USA

9:10 AM

(ICACC-S13-005-2017) Residual Stress Free Joining of Silicon Carbide Ceramics (Invited)

Y. Kim^{*1}; S. Jang¹; 1. University of Seoul, Republic of Korea

9:30 AM

(ICACC-S13-006-2017) Vacuum Plasma Spray Metallic Coatings on SiC Composite Claddings

J. S. O'Dell^{*1}; L. L. Snead²; C. Ang³; Y. Katoh³; 1. Plasma Processes, LLC, USA; 2. Massachusetts Institute of Technology, USA; 3. Oak Ridge National Lab, USA

9:50 AM

Break

10:10 AM

(ICACC-S13-007-2017) Improving the damage-tolerance of Zircaloy cladding by integrated ceramic coatings

J. Zhang^{*1}; Y. Zhang²; G. Bai²; J. Wang¹; 1. Institute of Metal Research, Chinese Academy of Sciences, China; 2. Life Management Technology Center, Suzhou Nuclear Power Research Institute, China Nuclear Power Technology Research Institute, China

10:30 AM

(ICACC-S13-008-2017) Microstructure and mechanical properties of Cr-based coatings on SiC cladding

C. Ang^{*1}; C. Kemery³; K. Terrani²; J. Kiggans⁴; Y. Katoh¹; 1. Oak Ridge National Lab, USA; 2. Oak Ridge National Lab, USA; 3. NEO Industries, USA; 4. Oak Ridge National Lab, USA

10:50 AM

(ICACC-S13-009-2017) Fabrication of SiC coated zircaloy-4 fuel claddings by solid-state reaction method and their adhesion properties

X. Geng^{*1}; X. Huang¹; G. Wen¹; 1. Harbin Institute of Technology, China

S14: Crystalline Materials for Electrical, Optical and Medical Applications

Optical Material 3

Room: Tomoka C

Session Chairs: Nerine Cherepy, Lawrence Livermore Nat'l Lab; Claudia Wickleder, University of Siegen

8:30 AM

(ICACC-S14-024-2017) Review of Phosphor Identification and Synthesis Methods (Invited)

J. McKittrick^{*1}; J. Ha¹; Z. Wang¹; G. Hirata²; O. Graeve¹; S. Ong¹; 1. UC San Diego, USA; 2. Center for Nanoscience and Nanotechnology, Mexico

9:00 AM

(ICACC-S14-025-2017) Synthesis of nano oxides by water assisted solid state reaction at low temperature (Invited)

K. Toda^{*1}; 1. Niigata University, Japan

9:30 AM

(ICACC-S14-026-2017) Luminescent Property of Deep-red La₂MgGeO₆:Mn⁴⁺ Phosphor Synthesized by Polymerized Complex Method

M. Watanabe^{*1}; T. Yoshizawa¹; S. Kim²; K. Seki¹; K. Uematsu¹; K. Toda¹; M. Sato¹; 1. Niigata University, Japan; 2. Sejong University, Republic of Korea

9:50 AM

Break

10:10 AM

(ICACC-S14-027-2017) Phase Change Sintering of BaCl₂ Transparent Ceramics (Invited)

T. Shoulders¹; R. M. Gaume^{*1}; 1. University of Central Florida, USA

10:40 AM

(ICACC-S14-028-2017) Transparent Polycrystalline Ceramics for Demanding Optical Applications (Invited)

M. R. Pascucci^{*1}; 1. CeraNova Corporation, USA

11:10 AM

(ICACC-S14-029-2017) Development of transparent ceramics for optical and photonic applications (Invited)

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

11:40 AM

(ICACC-S14-030-2017) Toughening transparent polycrystalline yttria-stabilized zirconia ceramics with functional yttria coatings

M. Rubat du Merac^{*1}; M. Bram²; O. Guillon²; 1. Technical University Darmstadt, Germany; 2. Forschungszentrum Juelich, Germany

3rd Pacific Rim Engineering Ceramics Summit

Challenges and Opportunities I

Room: Coquina Salon C

Session Chairs: Shaoming Dong, Shanghai Institute of Ceramics, Chinese Academy of Sciences; Hisayuki Suematsu, Nagaoka University of Technology

1:30 PM

(ICACC-PACRIM-027-2017) Synthesis of cuprate superconductors under high oxygen partial pressure and improvement of the critical current density properties by insertion of water molecules (Invited)

H. Suematsu^{*}; A. Sklyarova¹; T. Nagumo¹; H. Shinoda¹; T. Aoba²; T. Suzuki³; T. Nakayama¹; K. Niihara¹; 1. Nagaoka University of Technology, Japan; 2. Toyohashi University of Technology, Japan; 3. Nagaoka University of Technology, Japan

2:00 PM

(ICACC-PACRIM-028-2017) Porous preform structure and interphase effect on RMI ultra high temperature ceramic matrix composites (Invited)

S. Dong^{*}; X. Chen¹; Y. Kan¹; X. Zhang¹; 1. Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

2:30 PM

(ICACC-PACRIM-029-2017) High-temperature strength of ZrB₂-based ultra-high temperature ceramics (Invited)

G. Zhang^{*}; 1. Donghua University, China

3:00 PM

Break

3:20 PM

(ICACC-PACRIM-030-2017) Effects of filler materials on the properties of ceramic composites made by precursor impregnation and pyrolysis process (Invited)

S. Lee^{*}; J. Kim¹; A. Mohan¹; 1. Korea Institute of Materials Science, Republic of Korea

3:50 PM

(ICACC-PACRIM-031-2017) Selection of the liquid-phase sintering additive for SiC and the fabrication of SiC_p/SiC composites by EPD combined with hot pressing (Invited)

D. Yoon^{*}; P. Fitriani¹; K. Raju¹; A. Sharma¹; J. Park²; 1. Yeungnam University, Republic of Korea; 2. KAERI, Republic of Korea

4:20 PM

(ICACC-PACRIM-032-2017) Grain-oriented polycrystalline ceramics prepared by colloidal processing using magnetic field (Invited)

S. Tanaka^{*}; 1. Nagaoka University of Technology, Japan

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

Synthesis, Processing Microstructure

Room: Coquina Salon E

Session Chair: Waltraud Kriven, University of Illinois at Urbana-Champaign

1:30 PM

(ICACC-FS1-001-2017) Geopolymers based on natural and synthetic metakaolin: A critical review of published scientific papers (Invited)

J. Davidovits^{*}; 1. Geopolymer Institute, France

2:30 PM

(ICACC-FS1-002-2017) What is the Smallest Size of Geopolymer Particles?: Production of Geopolymer Nanoaggregates, Their Characteristics and Emerging Applications (Invited)

D. Seo^{*}; 1. Arizona State University, USA

3:00 PM

Break

3:20 PM

(ICACC-FS1-003-2017) The influence of amorphous/crystalline ratio in the aggregates on the polycondensation of high strength geopolymer composites

E. Kamseu^{*}; A. Nana¹; R. C. Kaze²; C. Leonelli⁴; 1. Local Materials Promotion Authority/MIPROAMLO, Cameroon; 2. University of Dschang, Cameroon; 3. University of Yaounde I, Cameroon; 4. Università Studi Di Modena, Italy

3:40 PM

(ICACC-FS1-004-2017) Thermal behavior of geopolymer cements using sodium waterglass from rice husk ash and waste glass as alternative activators

H. Tchakouté Kouamo^{*}; C. Henning Rüschert²; 1. University of Yaoundé I, Cameroon; 2. Leibniz Universität Hannover, Germany

4:00 PM

(ICACC-FS1-005-2017) Effects of nucleation seeds on Alkali-Activated Binders (Invited)

D. Sarbapalli¹; S. Puligilla¹; P. Mondal^{*}; 1. University of Illinois at Urbana-Champaign, USA

4:30 PM

(ICACC-FS1-006-2017) Geopolymer foams: Influence of the processing route on chemical composition and properties (Invited)

M. Arnoult^{*}; S. Rossignol¹; G. Gasgnier²; 1. Laboratoire SPCTS, France; 2. Imerys Ceramics, France

5:00 PM

(ICACC-FS1-007-2017) The Corrosion of Kaolinite by iron minerals and its effects on geopolymerization (Invited)

R. C. Kaze¹; L. M. Beleuk a Mougam¹; A. Nana²; E. Kamseu^{*}; C. Leonelli⁴; 1. Local Materials Promotion Authority/MIPROAMLO, Cameroon; 2. University of Yaounde I, Cameroon; 3. University of Dschang, Cameroon; 4. Università Studi Di Modena, Italy

FS2: Advanced Ceramic Materials and Processing for Photonics and Energy

Photonics, Electronics and Sensing II

Room: Halifax A/B

Session Chairs: Fiorenzo Vetrone, Institut National de la Recherche Scientifique; Rafik Naccache, Concordia University

1:30 PM

(ICACC-FS2- 026- 2017) Hybrid electrospun heterostructures for low-cost light-emitting device architectures (Invited)

S. G. Cloutier^{*}; I. Ka¹; R. Nechache¹; J. Benavides¹; L. Gerlein-Reyes¹; X. Guo¹; 1. École de technologie supérieure, Canada

2:00 PM

(ICACC-FS2- 027- 2017) Quantum dot based luminescent solar concentrator (Invited)

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

2:30 PM

(ICACC-FS2- 028- 2017) Carbon Dots: From Synthesis to Application (Invited)

F. Victoria²; J. Jesu Raj¹; F. Vetrone¹; R. Naccache^{*}; 1. Institut National de la Recherche Scientifique, Canada; 2. Concordia University, Canada

3:00 PM

Break

3:20 PM

(ICACC-FS2- 029- 2017) Optical Properties of Biosilicas in a Rice Plant (Invited)

H. Imai^{*}; K. Sato¹; A. Yamauchi¹; T. Ishigure¹; Y. Oaki¹; N. Ozaki²; 1. Keio University, Japan; 2. Faculty of Bioresource Sciences, Akita Prefectural University, Japan

3:50 PM

(ICACC-FS2- 030- 2017) Multi-Functional Nanoplatfoms Based on Rare Earth Doped Nanoparticles (Invited)

F. Vetrone^{*}; 1. Institut National de la Recherche Scientifique, Canada

4:20 PM

(ICACC-FS2- 031- 2017) Microwave assisted synthesis of $Y_2O_3:M^{3+}$ downconversion and upconversion nanophosphors (Invited)

M. S. Toprak^{*2}; A. M. Khachatourian²; C. Vogt¹; E. M. Vasileva²; I. Stjugov²; M. Mensi²; S. M. Popov²; 1. KTH Royal Institute of Technology, Sweden; 2. KTH Royal Institute of Technology, Sweden

S1: Mechanical Behavior and Performance of Ceramics & Composites

Processing - Microstructure - Mechanical Properties Correlation I

Room: Coquina Salon D

Session Chairs: Jordi Seuba, INSA Lyon (Mateis); Hans-Joachim Kleebe, Technical University Darmstadt

1:30 PM

(ICACC-S1-042-2017) Processing and mechanical properties of porous ceramic-polymer composites with unidirectional porosity (Invited)

J. Seuba^{*1}; S. Meille¹; S. Deville²; 1. INSA Lyon (Mateis), France; 2. CNRS (UMR3080), France

2:00 PM

(ICACC-S1-043-2017) Quantifying the Effect of Templated Growth on the Crystallinity and Density of Polycarbosilane-Derived Silicon Carbide

T. Key^{*2}; I. Wolford¹; D. Petry²; M. O'Malley¹; M. Cinibulk¹; 1. Materials and Manufacturing Directorate, USA; 2. UES Inc., USA

2:20 PM

(ICACC-S1-044-2017) The effect of diamond grits on the microstructures and properties of polycrystalline diamonds (PCDs) sintered by HPHT

L. Deng^{*1}; 1. Element Six, United Kingdom

2:40 PM

(ICACC-S1-045-2017) Correlation Between Microstructure and Mechanical Properties of Boron Suboxide B_2O_3 Ceramics

H. Kleebe^{*1}; 1. Technical University Darmstadt, Germany

3:00 PM

Break

3:20 PM

(ICACC-S1-046-2017) Microstructure and mechanical properties of B_4C - TiB_2 - SiC composites fabricated by reactive hot pressing from the B_4C - TiC - Si as raw materials

W. Wang^{*1}; 1. Wuhan University of Technology, China

3:40 PM

(ICACC-S1-047-2017) Effects of the addition of white graphene to hydroxyapatite: Processing, Testing, and Characterization

T. Aguirre^{*1}; T. B. Holland¹; 1. Colorado State University, USA

4:00 PM

(ICACC-S1-048-2017) Densification and Mechanical Properties of Spark Plasma Sintered Si_3N_4/ZrO_2 Nanopowder

A. Sayyadishahraki^{*1}; K. Nekouee²; E. Taheri-Nassaj¹; A. Hassanzadeh¹; 1. Tarbiat Modares University, Islamic Republic of Iran; 2. Sahand University of Technology, Islamic Republic of Iran; 3. Islamic Azad University, Islamic Republic of Iran

4:20 PM

(ICACC-S1-049-2017) Inconel 625-Tungsten Carbide Coatings Obtained by Laser Cladding

D. Kata^{*1}; J. Huebner¹; J. Lis¹; 1. AGH University of Science and Technology, Poland

4:40 PM

(ICACC-S1-050-2017) Chromium alloyed $MoSi_2$ -composite for improved low temperature oxidation resistance

E. O. Strom^{*1}; 1. Sandvik Heating Technology, Sweden

5:00 PM

(ICACC-S1-051-2017) Modeling the Mass Yield and Molecular Weight Distribution of Polycarbosilane

T. Key^{*2}; G. Wilks¹; T. Parthasarathy²; D. King²; M. Cinibulk¹; 1. Air Force Research Laboratory, USA; 2. UES Inc, USA

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

Smart Functional Ceramic Coatings

Room: St. John

Session Chair: Eugene Medvedovski, Endurance Technologies Inc.

1:30 PM

(ICACC-S2-039-2017) Review: High-Temperature, Thin Film Sensors for CMCs (Invited)

O. Gregory^{*1}; 1. University of Rhode Island, USA

2:00 PM

(ICACC-S2-040-2017) Surface Mountable, High-Temperature Strain Gages for CMC's

V. Wnuk^{*1}; O. Gregory²; 1. HPI, USA; 2. University of Rhode Island, USA

2:20 PM

(ICACC-S2-041-2017) High-Resolution, High Stability Temperature and Strain Sensors for Advanced CMC's

K. Rivera^{*1}; T. Muth¹; J. Rhoat¹; O. Gregory¹; 1. University of Rhode Island, USA

2:40 PM

(ICACC-S2-042-2017) Magnetic studies of Copper incorporated Iron Nitride Thin Films

H. Kamat^{*1}; X. Wang¹; J. Parry²; H. Zeng²; 1. Alfred University, USA; 2. University of Buffalo, USA

3:00 PM

Break

Advanced Multifunctional Ceramic Coatings

Room: St. John

Session Chair: Otto Gregory, University of Rhode Island

3:20 PM

(ICACC-S2-043-2017) Boride-Based Coatings for Protection of Cast Iron against Wear

E. Medvedovski^{*1}; J. Jiang²; M. Robertson²; 1. Endurance Technologies Inc., Canada; 2. National Research Council of Canada, Canada

3:40 PM

(ICACC-S2-044-2017) Evaluation of protective coatings for superheater tubes for waste to energy plants

S. Molin^{*1}; L. Mikkelsen¹; M. Chen¹; P. Hendriksen¹; 1. Technical University of Denmark, Denmark; 2. Babcock & Wilcox Vølund A/S, Denmark

4:00 PM

(ICACC-S2-045-2017) Controlling the phase composition in Lanthanum Tungstate for Hydrogen Gas Separation Membranes by Plasma Spray-Physical Vapor Deposition

D. A. Marcano^{*1}; G. Mauer¹; R. Vaßen¹; 1. Forschungszentrum Juelich, Germany

4:20 PM

(ICACC-S2-046-2017) Microstructure and Properties of Room Temperature Deposited, Thick $BaTiO_3$ Dielectric Films

P. Sarobol^{*1}; A. Vackel¹; J. Adamczyk¹; T. D. Holmes¹; M. Rodriguez¹; J. Griego¹; H. Brown-Shaklee¹; 1. Sandia National Laboratories, USA

4:40 PM

(ICACC-S2-047-2017) Effect of Microstructural Characteristics on Thermal and Electrical Properties of Thermal Spraying Deposited Ceramic Coatings

F. Azarmi^{*1}; E. Mironov¹; 1. North Dakota State University, USA; 2. Skolkovo Institute of Science and Technology, Russian Federation

S3: 14th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Mechanical Integrity

Room: Crystal

Session Chair: Vijay Srivastava, GE Global Research

1:30 PM

(ICACC-S3-035-2017) Redox stable anode materials for SOFC

T. Thomas^{*1}; E. Sabolsky¹; H. Qi¹; X. Liu¹; J. Zondlo²; R. Hart³; E. Jezek³; 1. West Virginia University, USA; 2. West Virginia University, USA; 3. GE Global Research Centre, USA

1:50 PM

(ICACC-S3-036-2017) Fracture Mechanisms in Solid Oxide Fuel Cell Anode Supports

K. Kwok^{*1}; P. Jørgensen¹; J. Wei²; G. Pecanac²; H. Frandsen¹; J. Malzbender²; 1. Technical University of Denmark, Denmark; 2. Forschungszentrum Jülich GmbH, Germany

2:10 PM

(ICACC-S3-037-2017) Effect on Sintering Aid and YSZ Short Fibers on Densification and Contact Strength of Solid Oxide Fuel Cells

Y. Chou^{*1}; J. Bonnett¹; J. W. Stevenson¹; 1. Pacific Northwest National Lab, USA

2:30 PM

(ICACC-S3-038-2017) Characterization of the ferroelasticity of SOFC cathode materials

K. Shishido^{*1}; 1. Tohoku University, Japan

2:50 PM

Break

Novel Processing and Design

Room: Crystal

Session Chair: Andre Weber, Karlsruhe Institute of Technology (KIT)

3:10 PM

(ICACC-S3-039-2017) Development of electrodes for solid oxide electrolysis cells using microstructure control techniques (Invited)

H. Shimada^{*1}; T. Yamaguchi¹; H. Sumi¹; Y. Yamaguchi¹; K. Nomura¹; Y. Fujishiro¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

3:40 PM

(ICACC-S3-041-2017) Fabrication of anode-supported solid oxide fuel cell with direct pore channel in the cermet structure to improve the electrochemical performance

T. Lin^{*1}; H. Kuo¹; J. Kuo¹; C. Yeh¹; W. Kao¹; M. Liao¹; Y. Chen¹; R. Lee¹; 1. Institute of Nuclear Energy Research, Taiwan

4:00 PM

(ICACC-S3-042-2017) Thermal strain control in micro-machined solid oxide fuel cells

M. Hadad^{*1}; P. Murali¹; 1. Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland

4:20 PM

(ICACC-S3-043-2017) Towards a Scalable and Automated Impregnation Process for Solid Oxide Fuel/Electrolysis Cells

E. H. Daas²; J. T. Irvine²; E. Traversa⁴; S. Bouffrad^{*1}; 1. Hamad Bin Khalifa University – Qatar Foundation, Qatar; 2. King Abdullah University of Science and Technology, Saudi Arabia; 3. University of St Andrews, United Kingdom; 4. Xi'an Jiaotong University, China

S5: Next Generation Bioceramics and Biocomposites

Bioceramics I

Room: Coquina Salon F

Session Chairs: Alberto Vomiero, Lulea University of Technology; Ajay Karakoti, Ahmedabad University; Akiyoshi Osaka, Okayama University

1:30 PM

(ICACC-S5-001-2017) Nanoscale structure and properties of biocompatible materials (Invited)

F. Rosei^{*1}; 1. INRS, Canada

1:50 PM

(ICACC-S5-002-2017) Effect of etching on the surface modification of silica nanostructures for tuning the uptake and release of hydrophobic drugs

A. S. Karakoti^{*1}; H. Thawani²; S. Singh²; 1. Ahmedabad University, India; 2. Ahmedabad University, India

2:10 PM

(ICACC-S5-003-2017) Multifunctionalized Fe₃O₄@SiO₂ on SiO₂ Dual-Faced “Janus” Nanoparticle for Targeted Drug Delivery (Invited)

D. Shi^{*1}; 1. University of Cincinnati, USA

2:30 PM

(ICACC-S5-004-2017) Antifouling characteristics of alginic acid deposited on stainless steel substrate (Invited)

T. Yoshioka²; K. Tsuru²; S. Hayakawa³; A. Osaka^{*1}; 1. Okayama University, Japan; 2. Kyushu University, Japan; 3. Okayama University, Japan

2:50 PM

Break

3:10 PM

(ICACC-S5-005-2017) Structural investigation of biominerals surface and organo-mineral interface through solid state NMR (Invited)

T. Azais^{*1}; W. Ajili¹; G. Laurent¹; S. Von Euw¹; N. Nassif¹; 1. Université Pierre et Marie Curie, France

3:30 PM

(ICACC-S5-006-2017) Charge dynamics in composite nano-systems (Invited)

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

3:50 PM

(ICACC-S5-007-2017) Tantalum and Tantalum-based Ceramic Coatings for Increasing the Biocompatibility of Conventional Metal Implant Alloys (Invited)

J. Stiglich^{*1}; B. Williams¹; R. Narayan²; 1. Ultramet, USA; 2. University of North Carolina, USA

4:10 PM

(ICACC-S5-008-2017) Control of Interlayer Distance of Octacalcium Phosphate Using Dicarboxylate Ions (Invited)

T. Yokoi^{*1}; M. Kamitakahara²; C. Ohtsuki³; 1. Japan Fine Ceramics Center, Japan; 2. Tohoku University, Japan; 3. Nagoya University, Japan

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

Thermal Energy Conversion and Energy Storage IX

Room: Tomoka A

Session Chair: Xin Guo, Huazhong University of Science and Technology

1:30 PM

(ICACC-S6-031-2017) In-situ TEM Probing of Nanoscale Surface Coating Layer on Mitigating Capacity Fading of Lithium ion Battery (Invited)

C. Wang^{*1}; 1. Pacific Northwest National Laboratory, USA

2:00 PM

(ICACC-S6-032-2017) Carbon-Based Composite Electrodes for High-Performance Energy Storage Devices (Invited)

T. Liu¹; B. Lee¹; S. Lee^{*1}; 1. Georgia Institute of Technology, USA

2:30 PM

(ICACC-S6-033-2017) 3D Printed carbon materials enabled energy-related applications (Invited)

K. Fu^{*1}; L. Hu¹; 1. University of Maryland, USA

3:00 PM

Break

Thermal Energy Conversion and Energy Storage X

Room: Tomoka A

Session Chair: Ryoji Funahashi, National Institute of Advanced Industrial Science and Technology (AIST)

3:20 PM

(ICACC-S6-034-2017) Recent Progress in Thermoelectric Complex Sulfides (Invited)

E. Guilmeau^{*1}; P. Ventrapati¹; T. Barbier¹; C. Bourges¹; P. Lemoine²; O. I. Lebedev¹; 1. CNRS CRISMAT, France; 2. Institut des Sciences Chimiques de Rennes, France

3:50 PM

(ICACC-S6-035-2017) Thermoelectric Performance of Ternary and higher Cu Chalcogenides (Invited)

H. Kleinke^{*1}; 1. University of Waterloo, Canada

4:20 PM

(ICACC-S6-037-2017) Continuously Graded Microstructure in a Thermoelectric ZnO Material

C. L. Cramer^{*1}; J. Gonzalez-Julian²; P. Colasuonno¹; T. B. Holland¹; 1. Colorado State University, USA; 2. Forschungszentrum Juelich, Germany

4:40 PM

(ICACC-S6-039-2016) Impact of Advanced Transmission Electron Microscopy (TEM) to the structure /properties of energy materials (Invited)

O. I. Lebedev^{*1}; M. Freire¹; D. Berthebaud¹; A. Maignan¹; V. Pralong¹; 1. Laboratoire CRISMAT, UMR 6508 CNRS/ENSICAEN/UCBN, France

S7: 11th International Symposium on Nanostructured Materials: Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental and Health Applications

New Materials and Processing I

Room: Coquina Salon A

Session Chair: Roger Narayan, NC State University

1:30 PM

(ICACC-S7-030-2017) Soft Processing for Nano Carbons: Direct Fabrication of Functionalized Graphenes and Their Hybrids Inks via Submerged Liquid Plasma and Electrochemical Exfoliation under Ambient Conditions (Invited)

M. Yoshimura^{*1}; 1. National Cheng Kung University, Taiwan

2:00 PM

(ICACC-S7-031-2017) Microwave-Assisted Synthesis of Perovskite SrSnO₃ Nanocrystals in Ionic Liquids for Photocatalytic Applications (Invited)

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

2:30 PM

(ICACC-S7-032-2017) Multifunction metal oxides shell on carbon nanotubes core for clean energy and other applications (Invited)

D. Chua^{*1}; 1. National University of Singapore, Singapore

3:00 PM

(ICACC-S7-033-2017) Bottom-up processing oxide nanosheets into 3-D porous solids and their topothermal conversions

T. Hey^{*1}; P. Metz¹; T. Gubb¹; K. Fuller¹; S. Misure¹; 1. Alfred University, USA

New Materials and Processing II

Room: Coquina Salon A

Session Chair: Monica Jung de Andrade, University of Texas, Dallas

3:30 PM

(ICACC-S7-034-2017) Defective films for water splitting (Invited)

Y. Yang^{*1}; 1. University of Central Florida, USA

4:00 PM

(ICACC-S7-035-2017) Porous Structure based High Performance Electrocatalysts for Low Temperature Fuel Cells and CO₂ conversion (Invited)

J. Lee^{*1}; 1. POSTECH, Republic of Korea

4:30 PM

(ICACC-S7-036-2017) Extremely flexible inorganic-organic multilayer moisture barriers grown by atomic layer deposition and plasma polymerization

S. Cho^{*1}; 1. SungKyunKwan University, Republic of Korea

4:50 PM

(ICACC-S7-037-2017) Engineering Interfacial Structure in "Giant" PbS/CdS Quantum Dots for Solar Energy Conversion

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

5:10 PM

(ICACC-S7-038-2017) Nanofiber-supported CuS nanoplatelets as a high efficiency counter electrode for quantum dot-based photoelectrochemical hydrogen generation

F. Navarro Pardo^{*1}; L. Jin¹; H. Zhao¹; A. Vomiero²; F. Rosei¹; 1. Institut National de la Recherche Scientifique, Canada; 2. Luleå University of Technology, Sweden; 3. University of Electronic Science and Technology of China, China

5:30 PM

(ICACC-S7-039-2017) Plasmonic Ag@TiO₂ Core-Shell Nanoparticles Doping and Their Effect on The Photovoltaic and Electrochemical Performance of Dye-Sensitized Solar Cell

P. S. Fuseini Nbelayim^{*}; G. Kawamura¹; M. M. Abdel-Galeil²; W. K. Tan¹; H. Muto¹; A. Matsuda¹; 1. Toyohashi University of Technology, Japan; 2. Tanta University, Egypt

S8: 11th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT11)

Novel Ceramic Processing III

Room: Coquina Salon B

Session Chairs: Lisa Rueschhoff, Purdue University; Yiquan Wu, Alfred University

1:30 PM

(ICACC-S8-018-2017) Densification and Microstructural Engineering of Ceramics by Flash Spark Plasma Sintering (Invited)

M. J. Reece^{*}; S. Grasso¹; T. Saunders¹; E. Castle¹; P. Tatarko¹; B. Du¹; F. Gucci¹; 1. Queen Mary University of London, United Kingdom

2:00 PM

(ICACC-S8-019-2017) Continuous Electric Field Assisted Sintering

T. B. Holland^{*}; 1. Colorado State University, USA

2:20 PM

(ICACC-S8-020-2017) Industrial applications of Direct Current Based Spark Plasma/Field Assisted Sintering; Large components and simultaneous multi-part operation

L. S. Walker^{*}; 1. Thermal Technology, USA

2:40 PM

(ICACC-S8-021-2017) Flash sintering of alumina

M. Biesuz^{*}; V. M. Sglavo¹; 1. University of Trento, Italy

3:00 PM

Break

3:20 PM

(ICACC-S8-022-2017) Microwave Technology for Commercial Scale Processing of Materials

P. Apte^{*}; 1. Harper International, USA

3:40 PM

(ICACC-S8-023-2017) Ultra-high temperature heat treatment of ceramics by microwave: the reactive silicon infiltration process

A. Ortona^{*}; 1. SUPSI, Switzerland

4:00 PM

(ICACC-S8-024-2017) Direct Joule heated (Flash) Sintering of Ionic Conductive Ceramics in a Conventional Spark Plasma Sintering Furnace Using Standard Graphite Tooling

L. S. Walker^{*}; 1. Thermal Technology, USA

4:20 PM

(ICACC-S8-025-2017) Preparation of Al₂O₃-Y₃Al₅O₁₂-ZrO₂ eutectic ceramic by flash sintering

J. Liu^{*}; D. Liu²; Y. Gao¹; Y. Wang²; L. An³; 1. Southwest Jiaotong University, China; 2. Northwestern Polytechnical University, China; 3. University of Central Florida, USA

S10: Virtual Materials (Computational) Design and Ceramic Genome

Modeling Environmental and Thermal Behavior

Room: Ponce DeLeon

Session Chairs: Hans Seifert, Karlsruhe Institute of Technology; Jingyang Wang, Shenyang National Laboratory for Materials Science, Institute of Metal Research

1:30 PM

(ICACC-S10-031-2017) Thermodynamic modeling of the Y-Si-C-H-O system for gas turbine applications (Invited)

H. J. Seifert^{*}; I. Markel¹; D. M. Cupid¹; 1. Karlsruhe Institute of Technology, Germany

2:00 PM

(ICACC-S10-032-2017) Toward an Integrated Model for Molten Silicate Degradation of Thermal and Environmental Barrier Coatings: Phase Equilibria and Reaction Dynamics

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

2:20 PM

(ICACC-S10-033-2017) Kinetic Monte Carlo Simulations of Diffusion in Environmental Barrier Coating Materials

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

2:40 PM

(ICACC-S10-034-2017) Microstructural modeling of EB-PVD YSZ thermal barrier coating under thermomechanical and CMAS loading

A. Laukkanen^{*}; T. Andersson¹; T. Suhonen¹; 1. VTT Technical Research Centre of Finland, Finland

3:00 PM

Break

3:20 PM

(ICACC-S10-035-2017) A modeling framework, accounting for competing degradation/healing mechanisms, for the prediction of the long term mechanical behavior of CMCs (Invited)

E. Baranger^{*}; 1. LMT, ENS-Cachan, CNRS, Université Paris-Saclay, France

3:50 PM

(ICACC-S10-036-2017) Ablation of a 3D C/C Composite in a Plasma: Influence of the Surrounding flow on the Kinetics and Morphology (Invited)

G. L. Vignoles^{*}; C. Levet¹; J. Mathiaud²; J. Couzi²; B. Helber³; O. Chazot³; J. Gouriet³; 1. University Bordeaux, France; 2. CEA, France; 3. Von Karman Institute for Fluid Dynamics, Belgium

4:20 PM

(ICACC-S10-037-2017) Tailoring Phonon Anharmonicity and Its Impacts on Tunable Thermal Properties of Yttrium Silicates

Y. Luo^{*}; J. Wang¹; 1. Institute of Metal Research, Chinese Academy of Sciences, China

4:40 PM

(ICACC-S10-038-2017) Pressure induced low-lying phonon modes softening and thermal resistance strengthening in β -Mg₂Al₄Si₅O₁₈

Y. Li^{*}; J. Wang¹; 1. Institute of Metal Research, China

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

Processing-microstructure-property Relationships of Existing Systems II

Room: Tomoka B

Session Chairs: Frederic Monteverde, CNR-ISTEC; Sylvain Dubois, PPRIME Institute

1:30 PM

(ICACC-S12-037-2017) Synthesis, Characterization, and Sintering of Nanocrystalline Tantalum-Hafnium Carbide Solid Solution Powders

P. Foroughi¹; A. Behrens¹; Z. Cheng¹; 1. Florida International University, USA

1:50 PM

(ICACC-S12-038-2017) Thermal expansion of MAX phases solid solutions

T. Cabioch¹; P. Chartier¹; T. Basyuk²; J. Halim³; E. Caspi⁴; M. W. Barsoum¹; 1. University of Poitiers, France; 2. Bakul Institute for Superhard Materials, Ukraine; 3. Drexel University, USA; 4. Nuclear Research Centre, Israel

2:10 PM

(ICACC-S12-039-2017) Advances and challenges in $Zr_{n+1}AlC_n$ MAX phases for fission reactors

E. Zapata-Solvas¹; N. Ni²; D. Horlait³; S. Christopoulos⁴; A. Thibaud¹; D. Parfitt¹; A. Chronopoulos¹; W. Lee¹; 1. Imperial College London, United Kingdom; 2. Imperial College London, United Kingdom; 3. CNRS/IN2P3 and University of Bordeaux, France; 4. Coventry University, United Kingdom

Materials Design, New Composition and Composites V

Room: Tomoka B

Session Chairs: Frederic Monteverde, CNR-ISTEC; Sylvain Dubois, PPRIME Institute

2:30 PM

(ICACC-S12-040-2017) YB_2C_2 : A potential layered ultra-high temperature ceramic with excellent damage tolerance

G. Zhao¹; J. Chen¹; Y. Li¹; M. Li¹; 1. Institute of Metal Research, China

2:50 PM

(ICACC-S12-041-2017) Morphology and Phase Control in Synthesis of Nanocrystalline Ultrahigh Temperature Ternary Diboride Powders

P. Foroughi¹; Z. Cheng¹; 1. Florida International University, USA

3:10 PM

Break

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

Room: Tomoka B

Session Chair: Surojit Gupta, University of North Dakota

3:30 PM

(ICACC-S12-042-2017) Low-temperature synthesis of hafnium diboride powder via magnesiothermic reduction in molten salt

K. Bao¹; S. Zhang¹; 1. University of Exeter, United Kingdom

S13: Advanced Materials for Sustainable Nuclear Fission and Fusion Energy

Advanced Reactor Materials and Chemical Compatibility

Room: Coquina Salon H

Session Chairs: Kurt Terrani, Oak Ridge National Lab; Tatsuya Hinoki, Kyoto University

1:30 PM

(ICACC-S13-010-2017) Materials' Innovations for a Safe and Sustainable nuclear in Europe (FP7 MatISSE project) (Invited)

P. Giroux¹; A. Michaux¹; L. Malerba²; A. Bohnstedt³; C. Mingazzini⁴; M. Serrano⁵; K. Nilsson⁶; P. Ho-Hune⁷; 1. CEA, France; 2. SCK-CEN, Belgium; 3. KIT, Germany; 4. ENEA, Italy; 5. CIEMAT, Spain; 6. JRC, European Commission, Belgium; 7. LGI, France

1:50 PM

(ICACC-S13-011-2017) Oxidation behaviour study of SiC/SiC composite and aluminium-based ceramics in the high temperature helium environment

J. Kalivodova¹; C. Sauder²; J. Kutzendörfer²; J. Berka¹; M. Krykova¹; 1. Centrum výzkumu Rez s.r.o., Czech Republic; 2. UCT, Czech Republic; 3. CEA, France

2:10 PM

(ICACC-S13-012-2017) Hydrothermal corrosion behavior of SiC fibers for CVI-SiC/SiC composites

S. Suyama¹; M. Ukai¹; M. Uchihashi¹; K. Kakiuchi¹; H. Heki¹; 1. Toshiba Corporation, Japan

2:30 PM

(ICACC-S13-013-2017) Corrosion Behavior of Various CVD SiC Ceramics in Hydrothermal Water

W. Kim¹; J. Shin¹; D. Kim¹; H. Lee¹; J. Park¹; 1. Korea Atomic Energy Research Institute, Republic of Korea

2:50 PM

Break

3:10 PM

(ICACC-S13-014-2017) Modular Fabrication and Characterization of Complex Silicon Carbide Composite Structures

H. Khalifa¹; C. P. Shih¹; E. Song¹; E. Novitskaya²; O. Graeve²; L. Alva³; H. Zhao³; X. Huang³; C. Deck¹; 1. General Atomics, USA; 2. University of California, San Diego, USA; 3. University of South Carolina, USA

3:30 PM

(ICACC-S13-015-2017) Conception, manufacturing and characterization of SiC/SiC claddings for IV Generation Nuclear Reactors

P. G. David¹; J. Blein¹; Y. Pierre¹; O. Caty²; Z. Mane²; 1. CEA, France; 2. LCTS, University of Bordeaux, France

3:50 PM

(ICACC-S13-016-2017) Microstructural Evolution in Neutron Irradiated Fine-Grained Graphite

A. A. Campbell¹; J. Arregui-Mena¹; Y. Katoh¹; T. Takagi²; H. Kato²; 1. Oak Ridge National Lab, USA; 2. Iriden Co., Ltd., Japan

4:10 PM

(ICACC-S13-017-2017) Fracture and indentation behavior of Ti_3AlC_2 - $Ti_5Al_2C_3$ and Ti_3SiC_2 after neutron-irradiation at elevated temperatures

C. Ang¹; P. Chad¹; C. P. Shih²; P. Edmondson¹; S. Zinkle¹; Y. Katoh¹; 1. Oak Ridge National Lab, USA; 2. University of Tennessee, USA; 3. General Atomics, USA

S14: Crystalline Materials for Electrical, Optical and Medical Applications

Optical Material 4

Room: Tomoka C

Session Chairs: Joanna McKittrick, UC San Diego;
Inka Manek-Hönniger, CELIA - University of Bordeaux

1:30 PM

(ICACC-S14-031-2017) Are time reversal and inversion symmetries broken in copper oxide high temperature superconductor $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+x}$? (Invited)

T. Asahi*; 1. Waseda University, Japan

2:00 PM

(ICACC-S14-032-2017) Characterization approaches of femtosecond direct laser writing (DLW) induced modifications inside cubic YAG crystals (Invited)

I. Manek-Hönniger*; W. Gebremichael²; S. Rouzet¹; M. Chamoun¹; M. Dussauze³; P. Bon⁴; A. Fargues⁵; V. Jubera⁶; T. Cardinal⁷; Y. Petit⁸; L. Canioni⁹; 1. CELIA - University of Bordeaux - CNRS - CEA (UMR5107), France; 2. Amplitude Systèmes and CELIA - University of Bordeaux - CNRS - CEA (UMR5107), France; 3. ISM - CNRS - University of Bordeaux - Bordeaux INP (UMR5255), France; 4. LP2N - IOGS - University of Bordeaux - CNRS (UMR5298), France; 5. ICMCB - CNRS (UPR9048), France; 6. ICMCB-CNRS (UPR9048) and CELIA - University of Bordeaux - CNRS - CEA (UMR5107), France

2:30 PM

(ICACC-S14-033-2017) Phosphor nanoparticles prepared by laser ablation in liquid and their optical applications (Invited)

H. Wada*; A. V. Gubarevich¹; O. Odawara¹; 1. Tokyo Institute of Technology, Japan

3:00 PM

Break

3:20 PM

(ICACC-S14-034-2017) Red Emission of Eu^{2+} Ions doped in Oxides and Zirconates for future LEDs (Invited)

C. Wickleder*; 1. University of Siegen, Germany

3:50 PM

(ICACC-S14-035-2017) Single crystal phosphors for high-brightness white lighting applications (Invited)

K. Shimamura*; E. Villora¹; D. Inomata²; K. Izuka³; 1. National Institute for Materials Science, Japan; 2. Tamura Corporation, Japan

4:20 PM

(ICACC-S14-036-2017) Quenching growth of single- and poly-crystal phosphors using melt synthesis method

K. Toda*; S. Kim¹; M. Sato¹; 1. Niigata University, Japan

4:40 PM

(ICACC-S14-037-2017) Synthesis of V^{5+} -rich CaV_2O_6 Nanoparticle by Water Assisted Solid State Reaction (WASSR) Method

M. Watanabe*; M. Muto¹; S. Kim²; T. Kaneko³; K. Uematsu⁴; T. Ishigaki⁵; K. Toda⁶; M. Sato⁷; Y. Kudo⁸; T. Masaki⁹; D. Yoon¹⁰; 1. Niigata University, Japan; 2. Sejong University, Republic of Korea; 3. Tottori University, Japan; 4. N-Luminescence Corporation, Japan; 5. Sungkyunkwan University, Republic of Korea

Poster Session B

Room: Ocean Center Arena

5:00 PM

(ICACC-FS1-P069-2017) Biomass ashes as activators in the synthesis of inorganic polymers: From a model system to a blend of industrial residues

A. Peys*; A. Mobili¹; A. Katsiki²; L. Arnout¹; H. Rahier³; B. Blanpain¹; Y. Pontikes¹; 1. KULeuven, Belgium; 2. Università Politecnica delle Marche, Italy; 3. Vrije Universiteit Brussel, Belgium

(ICACC-FS1-P070-2017) Development of novel Aluminosilicate Phosphate Cement for Structural Applications

A. Katsiki*; A. Peys¹; T. Tysmans²; J. Wastiels³; H. Rahier¹; 1. Vrije Universiteit Brussel, Belgium; 2. KULeuven, Belgium; 3. Vrije Universiteit Brussel, Belgium

(ICACC-FS1-P071-2017) Adsorption of Mn(II) and Co(II) Ions from Aqueous Solution by Using Geopolymers

I. Kara*; D. Yilmazer¹; S. Tunali Akar¹; 1. Eskişehir Osmangazi University, Turkey; 2. Anadolu University, Turkey

(ICACC-FS1-P072-2017) Processing of Porous Geopolymers

F. Kara*; B. Yazirli²; C. Demir²; 1. Anadolu University, Turkey; 2. Afyon Kocatepe University, Turkey; 3. Kaleseramik, Turkey

(ICACC-FS1-P073-2017) Biomorphous potassium-based geopolymer (KGP)/C-ceramic composites derived from wood template

M. Yu*; E. Bernardo²; P. Colombo²; A. R. Romero²; P. Tatarko¹; V. K. Kannuchamy³; M. Titirici³; M. J. Reece¹; 1. Nanoforce Technology Ltd, United Kingdom; 2. Dipartimento di Ingegneria Industriale, Italy; 3. School of Engineering and Material Science, United Kingdom

(ICACC-FS1-P135-2017) Particle and Fiber Reinforced Metakaolin-Based Geopolymer Composites: A Review

R. A. Sa Ribeiro*; M. G. Sa Ribeiro¹; W. M. Kriven²; 1. INPA-National Institute for Amazonian Research, Brazil; 2. University of Illinois at Urbana-Champaign, USA

(ICACC-FS1-P136-2017) Carbbottle Methodology for Evaluation of Carbonate Cement Produced by Hydrothermal Vapor Synthesis

R. Anderson*; D. Kopp¹; R. Riman¹; 1. Rutgers University, USA

(ICACC-FS1-P141-2017) Dolomite ($\text{CaMg}(\text{CO}_3)_2$) Particulate-reinforced Geopolymer Composite

W. M. Kriven¹; P. F. Keane*; 1. University of Illinois at Urbana-Champaign, USA

(ICACC-S1-P096-2017) Processing and properties of an inexpensive, low-fire, basalt-fiber reinforced ceramic composite material

G. P. Kutyla²; P. F. Keane*; C. Marsh¹; W. M. Kriven²; 1. Engineering Research and Development Center, USA; 2. University of Illinois at Urbana-Champaign, USA

(ICACC-S1-P074-2017) Effect of Ion Irradiation on Bioactivity of Hydroxyapatite Ceramics

S. Kobayashi*; T. Izawa¹; Y. Teranishi²; 1. Tokyo Metropolitan University, Japan; 2. Tokyo Metropolitan Industrial Research Institute, Japan

(ICACC-S1-P075-2017) Effect of Thermal Shocks on the Residual Compressive Strength of Concrete

J. K. Mann*; 1. Government, India

(ICACC-S1-P076-2017) Influence of Free Carbon Elimination on Microstructure of ZrC-SiC composite ceramic fibers

X. Lv*; M. Ge¹; S. Yu¹; Y. Tian²; W. Zhang¹; 1. Institute of Process Engineering, Chinese Academy of Sciences, China; 2. University of Chinese Academy of Sciences, China

(ICACC-S1-P077-2017) Synthesis and characterization in praseodymium doped BiFeO_3 multiferroic ceramics

C. Tu¹; Y. Hsieh*; Y. Huang¹; 1. Fu Jen Catholic University, Taiwan

(ICACC-S1-P078-2017) Porous Graphite from Pitches: Manufacturing and Mechanical Characterization

H. Hosseini*; S. Ghaffarian²; M. Teymouri³; A. Moeini²; 1. University of Missouri, Columbia, USA; 2. Amirkabir University of Technology, Islamic Republic of Iran; 3. Research Institute of Petroleum Industry, Islamic Republic of Iran

(ICACC-S1-P079-2017) Domain structure and phase transition in samarium doped BiFeO_3 near morphotropic phase boundary

C. Yu*; C. Tu¹; W. Wu¹; 1. Fu Jen Catholic University, Taiwan

(ICACC-S1-P080-2017) Torsion tests on SiC/SiC joined by "Mo-wrap" method

P. Gianchandani*; V. Casalegno¹; M. Ferraris¹; 1. Politecnico di Torino, Italy

(ICACC-S1-P081-2017) SiC foam sandwich structures obtained by Mo-Si2 joining

P. Gianchandani*; V. Casalegno¹; M. Ferraris¹; G. Bianchi²; A. Ortona²; 1. Politecnico di Torino, Italy; 2. The University of Applied Sciences and Arts of Southern Switzerland (SUPSI), Switzerland

(ICACC-S1-P082-2017) Joining of C/SiC to Ti-6Al-4V by Zirconium-based brazing alloys

M. Bangash*; V. Casalegno¹; M. Ferraris¹; 1. Politecnico di Torino, Italy

(ICACC-S1-P083-2017) Joining of Nextel™610/YAG-ZrO₂ ceramic composites using brazing alloys

M. Akram*; V. Casalegno¹; M. Ferraris¹; T. Wamser²; W. Krenkel²; 1. Politecnico di Torino, Italy; 2. University of Bayreuth, Germany

(ICACC-S1-P085-2017) Spark Plasma Sintering (SPS) of Silicon Carbide Ceramic Composites

S. Subhash^{*2}; A. Trachet¹; 1. University of Florida, USA; 2. Buchholz High School, USA

(ICACC-S1-P086-2017) Evaluation of mechanical properties of a carbon fiber using molecular dynamics and Mori-Tanaka theory

T. Niuchi^{*1}; J. Koyanagi¹; R. Inoue¹; Y. Kogo¹; 1. Tokyo University of Science, Japan

(ICACC-S1-P087-2017) Mechanical properties and microstructure characterization of SiC fiber reinforced SiC-ZrC nanocomposite matrix composites

X. Wei^{*1}; H. Zhang¹; W. Zhang¹; 1. Institute of Process Engineering, Chinese Academy of Sciences, China

(ICACC-S1-P088-2017) SPS apparatus used as a testing tool for studying compression creep of polycrystalline magnesium aluminate spinel

B. Ratzker^{*1}; M. Sokol¹; S. Kalabukhov¹; N. Frage¹; 1. Ben-Gurion University of the Negev, Israel

(ICACC-S1-P089-2017) Cataloging Anomalous Nanoindentation Behavior and Mechanical Properties in Rare-Earth Orthophosphate Ceramics

T. Wilkinson¹; D. Wu¹; M. Musselman¹; C. Packard^{*1}; 1. Colorado School of Mines, USA

(ICACC-S1-P090-2017) Phonon Anomalies and Magnetization in A-Site Doping (Bi_{1-x}A_x)FeO₃ Ceramics

W. Wu^{*1}; C. Tu¹; 1. Fu Jen Catholic University, Taiwan

(ICACC-S1-P091-2017) Dispersion and reinforcing mechanisms of multi-walled carbon nanotubes in a ceramic material

M. Estili^{*1}; Y. Sakka¹; 1. National Institute for Materials Science (NIMS), Japan

(ICACC-S1-P092-2017) Mechanical and tribological properties of boron carbide/graphene platelets ceramic composites

A. Kovalcikova^{*1}; R. Sedlak¹; P. Rutkowski¹; J. Balko¹; E. Mudra¹; V. Girman¹; J. Dusza¹; 1. Institute of Materials Research Slovak Academy of Sciences, Slovakia; 2. Pavol Jozef Safarik University in Kosice, Faculty of Science, Slovakia; 3. AGH University of Science and Technology in Krakow, Poland

(ICACC-S1-P093-2017) Influence of addition and holding times on the mechanical properties of in-situ Al/TiB₂ composites

A. Vivekananda²; S. Balasivanandha Prabu²; R. Paskaramoorthy^{*1}; 1. University of the Witwatersrand, South Africa; 2. Anna University, India

(ICACC-S1-P094-2017) Oxidative Exposure of Ceramic Matrix Composites: Post Flex and Acoustic Emission Analysis

G. Ojard^{*1}; D. Goberman¹; J. Cardinale¹; J. Holowczak¹; 1. United Technologies Research Center, USA

(ICACC-S1-P095-2017) Deposition of Silicon Carbide Intergranular Phase on Boron Carbide and its Effect on the Bulk Mechanical Properties

Q. Yang^{*1}; C. Hwang¹; A. Khan¹; V. Domnich¹; S. DiPietro³; K. Xie²; K. Hemker²; R. A. Haber¹; 1. Rutgers University, USA; 2. Johns Hopkins University, USA; 3. Exothermics Inc, USA

(ICACC-S1-P097-2017) Molecular Dynamics Study on Tribochemical Reaction of Amorphous Silica in Humidity Environment

N. Takahashi^{*1}; J. Chida¹; Y. Wang¹; J. Xu¹; Y. Ootani¹; T. Nishimatsu¹; Y. Higuchi¹; N. Ozawa¹; M. Kubo¹; 1. Institute for Materials Research, Japan

(ICACC-S1-P098-2017) High temperature, high velocity flame rig with damage monitoring for turbine engine materials

M. Kannan^{*1}; R. Panakrjupally¹; M. J. Presby¹; G. N. Morscher¹; 1. The University of Akron, USA

(ICACC-S1-P099-2017) Structural and mechanical proprieties of calcined nano-bioceramic, alumina alpha

M. Fellah^{*1}; L. Aissani²; 1. tribology, materiaml surface and interface group, laboratory og metallurgy and materials science, Annaba university, Algeria; 2. department of physics, abbes laghour university, Algeria

(ICACC-S1-P101-2017) Comparison of Mechanical Strength of Reaction-bonded Silicon Carbides with Different Sample Size

S. Kim^{*1}; Y. Oh¹; S. Lee¹; Y. Han¹; H. Shin²; Y. Kim²; 1. Korea Institute of Ceramic Engineering and Technology (KICET), Republic of Korea; 2. Inocera Inc., Republic of Korea

(ICACC-S1-P102-2017) Deformation and Damage Evolution Process of Laminated SiC/SiC Composite

Y. Kagawa^{*1}; S. Arai¹; K. Yonekura¹; T. Takagi²; M. Ukai³; M. Uchihashi³; S. Suyama³; 1. The University of Tokyo, Japan; 2. Ibdien Co. Ltd, Japan; 3. Toshiba Corporation, Japan

(ICACC-S1-P103-2017) The effect of SiO₂/Al₂O₃ ratio on properties of glass-ceramic composite materials from SiO₂-Al₂O₃-Na₂O-K₂O-CaO-MgO system with variable content of barium

J. Partyka^{*1}; K. Pasiut¹; M. Lesniak²; M. Gajek¹; M. Sitarz²; J. Lis¹; 1. AGH University of Science and Technology, Poland; 2. AGH University of Science and Technology, Poland

(ICACC-S1-P104-2017) Thermo-mechanical properties of Metal-supported Solid Oxide Fuel Cells components

F. Teocoli^{*1}; J. Nielsen¹; wH. Persson¹; K. Brodersen¹; 1. DTU, Denmark

(ICACC-S1-P105-2017) Spark-Plasma-Sintered Si₃N₄-SiC Nanocomposites for Self-Healing Applications

P. Jenuš¹; L. Gruden²; T. Kosmac¹; A. Kocjan^{*1}; 1. Jozef Stefan Institute, Slovenia; 2. Jozef Stefan's International Postgraduate School, Slovenia

(ICACC-S1-P106-2017) Origin Of "Tough Behavior" in Discontinuous Carbon Fiber Reinforced SiC Matrix Composites

K. Kajihara^{*1}; Y. Atsumi¹; Y. Kagawa¹; 1. The university of Tokyo, Japan

(ICACC-S1-P107-2017) Mechanical properties of YSZ and porous Ni(O)-YSZ with varying Y-content

P. Khajavi^{*1}; P. Hendriksen¹; H. Frandsen¹; K. Brodersen¹; 1. Technical University of Denmark, Denmark

(ICACC-S3-P108-2017) Integration of a Solid Oxide Fuel Cell with an Organic Rankine Cycle and Absorption Chiller for Dynamic Tri-Generation of Power, Hydrogen, and Cooling

M. Asghari^{*1}; J. Brouwer¹; 1. University of California Irvine, USA

(ICACC-S3-P109-2017) Spray pyrolysis of Mn-Co spinels for protective coatings for interconnect protection

D. Szymczewska¹; S. Molin^{*1}; P. Jasinski²; M. Chen¹; P. Hendriksen¹; 1. Technical University of Denmark, Denmark; 2. Gdansk University of Technology, Poland

(ICACC-S3-P110-2017) Thermo-mechanical behaviour of multi-layered ceramic systems for SOFCs

A. Masini^{*1}; F. Šiška¹; O. Ševeček¹; Z. Chlup¹; I. Dlouhý¹; 1. Institute of Physics of Materials, AS CR, Italy; 2. Brno University of Technology, Czech Republic

(ICACC-S3-P111-2017) New glass-ceramic sealants for SOEC applications

H. Javed^{*1}; K. Herbrig²; D. Schimanke²; C. Walter¹; M. Salvo¹; F. Smeacetto¹; 1. Politecnico di Torino, Italy; 2. Sunfire GmbH, Gasanstaltstraße 2, Germany

(ICACC-S3-P112-2017) Sintering behavior of ceria-based nanopowders

M. Biesuz^{*2}; L. Spiridigliozzi²; G. Dell'Agli³; V. M. Sglavo¹; 1. University of Trento, Italy; 2. University of Trento, Italy; 3. University of Cassino, Italy

(ICACC-S3-P113-2017) Mono/polycrystalline 8%mol yttria-stabilized zirconia composites for increased electrical conductivity

F. Antunes¹; C. A. Goulart^{*1}; M. Andreeta¹; D. Souza¹; 1. Federal University of Sao Carlos, Brazil

(ICACC-S3-P114-2017) Strontium Nickel Oxide Nanocomposites for Chromium Capture on Solid Oxide Fuel Cell

W. A. Rodriguez^{*1}; B. Hu¹; A. Aphale¹; C. Liang¹; P. Singh¹; 1. University of Connecticut, USA

(ICACC-S3-P115-2017) Development of LCFN System Perovskites as Interconnect and Cathode Materials for Solid Oxide Fuel Cells

A. Kolisetty¹; S. Gajjala¹; Z. Fu^{*1}; R. Koc¹; 1. Southern Illinois University Carbondale, USA

(ICACC-S3-P116-2017) Synthesis and Characterization of Cu-doped Sr₂MgMoO_{6-δ} for Use as Solid Oxide Fuel Cell Anode Materials

T. Chung¹; C. Liu¹; J. Lin¹; H. Tseng¹; R. Lee¹; T. Lin^{*1}; 1. Institute of Nuclear Energy Research, Taiwan

(ICACC-S3-P117-2017) Effect of Ni diffusion during co-sintering process in proton-conducting solid oxide fuel cells

H. Shimada^{*1}; T. Yamaguchi¹; H. Sumi¹; Y. Yamaguchi¹; K. Nomura¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

(ICACC-S3-P118-2017) Yttrium Strontium Titanate Based Anode Materials for Intermediate Temperature Solid Oxide Fuel Cells

S. Singh^{*1}; P. A. Jha¹; P. Singh¹; 1. Indian Institute of Technology(BHU), India

(ICACC-S3-P119-2017) Processing of Graded SOFC Electrode Using Centrifuge Deposition

I. Bantounas^{*}; S. P. Shafi¹; U. Schwingenschlogl¹; E. Traversa²; S. Boulfrad³; 1. Hamad Bin Khalifa University – Qatar Foundation, Qatar; 2. Imperial College, United Kingdom; 3. Indian Institute of Science Education and Research, India; 4. King Abdullah University of Science and Technology, Saudi Arabia; 5. Xi'an Jiaotong University, China

(ICACC-S3-P120-2017) Performance of New Catalyst Carriers Made from Conducting Ceramics for PEM Fuel Cell

L. Li¹; W. Wang¹; H. Wang¹; J. Zhang¹; F. Zhang¹; 1. Wuhan University of Technology, China

(ICACC-S3-P121-2017) Influence of gallium oxide addition on the ionic conductivity of Sr- and Mg-doped lanthanum gallate

E. N. Muccillo¹; S. L. Reis¹; 1. Energy and Nuclear Research Institute, Brazil

(ICACC-S3-P122-2017) Development of Ammonia-fueled Solid Oxide Fuel Cell

S. Suzuki¹; T. Koide¹; H. Iwai¹; Y. Takahashi¹; K. Eguchi²; 1. Noritake Co. Limited, Japan; 2. Kyoto University, Japan

(ICACC-S5-P123-2017) A Novel Approach for Synthesis of Monticellite (CaMgSiO₄) based Bioactive Ceramic Powders Obtained from Boron Derived Waste

L. Koroglu¹; C. Peksen²; E. Ayas¹; 1. Anadolu University, Turkey; 2. Ondokuz Mayıs University, Turkey

(ICACC-S5-P124-2017) Evaluation of bioactivity and hydroxyapatite formation of novel 45S5 sol-gel derived bioactive glass formulations

C. M. Goldbach¹; M. Demir¹; G. Pomrunk¹; L. Howell²; 1. NovaBone Products, USA; 2. Particle Solutions, USA

(ICACC-S5-P125-2017) Hemostatic effects of novel 45S5 solgel-derived bioactive glass formulations

C. M. Goldbach¹; M. Demir¹; G. Pomrunk¹; L. Howell²; 1. NovaBone Products, USA; 2. Particle Solutions, USA

(ICACC-S5-P126-2017) Antibacterial Gold-Coated Iron Nanoparticle Drug Delivery Optimization via Increased Relative Surface Area

D. J. Banner¹; E. Firlar¹; R. Shahbazian-Yassar²; T. Shokuhfar¹; 1. University of Illinois at Chicago, USA; 2. University of Illinois at Chicago, USA

(ICACC-S5-P139-2017) Effect of Drawing Condition on Initial Strength and Molecular Orientation of β -TCP/PLA Composite Bone Fixation Screw

M. Sakaguchi¹; S. Kobayashi²; S. Ogiwara¹; 1. Tokyo University of Science, Japan; 2. Tokyo Metropolitan University, Japan

(ICACC-S6-P128-2017) Thermal stability and brazing of thermoelectric tellurides

D. Ben Ayoun¹; Y. Sadia¹; Y. Gelbstein¹; 1. Ben-Gurion University of the Negev, Israel; 2. Ben-Gurion University of the Negev, Israel

(ICACC-S6-P129-2017) Dielectric, Structural and Spectroscopic Properties of Na_xBi_{(2-x)/3}Cu₃Ti₄O₁₂ Ceramics by Solid State Reaction Method

E. Izci¹; 1. Anadolu University, Turkey

(ICACC-S6-P130-2017) Sintering Characteristics and Dielectric Properties of Na_{1/2}Bi_{1/2}Cu₃Ti₄O₁₂ Ceramics by Solid State Reaction Method

E. Izci¹; 1. Anadolu University, Turkey

(ICACC-S6-P131-2017) Effect of graphene oxide as reinforcement phase in LATP

M. C. Ramirez¹; R. Kumar¹; B. W. Sheldon¹; 1. Brown University, USA

(ICACC-S13-P132-2017) Damage monitoring of silicon carbide composites by electrical and acoustic methods

T. Nozawa¹; H. Tanigawa¹; 1. National Institutes for Quantum and Radiological Science and Technology, Japan

(ICACC-S13-P133-2017) In-situ observation of SiC oxidation under environmentally-controlled electron irradiation

N. Hashimoto¹; H. Nagakura¹; F. Kano²; K. Okonogi²; 1. Hokkaido University, Japan; 2. Toshiba Corporation, Japan

(ICACC-S13-P134-2017) Characterization of compatibility between U-Zr melts containing RE elements and coating layer of the graphite and ceramic crucible

S. Oh¹; 1. Korea Atomic Energy Research Institute, Republic of Korea

Thursday, January 26, 2017

3rd Pacific Rim Engineering Ceramics Summit

Challenges and Opportunities II

Room: Coquina Salon C

Session Chairs: Joerg Adler, Fraunhofer Institute for Ceramic Technologies and Systems; Manabu Fukushima, National Institute of Advanced Industrial Science and Technology (AIST)

8:30 AM

(ICACC-PACRIM-033-2017) Porous LPS-SiC ceramics: Variability and applicability of a versatile material (Invited)

J. Adler¹; H. Heymer¹; U. Petasch¹; 1. Fraunhofer Institute for Ceramic Technologies and Systems, Germany

9:00 AM

(ICACC-PACRIM-034-2017) Processing methodologies of porous ceramics with tailored pore configurations (Invited)

M. Fukushima¹; A. Shimamura¹; Y. Yoshizawa¹; M. Hotta¹; T. Ohji¹; N. Kondo¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

9:30 AM

(ICACC-PACRIM-035-2017) Current Status and Prospects of Ceramic Membrane for Water Treatment (Invited)

I. Song¹; J. Ha¹; J. Lee¹; 1. Korea Institute of Materials Science, Republic of Korea

10:00 AM

Break

10:20 AM

(ICACC-PACRIM-036-2017) Influence of carbon on mechanical and tribological properties of metal-ceramics friction materials (Invited)

J. Yang¹; H. Guo¹; B. Wang¹; 1. Xi'an Jiaotong University, China

10:50 AM

(ICACC-PACRIM-037-2017) Efforts of Improving Fracture Behavior in Flexible Inorganic Thin Films with Modulated Electrical and Optical Properties (Invited)

S. Lee¹; H. Choi¹; H. Choi¹; Y. Cho¹; 1. Yonsei University, Republic of Korea

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

Coatings and Mechanical Properties

Room: Coquina Salon E

Session Chair: Claus Rüschler, Leibniz University Hannover

8:30 AM

(ICACC-FS1-008-2017) Coating of unreactive and reactive surfaces by a geopolymer binder (Invited)

S. Rossignol¹; L. Vidal¹; A. Gharzouni¹; 1. SPCTS, France

9:00 AM

(ICACC-FS1-009-2017) Preparation of coatings and characterization of adhesion between metakaolin-based geopolymers and mild steel (Invited)

G. P. Kutyla¹; P. Stynoski²; T. Carlson²; C. Marsh²; W. M. Kriven¹; 1. University of Illinois at Urbana-Champaign, USA; 2. US Army ERDC-CERL, USA

9:30 AM

(ICACC-FS1-010-2017) Long-term mechanical and structural properties of metakaolin-based geopolymers (Invited)

L. M. Matulova¹; M. Steinerova²; 1. University of Chemical Technology Prague, Czech Republic; 2. Institute of Rock Structure and Mechanics, Academy of Sciences of the Czech Republic, Czech Republic

10:00 AM

Break

10:20 AM

(ICACC-FS1-011-2017) Low Temperature Joining of Borosilicate Glass
E. Muskovin^{*}; W. Fahrenholtz¹; J. Buckner²; R. Brow¹; 1. Missouri University of Science & Technology, USA; 2. Air Force Research Lab, USA

10:40 AM

(ICACC-FS1-012-2017) Fracture Behavior of Geopolymer Concretes at the Microscopic Length-scale (Invited)
J. Chen¹; C. Johnson¹; A. Akono^{*}; 1. University of Illinois at Urbana-Champaign, USA

Sustainable Materials and Novel Applications I

Room: Coquina Salon E

Session Chair: Henry Colorado, Universidad de Antioquia

11:00 AM

(ICACC-FS1-013-2017) Geopolymer formation versus zeolite crystallisation (Invited)
C. Rüschler^{*}; 1. Leibniz University Hannover, Germany

11:30 AM

(ICACC-FS1-014-2017) Silver Ion Exchange Capacity and Release Kinetics of Geopolymer-Based Nanostructured Aluminosilicates for Antimicrobial Applications (Invited)
S. Chen^{*}; J. Popovich²; S. Haydel²; D. Seo¹; 1. Arizona State University, USA; 2. Arizona State University, USA

FS2: Advanced Ceramic Materials and Processing for Photonics and Energy

Advanced Applications

Room: Halifax A/B

Session Chairs: Safa Kasap, University of Saskatchewan; Mauro Epifani, CNR-IMM

8:30 AM

(ICACC-FS2- 033- 2017) Electronic Band Structure in Semiconductor Quantum Dots: A Scanning Probe Microscopy Study
D. Benetti^{*}; H. Zhao¹; A. Vomiero²; F. Rosei¹; 1. Institut national de la recherche scientifique, Canada; 2. Luleå University of Technology, LTU, Sweden

8:50 AM

(ICACC-FS2- 034- 2017) Comprehensive structural study on Nd³⁺/Yb³⁺ co-doped La₂O₃-TiO₂-ZrO₂ glass-ceramics
M. Zhang^{*}; 1. Shanghai Institute of Ceramics, China

9:10 AM

(ICACC-FS2- 035- 2017) 3D printing of biomaterials (Invited)
R. Narayan^{*}; 1. NCSU, USA

9:40 AM

(ICACC-FS2- 036- 2017) Enhanced surface chemistry of metal oxide nanocrystals by inorganic surface modification (Invited)
M. Epifani^{*}; 1. CNR-IMM, Italy

10:10 AM

Coffee break

10:30 AM

(ICACC-FS2- 037- 2017) Samarium-Doped Fluoroaluminate Glasses for High Resolution, High-Dose Dosimetry in Microbeam Radiation Therapy (Invited)
F. Chicilo⁴; G. Okada³; A. Edgar²; G. Belev²; T. Wysokinski²; D. Chapman²; S. Kasap^{*}; 1. University of Saskatchewan, Canada; 2. Canadian Light Source, Canada; 3. Nara Institute of Science and Technology, Japan; 4. University of Saskatchewan, Canada; 5. Victoria University of Wellington, New Zealand

11:00 AM

(ICACC-FS2- 038- 2017) Epitaxial strain on metal-insulator transition characteristics of SmNiO₃ thin films (Invited)
M. Chaker^{*}; B. Torrisi¹; 1. INRS, Canada

11:30 AM

(ICACC-FS2- 039- 2017) Design of Materials for Energy Storage (Invited)
C. S. Ozkan^{*}; 1. University of California Riverside, USA

S1: Mechanical Behavior and Performance of Ceramics & Composites

Tribological Performance

Room: Coquina Salon D

Session Chair: Anil Kumar, Indian Institute of Technology Delhi

8:30 AM

(ICACC-S1-052-2017) Tribological characterization of micro and nano size solid lubricants during grinding of silicon nitride ceramics (Invited)
A. Kumar^{*}; S. Ghosh¹; S. Aravindan¹; 1. Indian Institute of Technology Delhi, India

9:00 AM

(ICACC-S1-053-2017) Tribological behaviour of CC –SiC composites with variation of Laminate orientation and surface conformity
P. Kumar^{*}; V. K. Srivastava¹; 1. Indian Institute of Technology(BHU), India

9:20 AM

(ICACC-S1-054-2017) Dry Sliding Wear and Friction Behavior of Hybrid ZA-27 Alloy Composites reinforced with Silicon Carbide and Stone Dust Particulates
S. S. Owoeye^{*}; 1. The Federal Polytechnic Ado Ekiti, Nigeria, Nigeria

9:40 AM

(ICACC-S1-055-2017) Effect of Boron Carbide Particle Size on the Abrasive Wear Behavior of Al-B₄C Composites
A. Nieto^{*}; H. C. Yang¹; J. M. Schoenung²; 1. University of California, Davis, USA; 2. University of California, Irvine, USA

10:00 AM

Break

10:20 AM

(ICACC-S1-056-2017) Low wear rate of AlN ceramics based on tribo-chemical reactions
A. Matsugami^{*}; J. Tatami¹; M. Iijima¹; H. Ohguni²; 1. Yokohama National University, Japan; 2. Sumitomo Electric Industries, Ltd., Japan

10:40 AM

(ICACC-S1-007-2017) Compositional Analysis of State of the Art Commercial SiC Fibers
A. W. Ross^{*}; P. Mogilevsky²; I. Wolford¹; T. Key²; M. Cinibulk¹; 1. Air Force Research Lab, USA; 2. UES, Inc., USA; 3. SOCHE, USA

11:00 AM

(ICACC-S1-058-2017) Layered-structure and surface-engineering design of ceramic lubricating materials
Y. Zhang^{*}; L. Hu¹; 1. Lanzhou Institute of Chemical Physics of the Chinese Academy of Sciences, China

11:20 AM

(ICACC-S1-059-2017) On the Design of MAX-Polymer (MAXPOL) Multifunctional Composites
S. Ghosh¹; M. Fuka^{*}; F. Al-Anazi¹; S. Gupta¹; 1. University of North Dakota, USA

11:40 AM

(ICACC-S1-060-2017) Hertzian Indentation Damage in TiC-316L Stainless Steel Cermets
C. Jin¹; K. P. Plucknett^{*}; 1. Dalhousie University, Canada

S3: 14th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Sealing Materials

Room: Crystal

Session Chair: Federico Smeacetto, Politecnico di Torino

8:30 AM

(ICACC-S3-044-2017) Tensile strength tests for the investigation of adhesion effects between glass-ceramics and interconnect steels used for SOFCs (Invited)

S. M. Gross-Barsnick^{*1}; D. Federmann¹; C. Babelot¹; U. Pabst¹; R. Peters²; 1. Forschungszentrum Juelich, Germany; 2. Forschungszentrum Juelich, Germany

9:00 AM

(ICACC-S3-045-2017) New glass-ceramic sealants for SOFCs application: Characterization and compatibility with interconnects

A. Sabato^{*1}; M. Salvo¹; M. Kusnezoff²; J. C. Schilm²; A. Rost²; A. Chrysanthou³; G. Cempura⁴; M. Ferraris¹; F. Smeacetto¹; 1. Politecnico di Torino, Italy; 2. Fraunhofer Institute for Ceramic Technologies and Systems, Germany; 3. University of Hertfordshire, United Kingdom; 4. AGH University of Science and Technology, Poland

9:20 AM

(ICACC-S3-046-2017) Development of protective coatings for SOFC/SOEC interconnects at DTU Energy (Invited)

S. Molin^{*1}; M. Chen¹; P. Hendriksen¹; 1. Technical University of Denmark, Denmark

9:50 AM

Break

Protective Coatings

Room: Crystal

Session Chair: David Virkar, University of Utah

10:10 AM

(ICACC-S3-047-2017) Mn-Co spinel protective coatings deposited by electrophoretic deposition for solid oxide cell interconnects

F. Smeacetto^{*1}; S. Molin²; A. Sabato¹; M. Salvo¹; A. Chrysanthou³; A. R. Boccaccini⁴; 1. Politecnico di Torino, Italy; 2. Technical University of Denmark, Denmark; 3. University of Hertfordshire, United Kingdom; 4. University of Erlangen-Nuremberg, Germany

10:30 AM

(ICACC-S3-048-2017) Characteristics of protective spinel manganese cobaltite coatings produced by APS for Cr-contained SOFC interconnects

C. Chang^{*1}; 1. Institute of Nuclear Energy Research, Taiwan

10:50 AM

(ICACC-S3-049-2017) Study of Cr-Gettering Material with LSCF-based Cell in a Generic Stack Test Fixture: Cell Performance and Microstructure

Y. Chou^{*1}; J. Choi¹; J. W. Stevenson¹; C. Liang²; B. Hu²; W. A. Rodriguez²; A. Aphale²; P. Singh²; 1. Pacific Northwest National Lab, USA; 2. U Connecticut, USA

11:10 AM

(ICACC-S3-050-2017) Influence of temperature and steam content on degradation of metallic interconnects in reducing atmosphere

C. Folgner^{*1}; V. Sauchuk¹; M. Kusnezoff¹; A. Michaelis²; 1. Fraunhofer IKTS, Germany; 2. Fraunhofer IKTS, Germany

11:30 AM

(ICACC-S3-051-2017) Oxidation Resistance of Nickel Coated SS430 steel

M. K. King^{*1}; M. K. Mahapatra¹; P. Singh²; 1. University of Alabama at Birmingham, USA; 2. University of Connecticut, USA

S5: Next Generation Bioceramics and Biocomposites

Bioceramics II

Room: Coquina Salon F

Session Chairs: Leena Hupa, Åbo Akademi University; Leif Hermansson, Applied Research Sweden AB

8:30 AM

(ICACC-S5-009-2017) Bioactive glass-ceramics from novel 'inorganic gel casting' and sinter-crystallization (Invited)

H. Elsayed¹; A. Rincon Romero¹; C. Vitale-Brovarone²; E. Bernardo^{*1}; 1. University of Padova, Italy; 2. Politecnico di Torino, Italy

8:50 AM

(ICACC-S5-010-2017) On the Potential of Total Chemically Bonded Ceramic System within Odontology (Invited)

L. Hermansson^{*1}; 1. Applied Research Sweden AB, Sweden

9:10 AM

(ICACC-S5-011-2017) Biomimetic remineralization using dental calcium silicate cements (Invited)

S. S. Bhasin^{*1}; V. Aggarwal¹; 1. Faculty of Dentistry, Jamia millia Islamia, India; 2. Faculty of Dentistry, India

9:30 AM

(ICACC-S5-012-2017) Near-Infrared Excited Nanoparticles for Biomedical Applications (Invited)

F. Vetrone^{*1}; 1. Institut National de la Recherche Scientifique, Canada

9:50 AM

Break

10:10 AM

(ICACC-S5-013-2017) Glass-infiltrated ceramic composites for dental restorations: Effects of processing parameters to achieve high translucency (Invited)

H. N. Yoshimura^{*1}; A. Chimanski¹; P. F. Cesar²; 1. Federal University of ABC, Brazil; 2. University of Sao Paulo, Brazil

10:30 AM

(ICACC-S5-014-2017) Porous scaffolds of bioactive silicate glasses using different fabrication techniques (Invited)

L. Hupa^{*1}; L. Aalto-Setälä¹; S. Fagerlund²; S. Eqtessadi¹; 1. Åbo Akademi University, Finland; 2. Paroc Group Oy, Finland

10:50 AM

(ICACC-S5-015-2017) The phase-partitioning-dependent ageing and fracture mechanics in 3Y-TZP bioceramics

A. Kocjan^{*1}; T. Kosmac¹; D. Bucevac²; 1. Jozef Stefan Institute, Slovenia; 2. Vinca Institute of Nuclear Sciences, University of Belgrade, Serbia

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

Thermal Energy Conversion and Energy Storage XI

Room: Tomoka A

Session Chair: Holger Kleinke, University of Waterloo

8:30 AM

(ICACC-S6-038-2017) Atomistic manipulation of Phonon Thermal Conduction in Layered Thermoelectric Oxides (Invited)

M. Yoshiya^{*1}; S. Fujii¹; 1. Osaka University, Japan

9:00 AM

(ICACC-S6-040-2017) Durability and improvement of power generation for oxide thermoelectric module (Invited)

R. Funahashi^{*1}; Y. Matsumura¹; T. Urata¹; M. Suzuki¹; H. Ikenishi¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

9:30 AM

(ICACC-S6-036-2017) Thermoelectric properties of plasma spray synthesized sub-stoichiometry TiO_{2-x} and associated energy harvesting devices

H. Lee^{*}; S. Han¹; R. Chidambaram Seshadri¹; S. Sampath¹; 1. Stony Brook University, USA

9:50 AM

Break

Thermal Energy Conversion and Energy Storage XII

Room: Tomoka A

Session Chair: Masato Yoshiya, Osaka University

10:20 AM

(ICACC-S6-041-2017) A recommendation engine for suggestion unexpected thermoelectric chemistries: Prediction and validation (Invited)

T. D. Sparks^{*}; A. Mar²; A. Oliynyk³; M. W. Gaultois²; B. Meredig⁴; G. Mulholland¹; 1. University of Utah, USA; 2. University of Alberta, Edmonton, Canada; 3. University of Cambridge, United Kingdom; 4. Citrine Informatics, USA

10:50 AM

(ICACC-S6-042-2017) Investigation of Thermoelectric Properties of Polymer-Derived SiOCN Ceramics

R. Iyer^{*}; S. Pilla¹; 1. Clemson University, USA

11:10 AM

(ICACC-S6-043-2017) Development of a phase change material composite for thermal energy storage for solar power plants

Y. Jiang²; Y. Sun^{*}; S. Li²; F. Bruno¹; 1. CSIRO, Australia; 2. University of New South Wales, Australia; 3. University of South Australia, Australia

S7: 11th International Symposium on Nanostructured Materials: Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental and Health Applications

New Materials and Processing III

Room: Coquina Salon A

Session Chair: Renata Solarska, University of Warsaw

8:30 AM

(ICACC-S7-040-2017) Scanning near field optical microscopy (SNOM) imaging and its applications in energy harvesting design (Invited)

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

9:00 AM

(ICACC-S7-041-2017) Epitaxial strain on metal-insulator transition characteristics of SmNiO_3 thin films (Invited)

B. Torris^{*}; 1. Institut National de la Recherche Scientifique, Canada

9:30 AM

(ICACC-S7-042-2017) Lithium-Sulfur Battery Electrodes: Insights from Mesoscale Modeling and Analysis (Invited)

P. Mukherjee^{*}; 1. Texas A&M University, USA

10:00 AM

(ICACC-S7-043-2017) Complex porous structures through solution synthesis

G. Westin^{*}; 1. Uppsala University, Sweden

New Materials and Processing IV

Room: Coquina Salon A

Session Chair: Anja Mudring, Iowa State University

10:30 AM

(ICACC-S7-044-2017) Atomic diffusion and vibrational properties of alumina ceramics by first principles calculations (Invited)

T. Tohe^{*}; 1. The University of Tokyo, Japan

11:00 AM

(ICACC-S7-045-2017) Dispersion/assembled structure control of nanoparticles in non-aqueous multicomponent slurries by surface modification and microstructure control of Si-based green body for post-reaction sintering (Invited)

M. Iijima^{*}; 1. Yokohama National University, Japan

11:30 AM

(ICACC-S7-046-2017) Thin Films and Nano Wires based on Pyrochlore $\text{Nd}_2\text{Sn}_2\text{O}_7$ for Energy Harvesting and Gas Sensing Applications

A. Jamil^{*}; Y. Gönüllü¹; P. Sekhar²; S. Mathur¹; 1. Inorganic Chemistry, Germany; 2. Engineering and Computer Science, USA

11:50 AM

(ICACC-S7-047-2017) Nanostructured Composites Towards Multifunctional Lightweight Conformal Structures (Invited)

M. Jung de Andrade^{*}; 1. University of Texas at Dallas, USA

12:10 PM

(ICACC-S7-048-2017) X-ray Spectroscopy of Energy-Relevant Material in Operando Condition (Invited)

C. Dong^{*}; 1. Tamkang University, Taiwan

S8: 11th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT11)

Novel Ceramic Processing IV

Room: Coquina Salon B

Session Chairs: Jerzy Lis, AGH University of Science and Technology; Tohru Suzuki, National Institute for Materials Science

8:30 AM

(ICACC-S8-026-2017) High-hardness Diamond-based Composites by Spark Plasma Sintering (Invited)

T. Goto^{*}; M. Kitiwan¹; H. Katsui¹; 1. IMR Tohoku University, Japan

9:00 AM

(ICACC-S8-027-2017) Predicting powder densification behavior in large temperature gradients produced by Spark Plasma Sintering

P. Colasuonno^{*}; 1. Colorado State University, USA

9:20 AM

(ICACC-S8-028-2017) The effect of sintering parameters on the properties of B,C samples sintered by SPS

M. Asadikiya^{*}; C. Rudolf¹; C. Zhang¹; B. Boesi¹; A. Agarwal¹; Y. Zhong¹; 1. Florida International University, USA

9:40 AM

(ICACC-S8-029-2017) Sintering Condition and Microstructure of Translucent Silicon Nitride Ceramics by SPS Process (Invited)

J. Hojo^{*}; 1. Kyushu University, Japan

10:00 AM

Break

10:20 AM

(ICACC-S8-030-2017) Coupled electro-thermo-mechanical simulation for multiple pellet fabrication of uranium dioxide in spark plasma sintering

B. Nili^{*1}; G. Subhash¹; J. Tulenko²; 1. University of Florida, USA; 2. University of Florida, USA

10:40 AM

(ICACC-S8-031-2017) Liquid Phase SPS Manufacture and Characterization of Mayenite-electride/titanium composite

T. J. Hammann^{*1}; P. Colasuonno¹; T. B. Holland¹; 1. Colorado State University, USA

11:00 AM

(ICACC-S8-032-2017) BCN Phase Formation via Reaction Synthesis of 2D Graphene and Boron Nitride Nanosheet using Spark Plasma Sintering

A. Loganathan^{*1}; A. Sharma²; P. Nautiyal¹; S. Suwas²; B. Boesl¹; A. Agarwal¹; 1. Florida International University, USA; 2. Indian Institute of Science, India

S10: Virtual Materials (Computational) Design and Ceramic Genome

Multiscale and Interface Modeling

Room: Ponce DeLeon

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

8:30 AM

(ICACC-S10-039-2017) Recent Developments in the Orthogonalized Linear Combination of Atomic Orbitals Method: Application to Complex Systems (Invited)

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

9:00 AM

(ICACC-S10-040-2017) Towards the Development of "Grain Boundary Diagrams" as a Useful Materials Science Tool: From Phenomenological Thermodynamic Models to Atomistic Simulations (Invited)

S. Yang¹; N. Zhou¹; J. Luo^{*2}; 1. UCSD, USA

9:30 AM

(ICACC-S10-041-2017) Solid-solution of dopants to "record" sintering and microstructural behaviors in structural ceramics (Invited)

H. Gu^{*1}; 1. Shanghai University, China

10:00 AM

Break

10:20 AM

(ICACC-S10-042-2017) Evidence for percolation diffusion of cations and material recovery in disordered pyrochlore from accelerated molecular dynamics simulations (Invited)

R. Perriot^{*1}; B. Uberuaga¹; R. Zamora²; D. Perez²; A. Voter²; 1. Los Alamos National Lab, USA; 2. Los Alamos National Lab, USA

10:50 AM

(ICACC-S10-043-2017) Use of ab-initio molecular dynamics and data mining for design and synthesis of novel nanomaterials (Invited)

R. Sakidja^{*1}; 1. Missouri State University, USA

11:20 AM

(ICACC-S10-044-2017) Polishing Simulation of Gallium Nitride Substrate Assisted by Chemical Reactions with Hydroxyl Radicals

K. Kawaguchi^{*1}; T. Igarashi¹; Y. Higuchi¹; N. Ozawa¹; M. Kubo¹; 1. Institute for Materials Research, Japan

11:40 AM

(ICACC-S10-045-2017) Using Virtual Manufacturing to Simulate the Changing Electrical Properties of Ceramics during Sintering

M. C. Golt^{*1}; S. M. Kilczewski²; 1. U.S. Army Research Laboratory, USA; 2. Bennett Aerospace, USA

S13: Advanced Materials for Sustainable Nuclear Fission and Fusion Energy

Standards and Mechanical & Physical Properties

Room: Coquina Salon H

Session Chairs: Weon-Ju Kim, Korea Atomic Energy Research Institute; Michael Jenkins, Bothell Engineering and Science Technologies

8:30 AM

(ICACC-S13-018-2017) Developing Codes and Specifications for Ceramic Composites in Nuclear Reactors within the ASME BPV Framework (Invited)

S. T. Gonczy^{*1}; Y. Katoh²; M. Mitchell³; M. G. Jenkins⁴; 1. Gateway Materials Technology, USA; 2. Oak Ridge National Lab, USA; 3. Eon Consulting, South Africa; 4. California State University Fresno, USA

8:50 AM

(ICACC-S13-019-2017) Composition, Structure, Manufacture, and Properties of SiC-SiC CMCs for Nuclear Applications: Update on Evolving Chapters in the ASME BPV Code Section III, Division 5, Working Group On Graphite & Composites (Invited)

M. G. Jenkins^{*1}; S. T. Gonczy²; Y. Katoh³; 1. Bothell Engineering and Science Technologies, USA; 2. Gateway Materials Technology, USA; 3. Oak Ridge National Lab, USA

9:10 AM

(ICACC-S13-020-2017) Thermal conductivity mapping of SiC-SiC composites with sub-micron spatial resolution

J. Brethauer^{*1}; D. Cahill¹; 1. University of Illinois at Urbana-Champaign, USA

9:30 AM

(ICACC-S13-021-2017) Strength Retention and Microstructure Evolution SiC_f/SiC_m Composites Following Heat Treatment in Argon up to 1800°C

C. P. Shih^{*1}; H. Khalifa¹; G. Jacobsen¹; C. Deck¹; 1. General Atomics, USA

9:50 AM

Break

10:10 AM

(ICACC-S13-022-2017) SiC-SiC Tube Mechanical Behavior of SiC-SiC Tubes at High Strain Rates During Reactivity Insertion Accidents

M. N. Cinbiz^{*1}; R. R. Lowden²; N. Brown²; G. Singh²; K. Terrani¹; 1. Oak Ridge National Laboratory, USA; 2. Oak Ridge National Lab, USA; 3. Oak Ridge National Lab, USA; 4. Oak Ridge National Lab, USA

10:30 AM

(ICACC-S13-023-2017) Strength of SiC_f-SiC_m Composite Tube under Uniaxial and Multiaxial Loading

K. Shapovalov¹; G. Jacobsen²; N. Truesdale¹; C. Deck²; X. Huang^{*1}; 1. University of South Carolina, USA; 2. General Atomics, USA

10:50 AM

(ICACC-S13-024-2017) Evaluation of Mechanical Properties of SiC based Materials through Non-Destructive Technique

G. Singh^{*1}; K. Terrani¹; Y. Katoh¹; 1. Oak Ridge National Lab, USA

11:10 AM

(ICACC-S13-025-2017) Damage Tolerance of SiC_f-SiC_m Composite Plates under Low Velocity Impact

L. Alva¹; D. McCleary¹; H. Zhao¹; H. Khalifa²; J. Clifford¹; P. Majumdar¹; X. Huang^{*1}; 1. University of South Carolina, USA; 2. General Atomics, USA

11:30 AM

(ICACC-S13-026-2017) Hoop Tensile Strength of CMC Tubes for LWRs Applications: ASTM Draft Standard Using Direct Pressure

M. G. Jenkins^{*1}; J. Salem²; J. E. Gallego¹; 1. Bothell Engineering and Science Technologies, USA; 2. NASA Glenn Research Center, USA

3rd Pacific Rim Engineering Ceramics Summit

Challenges and Opportunities III

Room: Coquina Salon C

Session Chairs: Yiquan Wu, Alfred University; Tohru Sekino, Osaka University

1:30 PM

(ICACC-PACRIM-038-2017) Development of SnO₂-TiO₂ Spinodal Composites and Their Semiconductor Properties (Invited)

W. Jiang¹; T. Goto¹; S. Cho¹; T. Sekino^{*1}; 1. Osaka University, Japan

2:00 PM

(ICACC-PACRIM-039-2017) The dependency of crystal growth on grain size during solid-state single-crystal conversion (Invited)

Y. Liu¹; Y. Wu^{*1}; 1. Alfred University, USA

2:30 PM

(ICACC-PACRIM-040-2017) Low-Temperature Spark Plasma Sintering of Ceramics by Using SiC Molding Set (Invited)

B. Kim^{*1}; A. Dash²; Y. Kim³; K. Morita¹; H. Yoshida¹; Y. Sakka¹; 1. National Institute for Materials Science (NIMS), Japan; 2. Katholieke Universiteit, Belgium; 3. University of Seoul, Republic of Korea

3:00 PM

Break

3:20 PM

(ICACC-PACRIM-042-2017) Teaching and research in ceramics supported by CES EduPack and CES Selector software (Invited)

E. Bernardo^{*1}; L. Masi²; 1. University of Padova, Italy; 2. Granta Design Limited, United Kingdom

3:50 PM

(ICACC-PACRIM-017-2017) Progress in Compact, Ceramic Heat Exchangers (Invited)

C. Lewinsohn^{*1}; J. Fellows¹; R. Braun²; R. Kee²; 1. Ceramtec, Inc., USA; 2. Colorado School of Mines, USA

4:20 PM

(ICACC-PACRIM-043-2017) Challenges in Development of Easy-to-use Torsion Test Method for Bioceramics: Toward ISO Standard Proposal (Invited)

K. Yasuda^{*1}; S. Tsutsumi²; 1. Tokyo Institute of Technology, Japan; 2. Kanazawa Institute of Technology, Japan

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

Sustainable Materials and Novel Applications II

Room: Coquina Salon E

Session Chair: Henry Colorado, Universidad de Antioquia

1:30 PM

(ICACC-FS1-015-2017) Geopolymer Synthesis as a Low Energy, Zero Waste Route to Ceramics (Invited)

A. J. Steveson^{*1}; W. M. Kriven¹; 1. University of Illinois at Urbana-Champaign, USA

2:00 PM

(ICACC-FS1-016-2017) Performance and durability of Fe-rich inorganic polymer composites with basalt fibers

A. Peys^{*1}; M. Peeters¹; A. Katsiki²; L. Kriskova¹; H. Rahier²; B. Blanpain¹; Y. Pontikes¹; 1. KULeuven, Belgium; 2. Vrije Universiteit Brussel, Belgium

2:20 PM

(ICACC-FS1-017-2017) Reactivity of Amazonian Metakaolin for Geopolymer Synthesis (Invited)

R. A. Sa Ribeiro^{*1}; G. P. Kutyla²; M. G. Sa Ribeiro¹; W. M. Kriven²; 1. INPA-National Institute for Amazonian Research, Brazil; 2. University of Illinois at Urbana-Champaign, USA

2:40 PM

(ICACC-FS1-018-2017) Preparation and properties of a potentially useful new pseudo-geopolymer material

G. P. Kutyla¹; C. Marsh²; W. M. Kriven^{*1}; 1. University of Illinois at Urbana-Champaign, USA; 2. ERDC-CERL, USA

3:00 PM

Break

3:20 PM

(ICACC-FS1-019-2017) Wollastonite Based Phosphate Cement Blended with Ceramic Powders from Primary Battery Waste (Invited)

H. A. Colorado^{*1}; 1. Universidad de Antioquia, Colombia

Composites and Conversion to Ceramics

Room: Coquina Salon E

Session Chair: Ange Therese Akono, University of Illinois at Urbana-Champaign

3:40 PM

(ICACC-FS1-020-2017) Geopolymers Reinforced with Auxetic Fabrics

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

4:00 PM

(ICACC-FS1-021-2017) Ultra Refractory, Chopped Basalt Fiber-reinforced Geopolymer Composites

P. F. Keane¹; J. S. Foltz^{*2}; C. Marsh¹; W. M. Kriven²; 1. Engineering Research and Development Center, USA; 2. University of Illinois at Urbana-Champaign, USA

4:20 PM

(ICACC-FS1-022-2017) Production and thermo-mechanical characterization of wool-geopolymer composites (Invited)

A. Natali Murri^{*1}; E. Landi¹; 1. CNR ISTECC, Italy

4:40 PM

(ICACC-FS1-023-2017) TEM Studies of Silicon-Based Ceramic Nano-Particles Synthesized from Potassium Geopolymers

C. Bagci^{*1}; W. M. Kriven²; 1. Hitit University, Turkey; 2. University of Illinois at Urbana-Champaign, USA

5:00 PM

(ICACC-FS1-024-2017) High temperature microstructural integrity and enhanced mechanical properties in bone ash/glaze frit reinforced geopolymer composites (Invited)

A. W. Bhuiya^{*1}; K. Sankar¹; D. R. Rodriguez¹; W. M. Kriven¹; 1. University of Illinois at Urbana-Champaign, USA

S1: Mechanical Behavior and Performance of Ceramics & Composites

Processing - Microstructure - Mechanical Properties Correlation II

Room: Coquina Salon D

Session Chairs: Mehrad Mehr, University of Florida; Shengfang Shi, Osaka University

1:30 PM

(ICACC-S1-061-2017) Development of multiscale structure and function controlled Al₂O₃/Ti nanocomposites (Invited)

S. Shi^{*1}; T. Goto¹; S. Cho¹; T. Sekino¹; 1. Osaka University, Japan

2:00 PM

(ICACC-S1-062-2017) Microstructure and Toughening Mechanism of Al₂O₃/ZrO₂ Eutectic Composite by Combustion Synthesis Under High Cooling Rate

Y. Zheng^{*1}; W. Yu¹; Y. Zheng¹; J. Pan¹; 1. Harbin Institute of Technology, China

2:20 PM

(ICACC-S1-063-2017) Effect of sintering additives and BN ratio on high temperature performance of BN particle dispersion SiC composites

S. Yanagawa^{*}; T. Hinoki¹; K. Shimoda²; 1. Kyoto University, Japan; 2. National Institute for Materials Science (NIMS), Japan

2:40 PM

(ICACC-S1-064-2017) Mechanical and microstructural properties of TiCN / nc-TiB₂ / nc-TiN cermet processed by Spark Plasma Sintering

B. Shanmugavel^{*}; S. Emarose¹; R. Paskaramoorthy²; 1. Anna Univeristy, India; 2. University of the Witwatersrand, South Africa

3:00 PM

Break

3:20 PM

(ICACC-S1-065-2017) Mechanical Properties of Low Temperature (850°C) Pyrolysis Bonded Silicon Carbide (Invited)

M. Mehr^{*}; M. Elbakshwan²; D. Sprouster²; S. Gill²; L. Ecker²; G. Subhash¹; J. C. Nino¹; 1. University of Florida, USA; 2. Brookhaven National Laboratory, USA

3:50 PM

(ICACC-S1-066-2017) Anisotropy in functional and mechanical properties of SiC/GNPs and SiC/GO composites

O. Hanzel^{*}; J. Sedlacek¹; R. Sedlak¹; P. Sajgalik¹; 1. Institute of Inorganic Chemistry, Slovak Academy of Sciences, Slovakia; 2. Institute of Materials Research, Slovakia

4:10 PM

(ICACC-S1-067-2017) Effect of Solids Loading and Particle Size on the Fracture Toughness of Wet Particulate Materials

M. L. Sesso^{*}; G. V. Franks¹; 1. The University of Melbourne, Australia

4:30 PM

(ICACC-S1-068-2017) High hardness and toughness cubic BN-WRE nanocomposite

T. Semenic^{*}; O. Sudre¹; 1. Teledyne Scientific Company, USA

4:50 PM

(ICACC-S1-069-2017) Mechanical properties of WC-FeAl-Al₂O₃ composites and wear properties of a WC-FeAl-Al₂O₃ cutting tool against ductile cast iron

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

5:10 PM

(ICACC-S1-070-2017) Microstructural Effects on Glass-Ceramic Mechanical Response and Slow Crack Growth Behavior

K. T. Strong^{*}; S. X. Dai²; D. N. Bencoe³; T. Diebold¹; K. G. Ewsuk²; 1. Sandia National Laboratories, USA; 2. Sandia National Laboratories, USA; 3. Sandia National Laboratories, USA

5:30 PM

(ICACC-S1-071-2017) Effect of surface compressive stresses on the subcritical crack growth in glass-ceramic composites

R. Bermejo^{*}; C. Krautgasser²; P. Supancic¹; F. Aldrian²; R. Danzer¹; 1. Montanuniversitaet Leoben, Austria; 2. EPCOS OHG, Austria; 3. Materials Center Leoben GmbH, Austria

S3: 14th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Degradation / Modeling

Room: Coquina Salon G

Session Chairs: Prabhakar Singh, University of Connecticut; Jeffrey Stevenson, Pacific Northwest National Lab

1:30 PM

(ICACC-S3-052-2017) Modeling of Electrochemically Induced Degradation of Solid Oxide Fuel Cells and Electrolyzers (Invited)

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

2:00 PM

(ICACC-S3-053-2017) Microstructural and Chemical Evolution of Various LSM-YSZ Cathode Compositions during 12,000 h Exposure to 800-1000°C

J. S. Hardy^{*}; C. A. Coyle¹; R. M. Webb²; N. L. Canfield¹; J. W. Stevenson¹; 1. Pacific Northwest National Laboratory, USA; 2. University of Portland, USA

2:20 PM

(ICACC-S3-054-2017) Performance Degradation of LSM-based Cathode in Solid Oxide Fuel Cells Poisoned by Chromium Vapor Species

R. Wang^{*}; M. Würth²; B. Mo¹; U. Pal³; S. Gopalan³; S. Basu³; 1. Boston University, USA; 2. Technische Universität München, Germany; 3. Boston University, USA

2:40 PM

(ICACC-S3-055-2017) Study of LSM and LSCF Stability in "Real-world" Cathode Environment by Thermodynamic and Experimental Approaches

B. Hu^{*}; S. Krishnan²; C. Liang¹; S. Heo¹; A. Aphale¹; R. Ramprasad²; P. Singh¹; 1. University of Connecticut, USA; 2. University of Connecticut, USA

3:00 PM

Break

3:20 PM

(ICACC-S3-056-2017) Microstructure degradation of Ni/CGO anodes for solid oxide fuel cells after long operation time using 3D reconstructions by FIB tomography

A. Zekri^{*}; M. Knipper¹; J. Parisi¹; T. Plaggenborg¹; 1. University of Oldenburg, Germany

3:40 PM

(ICACC-S3-057-2017) Life-testing of Sm_{0.5}Sr_{0.5}CoO₃-infiltrated Ce_{0.9}Gd_{0.1}O₂ oxygen electrodes: Effect of ZrO₂ atomic-layer deposition

J. Railsback^{*}; K. Zhao¹; M. Y. Lu¹; A. Call¹; S. Barnett¹; 1. Northwestern University, USA

4:00 PM

(ICACC-S3-058-2017) Analysis of Electrochemical Processes in SOFC (Invited)

A. Weber^{*}; S. Dierckx¹; J. Szasz¹; E. Ivers-Tiffée¹; 1. Karlsruhe Institute of Technology (KIT), Germany

4:30 PM

(ICACC-S3-059-2017) Electrochemical Impedance Spectroscopy of the LSM/YSZ Interface using Phase Field Theory

J. M. Vielma^{*}; T. Cheng¹; Y. Wen¹; 1. National Energy and Technology Laboratory, USA

S5: Next Generation Bioceramics and Biocomposites

Bioceramics III

Room: Coquina Salon F

Session Chairs: Tolou Shokuhfar, University of Illinois at Chicago; Pelagia Gouma, SUNY Stony Brook; Mohamed Rahaman, Missouri University of Science & Technology

1:30 PM

(ICACC-S5-016-2017) Dissolution Kinetics of Bioactive Glass Particles and Scaffolds in a Continuous Flow of Tris Buffer and SBF

L. Aalto-Setälä^{*}; O. Karlström¹; M. Engblom¹; L. Hupa¹; 1. Åbo Akademi University, Finland

1:50 PM

(ICACC-S5-017-2017) Production and applications of dicalcium phosphate dihydrate (DCPD) for precursor of fluorapatite (Fap) (Invited)

M. Tafu^{*}; 1. National Institute of Technology, Toyama College, Japan

2:10 PM

(ICACC-S5-018-2017) Bone-mimetic 3D Oxide Nanostructures for Next Generation Implant Surfaces (Invited)

T. Shokuhfar*; 1. University of Illinois at Chicago, USA

2:40 PM

(ICACC-S5-019-2017) Tough and Strong Porous Bioactive Glass-Polylactic Acid Scaffolds for Structural Bone Repair (Invited)

M. N. Rahaman*; 1. Missouri University of Science & Technology, USA

3:00 PM

Break

3:20 PM

(ICACC-S5-020-2017) High-throughput electrospinning of the next generation of biomaterials (Invited)

P. Gouma*; 1. SUNY Stony Brook, USA

3:50 PM

(ICACC-S5-021-2017) Additive manufacturing of calcium phosphate based ceramics for bone tissue

F. E. Weber*; 1. University Zurich, Switzerland

4:10 PM

(ICACC-S5-022-2017) Flash sintering of TCP bioceramics

M. Frasnelli*; V. M. Sglavo*; 1. University of Trento, Italy

4:30 PM

(ICACC-S5-023-2017) Temporal study of the shell formation of European abalone *Haliotis tuberculata*

W. Ajili*; T. Azaïs*; S. Auzoux-Bordenave*; N. Nassif*; 1. Laboratoire Chimie de la Matière Condensée de Paris, France; 2. Muséum National d'Histoire Naturelle UMR Borea, France

S7: 11th International Symposium on Nanostructured Materials: Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental and Health Applications

Biomedical Application I

Room: Coquina Salon A

Session Chair: Motoyuki Iijima, Yokohama National University

1:30 PM

(ICACC-S7-049-2017) Hard carbon coatings for medical applications (Invited)

R. Narayan*; 1. North Carolina State University, USA

2:00 PM

(ICACC-S7-050-2017) Functionalised Cellular Metals for Biotechnological Applications (Invited)

R. Hauser*; 1. Fraunhofer IFAM, Germany

2:30 PM

(ICACC-S7-051-2017) Cost-effective nanowire device optimized for chemical and biological sensor (Invited)

Y. Im*; 1. Chonbuk National University, Republic of Korea

2:50 PM

(ICACC-S7-052-2017) Synthesis and functionalization of Janus-type particles for biomedical applications

I. Gessner*; D. Hoffelner*; S. Siribbal*; T. Fischer*; S. Mathur*; 1. University of Cologne, Germany

New Materials and Processing V

Room: Coquina Salon A

Session Chair: Partha P. Mukherjee

3:10 PM

(ICACC-S7-053-2017) Multifunctional metal oxide nanocrystals by designed inorganic surface modification (Invited)

M. Epifani*; 1. CNR-IMM, Italy

3:40 PM

(ICACC-S7-054-2017) Enhanced hydrogen release of light metal-borohydrides mixed with nanostructured carbon materials

F. Pendolino*; A. Nale*; A. Maddalena*; P. Colombo*; 1. University of Padova, Italy

4:10 PM

(ICACC-S7-055-2017) Citrate Precursor Synthesis, Structural Characterization and Dielectric Properties of $Ba_{1-x}Ca_xZrO_3$ (0.05 $\leq x \leq 0.20$) Nanoparticles

M. Ubaidullah*; T. Ahmad*; 1. Glocal Univeristy, India; 2. Jamia Millia Islamia (A Central University), India

4:30 PM

(ICACC-S7-056-2017) Role of Metal Nanoparticles in Photo/ Catalytic Activation of Carbon Dioxide

K. Bienkowski*; R. Solarzka*; 1. University of Warsaw, Poland

4:50 PM

(ICACC-S7-058-2017) Solution chemical processing of nano phase ZrN and ZrC powders

S. N. Katea*; G. Westin*; 1. Uppsala University, Sweden

S8: 11th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT11)

Design-Oriented Manufacturing I

Room: Coquina Salon B

Session Chairs: Satoshi Tanaka, Nagaoka University of Technology; Csaba Balazsi, HAS Centre for Energy Research

1:30 PM

(ICACC-S8-033-2017) Microstructure Tailoring of C/C-SiC Composites (Invited)

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

2:00 PM

(ICACC-S8-034-2017) Hybrid technology for complex shape ceramics and cermets parts (Invited)

F. J. Cambier*; F. Petit*; G. Martic*; E. Juste*; 1. Belgian Ceramic Research Center, Belgium

2:30 PM

(ICACC-S8-035-2017) Ceramics with a dual pore morphology mimicking natural bone structure (Invited)

A. L. Leriche*; D. Hautcoeur*; S. Chamary*; J. Hornez*; F. J. Cambier*; 1. University of Valenciennes, France; 2. BCRC, Belgium

2:50 PM

(ICACC-S8-036-2017) Multi-functional Ti3SiC2 modified SiC matrix composites

X. Yin*; L. Cheng*; L. Zhang*; 1. Northwestern Polytechnical University, China

3:10 PM

Break

3:30 PM

(ICACC-S8-037-2017) Novel Functional Materials Bioinspired from Nature Microstructures (Invited)

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

3:50 PM**(ICACC-S8-038-2017) Si₃N₄/graphene nanocomposites for tribological application in aqueous environments prepared by attritor milling and hot pressing (Invited)**

C. Balazsi^{*1}; Z. Fogarassy¹; A. Kailer²; C. Schroder²; M. Parchoviansky³; D. Galusek³; J. Dusza⁴; K. Balazsi¹; 1. HAS Centre for Energy Research, Hungary; 2. Fraunhofer IWM, Germany; 3. Alexander Dubček University of Trenčín, Slovakia; 4. IMR SAS, Slovakia

4:10 PM**(ICACC-S8-039-2017) Enhanced Photoluminescent Property of Crystalline-Oriented β -SiAlON:Eu²⁺ Phosphor Layer Prepared by Magnetic Field-Assisted Electrophoretic Deposition**

T. Uchikoshi^{*1}; C. Zhang¹; L. Liu¹; T. S. Suzuki¹; Y. Sakka¹; N. Hiroaki¹; 1. National Institute for Materials Science, Japan

4:30 PM**(ICACC-S8-040-2017) Electroconductive oxide ceramics with graphene-encapsulated fillers**

I. Hussainova^{*1}; M. Drozdova¹; S. S. Kale²; F. A. Sabet²; I. Jasiuk²; 1. Tallinn University of Technology, Estonia; 2. University of Illinois at Urbana-Champaign, USA

4:50 PM**(ICACC-S8-041-2017) Ceramics Intergrain Contact Distribution and Microimpedance Fractality**

V. Mitic^{*1}; L. Kocić²; V. Paunovic³; 1. Serbian Academy of Sciences, Serbia; 2. Faculty of Electronic Engineering, Serbia; 3. Faculty of Electronic Engineering, Serbia

5:10 PM**(ICACC-S8-042-2017) Metamaterials: The Challenge and Opportunity for the Multifunctional Ceramic (Invited)**

R. Fan^{*1}; 1. Shanghai Maritime University, China

S13: Advanced Materials for Sustainable Nuclear Fission and Fusion Energy**Accident-tolerant Fuels I**

Room: Coquina Salon H

Session Chairs: Theodore Besmann, University of South Carolina; Peng Xu, Westinghouse Electric Company

1:30 PM**(ICACC-S13-027-2017) Development of Engineered SiC-SiC Accident Tolerant Fuel Cladding (Invited)**

C. Deck^{*1}; H. Khalifa¹; G. Jacobsen¹; J. Sheeder¹; J. Zhang¹; C. Bacalski¹; J. Stone¹; C. P. Shih¹; G. Vasudevamurthy¹; E. Lahoda²; C. Back¹; 1. General Atomics, USA; 2. Westinghouse Electric Company, USA

1:50 PM**(ICACC-S13-028-2017) Development of SiC/SiC composites for accident tolerant fuel (Invited)**

T. Hinoki^{*1}; M. Lee¹; S. Kondo¹; S. Yanagawa¹; K. Kawasaki¹; F. Shinoda¹; 1. Kyoto University, Japan

2:10 PM**(ICACC-S13-029-2017) Anisotropic swelling of SiC composites during neutron irradiation**

Y. Katoh^{*1}; T. Koyanagi¹; L. L. Snead²; K. Yueh³; 1. Oak Ridge National Laboratory, USA; 2. Massachusetts Institute of Technology, USA; 3. Electric Power Research Institute, USA

2:30 PM**(ICACC-S13-030-2017) Effects of Non-Uniform Boundary Conditions on the Performance of SiC/SiC Cladding**

G. Singh^{*1}; N. Brown¹; B. Wirth²; K. Terrani¹; Y. Katoh¹; 1. Oak Ridge National Lab, USA; 2. University of Tennessee, USA

2:50 PM**Break****3:10 PM****(ICACC-S13-031-2017) Influence of the PyC Interphase on Mechanical Properties and Failure Mechanisms of SiC-SiC Composites**

J. Kabel^{*1}; Y. Yang¹; M. Balooch¹; P. Hosemann¹; K. Terrani²; T. Koyanagi²; 1. University of California Berkeley, USA; 2. Oak Ridge National Lab, USA

3:30 PM**(ICACC-S13-032-2017) Uranium Silicide-Nitride Fuels: Thermochemical Behavior and Compatibility (Invited)**

T. M. Besmann^{*1}; M. Noordhoek¹; T. Wilson¹; A. Nelson²; E. Wood²; J. McMurray³; D. Shin³; E. Lahoda³; S. Middleburgh³; 1. University of South Carolina, USA; 2. Los Alamos National Lab, USA; 3. Oak Ridge National Lab, USA; 4. Westinghouse Electric Company, USA; 5. Westinghouse Electric Company, Sweden

4:00 PM**(ICACC-S13-033-2017) The Role of Pd in the Chemical Attack and Migration of Silver-Palladium in Silicon Carbide**

H. Liu^{*1}; P. Xiao¹; 1. University of Manchester, United Kingdom

4:20 PM**(ICACC-S13-034-2017) Thermal Analysis of ATF Fuel Materials at Westinghouse**

L. Cai^{*1}; P. Xu¹; A. Andrew¹; F. Boylan¹; E. Lahoda¹; 1. Westinghouse, USA

4:40 PM**(ICACC-S13-035-2017) Simulating Transport of Chemical Species in Nuclear Fuel: Coupling Thermodynamics and Fuel Performance Codes**

B. G. Gaston^{*1}; T. M. Besmann¹; S. Simunovic²; J. McMurray²; M. H. Piro³; 1. University of South Carolina, USA; 2. Oak Ridge National Lab, USA; 3. Canadian Nuclear Laboratories, Canada

5:00 PM**(ICACC-S13-036-2017) Thermodynamic Assessment of Nepheline Formation in Nuclear Waste Glass**

S. A. Utlak^{*1}; T. M. Besmann¹; C. H. Henager²; S. Hu²; Y. Li³; 1. University of South Carolina, USA; 2. Pacific Northwest National Lab, USA; 3. Pacific Northwest National Lab, USA

5:20 PM**(ICACC-S13-037-2017) Irradiation and Storage Effects on Nuclear Fuel Young's Modulus Characterized by High Frequency Acoustic Microscopy**

M. Marchetti^{*1}; T. Wiss¹; D. Laux²; G. Despaux²; V. Rondinella³; E. Fontana¹; 1. European Commission - Joint Research Centre, Germany; 2. University of Montpellier, France

Friday, January 27, 2017**FS1: Geopolymers, Chemically Bonded Ceramics, Eco-friendly and Sustainable Materials****Construction Materials**

Room: Coquina Salon E

Session Chair: Flavio Silva, Pontificia Universidade Católica do Rio de Janeiro (PUC-Rio)

8:30 AM**(ICACC-FS1-025-2017) Pathways to Commercial Adoption of Chemically-Activated Cement (Invited)**

J. S. Van Deventer^{*1}; 1. Zeobond Group, Australia

9:00 AM**(ICACC-FS1-026-2017) On the durability behavior of natural fiber reinforced geopolymers (Invited)**

F. d. Silva^{*1}; 1. Pontificia Universidade Católica do Rio de Janeiro (PUC-Rio), Brazil

9:30 AM

(ICACC-FS1-027-2017) Processing Microstructure and Properties of Slag-Fly ash Geopolymers (Invited)

K. Sankar*; P. Stynoski; G. Al-Chaar; I. Al-Qadi; W. M. Kriven¹; 1. University of Illinois at Urbana-Champaign, USA; 2. U.S. Army Construction Engineering Research Laboratory (ERDC-CERL), USA; 3. University of Illinois at Urbana-Champaign, USA

10:00 AM

Break

10:20 AM

(ICACC-FS1-028-2017) Eco-friendly geopolymer composite for winter season pavement pothole patching

M. Sarkkinen*; K. Kujala; S. Gehör; 1. KAMK, Finland; 2. Solid Liner Ltd., Finland

10:40 AM

(ICACC-FS1-029-2017) Cementitious Composites for Structural Applications based on Metakaolinite Phosphate Cements

A. Katsiki*; A. Peys; T. Tysmans; J. Wastiels; H. Rahier¹; 1. Vrije Universiteit Brussel, Belgium; 2. KULeuven, Belgium; 3. Vrije Universiteit Brussel, Belgium

11:00 AM

(ICACC-FS1-030-2017) Utilization of Geopolymer in Solidification/Stabilization of Sorbent-Impacted Fly Ash and Power Plant Wastewater Treatment Residuals (Invited)

C. Montes*; S. Gomez; E. Allouche; K. Ladwig; J. Mejia¹; 1. Louisiana Tech University, USA; 2. Stantec, Canada; 3. EPRI, USA; 4. Universidad del Valle, Colombia

11:30 AM

(ICACC-FS1-031-2017) Novel 'inorganic gel casting' process for the manufacturing of glass-ceramic foams

A. Rincon Romero¹; E. Bernardo*; 1. University of Padova, Italy

S1: Mechanical Behavior and Performance of Ceramics & Composites

Small-scale Testing and Applications

Room: Coquina Salon D

Session Chairs: Andy Nieto, University of California Davis; Benjamin Dillinger, Virginia Tech

8:30 AM

(ICACC-S1-072-2017) Indentation Creep Behavior of WC-Co processed by HVOF and SPS (Invited)

A. Nieto*; J. M. Schoenung²; 1. University of California, Davis, USA; 2. University of California, Irvine, USA

9:00 AM

(ICACC-S1-073-2017) Observations of Surface and Subsurface Cracks in Fused Quartz Using Nanoindentation and Focused Ion Beam Milling

B. A. Mound*; G. M. Pharr¹; 1. University of Tennessee, USA

9:20 AM

(ICACC-S1-074-2017) Stress Mapping in Glass-to-Metal Seals using Indentation Crack Length Measurement

T. Buchheit*; R. Jamison; M. Teague¹; K. T. Strong¹; C. Newton¹; T. Diebold¹; K. G. Ewsuk¹; 1. Sandia National Laboratories, USA; 2. Sandia National Laboratories, USA

9:40 AM

(ICACC-S1-075-2017) In-situ measurement of mechanical properties of compressive layer in ion-exchanged glass using micro cantilever beam specimens

J. Tatami*; S. Fujita¹; M. Iijima¹; T. Yahagi²; 1. Yokohama National University, Japan; 2. Kanagawa Academy of Science and Technology, Japan

10:00 AM

Break

10:20 AM

(ICACC-S1-076-2017) Crush Strength Analysis of Hollow Glass Microspheres

B. Dillinger*; D. Clark¹; C. Suchicital¹; G. Wicks²; F. Humes²; 1. Virginia Tech, USA; 2. Applied Research Center, USA

10:40 AM

(ICACC-S1-077-2017) Graphene in Action: Understanding Toughening in Graphene/Ceramic Nanocomposites

M. C. Ramirez*; Y. Liu¹; Q. Wang¹; M. I. Osendi²; P. Miranzo²; M. Belmonte²; B. W. Sheldon¹; N. P. Padture¹; 1. Brown University, USA; 2. Institute of Ceramics and Glass, CSIC, Spain

11:00 AM

(ICACC-S1-078-2017) Thermophysical and High-Temperature Mechanical Properties of CeO_{2-x}

U. Carvajal Nuñez*; J. T. White¹; N. A. Mara²; A. Nelson¹; 1. Los Alamos National Lab, USA; 2. Center for Integrated Nanotechnologies (CINT), USA

11:20 AM

(ICACC-S1-079-2017) Experimental Investigation on Impact Strength of low temperature treated Glass/Carbon epoxy Hybrid Laminated Composites

N. Kumar*; S. Nagaraj²; 1. Christ University, India; 2. R V College of Engineering, India

S3: 14th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Oxygen Ion Conductors

Room: Coquina Salon G

Session Chair: Radenka Maric, University of Connecticut

8:30 AM

(ICACC-S3-060-2017) Investigation on the material of electrolyte for improving electrical efficiency of SOFCs and/or PCFCs (Invited)

Y. Matsuzaki*; Y. Tachikawa²; T. Somekawa¹; K. Sato¹; H. Matsumoto³; S. Taniguchi²; K. Sasaki²; 1. Tokyo Gas Co., Ltd., Japan; 2. Kyushu University, Japan; 3. Kyushu University, Japan

9:00 AM

(ICACC-S3-061-2017) Sintering and electrical properties of yttrium-doped barium zirconate proton conducting ceramics by addition of YBa₂Cu₃O₇

L. A. Villas-Boas*; C. A. Goulart²; M. R. Morelli²; D. Souza²; 1. São Paulo State University, Brazil; 2. Federal University of Sao Carlos, Brazil

9:20 AM

(ICACC-S3-062-2017) Development of novel low-temperature processes for perovskite oxide materials for SOFCs

Y. Yamaguchi*; T. Yamaguchi¹; H. Shimada¹; H. Sumi¹; K. Nomura¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan

9:40 AM

Break

Proton Conductors

Room: Coquina Salon G

Session Chairs: Enrico Traversa, King Abdullah University of Science and Technology; Mihails Kusnezoff, Fraunhofer IKTS

10:00 AM

(ICACC-S3-063-2017) Understanding proton-conducting cathode for intermediate temperature proton-conducting SOFC

S. Sun*; Z. Cheng¹; 1. Florida International University, USA

10:20 AM

(ICACC-S3-064-2017) Manufacturing of BaCe_{0.65}Zr_{0.2}Y_{0.15}O_{3-δ}-based membranes for hydrogen separation

D. Montaleone¹; E. Mercadelli¹; A. Gondolini¹; A. Sanson¹; 1. ISTE-CNR, Italy

10:40 AM

(ICACC-S3-065-2017) Low Temperature Solid Oxide Fuel Cell (LT-SOFC) for direct conversion of methane to methanol and other liquids (Invited)

R. Maric^{*1}; A. Poozhikunnath¹; A. Torabi²; M. Aindow³; 1. University of Connecticut, USA; 2. Fuel Cell Energy, USA; 3. University of Connecticut, USA

11:10 AM

(ICACC-S3-066-2017) Application of Bilayer MIECs in Low Temperature SOFCs

A. Jaiswal¹; A. Pesaran^{*1}; K. Duncan²; S. Omar²; E. Wachsmann²; 1. University of Maryland College Park, USA; 2. University of Maryland, USA

11:30 AM

(ICACC-S3-067-2017) Tuning the electrical and dielectric properties of $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ perovskite by chemical doping

F. Yang^{*1}; L. Li¹; P. Wu¹; C. Tumilson²; E. Velázquez¹; H. Zhang¹; I. M. Reaney¹; D. C. Sinclair¹; 1. University of Sheffield, United Kingdom; 2. The Queen's University Belfast, United Kingdom

S5: Next Generation Bioceramics and Biocomposites

Bioceramics IV

Room: Coquina Salon F

Session Chairs: Faleh Tamimi, McGill University; Mohamed Rahaman, Missouri University of Science & Technology

8:30 AM

(ICACC-S5-024-2017) Robocasting of Silicon Nitride Implants with Complex Shape and Architecture for Orthopedic Applications

M. N. Rahaman^{*1}; W. Xiao¹; S. Zhao¹; D. O'Brien²; S. Bal³; 1. Missouri University of Science & Technology, USA; 2. Amedica Corporation, USA; 3. University of Missouri, Columbia, USA

8:50 AM

(ICACC-S5-025-2017) Two-Dimensional Magnesium Phosphate Nanosheets Form Highly Thixotropic Gels That Up-Regulate Bone Formation (Invited)

F. Tamimi^{*1}; M. Laurenti¹; A. Al Subaie¹; M. Abdallah¹; A. Cortes²; J. Ackerman³; H. Vali¹; K. Basu¹; Y. Zhang¹; M. Murshed¹; S. Strandman²; J. Zhu³; N. Makhoul¹; J. Barralet¹; 1. McGill University, Canada; 2. Harvard Medical School, USA; 3. Université de Montreal, Canada

9:20 AM

(ICACC-S5-026-2017) Bone Regeneration in Rat Calvarial Defects Implanted with Closed and Open Hollow Hydroxyapatite Microspheres

M. N. Rahaman^{*1}; Y. Shen¹; 1. Missouri University of Science & Technology, USA

9:40 AM

(ICACC-S5-027-2017) Synthesis and Characterization of CaSiO_3 - CaCO_3 - SiO_2 Composites Produced via Hydrothermal Reaction

B. Beyoglu^{*1}; R. Riman¹; 1. Rutgers University, USA

S8: 11th International Symposium on Advanced Processing and Manufacturing Technologies for Structural and Multifunctional Materials and Systems (APMT11)

Design-Oriented Manufacturing II

Room: Coquina Salon B

Session Chairs: Francis Cambier, Belgian Ceramic Research Centre; Surojit Gupta, University of North Dakota

8:30 AM

(ICACC-S8-043-2017) Innovations with advanced ceramics (Invited)

R. Lenk^{*1}; 1. CeramTec GmbH, Germany

9:00 AM

(ICACC-S8-044-2017) Sintering of high-energy ball milling CaLa_2S_4 -ZnS powder mixtures (Invited)

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

9:30 AM

(ICACC-S8-045-2017) Solid-state single crystal conversion in isotropic and anisotropic ceramics

Y. Liu^{*1}; Y. Wu¹; 1. Alfred University, USA

9:50 AM

(ICACC-S8-046-2017) Innovative processing and manufacturing of SiC/SiC CMCs for energy/environmental applications (Invited)

K. Shimoda^{*1}; T. Hinoki²; 1. National Institute for Materials Science (NIMS), Japan; 2. Kyoto University, Japan

10:10 AM

Break

10:30 AM

(ICACC-S8-047-2017) Hybrid aerosol deposition as a new tool for delight design

K. Shinoda^{*1}; T. Saeki¹; M. Mori²; J. Akeido¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan; 2. Ryukoku University, Japan

10:50 AM

(ICACC-S8-048-2017) Environmental-friendly fine-particle spray coatings by rf induction plasma

T. Saeki^{*1}; K. Shinoda¹; M. Mori²; J. Akeido¹; 1. National Institute of Advanced Industrial Science and Technology (AIST), Japan; 2. Ryukoku University, Japan

11:10 AM

(ICACC-S8-049-2017) TEM Analysis of Diffusion-Bonded Silicon Carbide Ceramics Joined Using Metallic Interlayers

T. Ozaki^{*1}; Y. Hasegawa¹; H. Tsuda²; S. Mori³; M. C. Halbig³; R. Asthana⁴; M. Singh⁵; 1. Technology Research Institute of Osaka Prefecture, Japan; 2. Osaka Prefecture University, Japan; 3. NASA Glenn Research Center, USA; 4. University of Wisconsin-Stout, USA; 5. Ohio Aerospace Institute, USA

11:30 AM

(ICACC-S8-050-2017) Electric-field assisted mass transport and its applications in ceramic joining and shaping

Y. Gao^{*1}; Y. Wang¹; L. An²; 1. Southwest Jiaotong University, China; 2. University of Central Florida, USA; 3. Northwestern Polytechnical University, China

S13: Advanced Materials for Sustainable Nuclear Fission and Fusion Energy

Accident-tolerant Fuels II and Radiation Effects

Room: Coquina Salon H

Session Chairs: Yutai Katoh, Oak Ridge National Laboratory; Izabela Szlufarska, University of Wisconsin

8:30 AM

(ICACC-S13-038-2017) Westinghouse Accident Tolerant Fuel Program Update on SiC Composite Cladding Development (Invited)

P. Xu^{*1}; E. Lahoda²; Y. Long¹; 1. Westinghouse Electric Company, USA; 2. Westinghouse Electric Company, USA

8:50 AM

(ICACC-S13-039-2017) Irradiation behaviors of SiC/SiC candidate for PWR accident tolerant fuel cladding (Invited)

X. Li^{*1}; 1. Northwestern Polytechnical University, China

9:10 AM

(ICACC-S13-040-2017) Permeability of SiC composite LWR fuel cladding under in-situ loading conditions

G. Vasudevamurthy¹; E. Song¹; G. Jacobsen¹; C. Deck^{*1}; 1. General Atomics, USA

9:30 AM

(ICACC-S13-041-2017) Post-Irradiation Validation of High Heat Flux SiC/SiC Cladding Irradiation Design

C. Petrie^{*1}; T. Koyanagi¹; C. Deck²; Y. Katoh¹; K. Terrani¹; 1. Oak Ridge National Lab, USA; 2. General Atomics, USA

9:50 AM

(ICACC-S13-042-2017) Mechanical properties of SiC composites neutron irradiated under LWR relevant temperature and dose conditions

T. Koyanagi^{*1}; Y. Katoh¹; 1. Oak Ridge National Laboratory, USA

10:10 AM

Break

10:30 AM

(ICACC-S13-043-2017) Defect kinetics and long-term evolution of grain boundaries in irradiated SiC (Invited)

I. Szlufarska^{*1}; X. Wang¹; H. Jiang¹; 1. University of Wisconsin, USA

10:50 AM

(ICACC-S13-044-2017) Advanced X-ray characterization of neutron irradiated SiC (Invited)

D. Sprouster^{*1}; L. Ecker¹; E. Dooryhee¹; T. Koyanagi²; Y. Katoh²; 1. Brookhaven National Laboratory, USA; 2. Oak Ridge National Lab, USA

11:10 AM

(ICACC-S13-045-2017) Probing structural disorder in neutron irradiated silicon carbide by Raman spectroscopy

T. Koyanagi^{*1}; M. Lance¹; Y. Katoh¹; 1. Oak Ridge National Laboratory, USA

11:30 AM

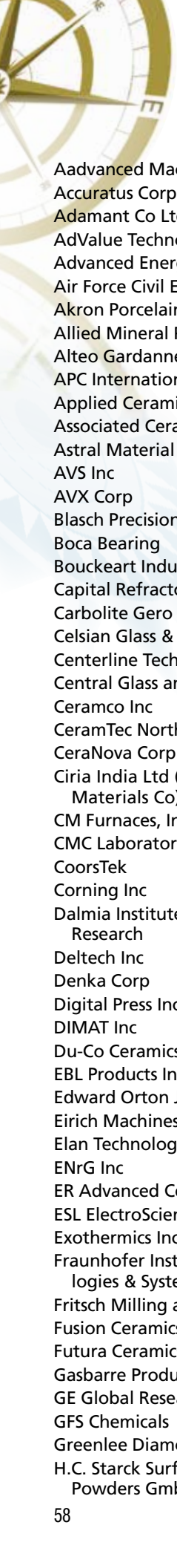
(ICACC-S13-046-2017) Ostwald Ripening Retardation Due to Radiation Induced Point Defect

E. Hernandez^{*2}; V. Tikare³; L. Wang¹; 1. University of Michigan, USA; 2. US Army Research Laboratory, USA; 3. Sandia National Laboratories, USA

11:50 AM

(ICACC-S13-047-2017) Positron Annihilation Spectroscopy Investigation of Vacancy Clusters in Neutron-irradiated 3C-SiC

X. Hu^{*1}; T. Koyanagi¹; Y. Katoh¹; 1. Oak Ridge National Lab, USA



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Japan Fine Ceramics Center
Johnson Matthey Technology Centre
Karlsruhe Institute of Technology (KIT)
Keith Co
Khodiyar Ceramics (India) Private Ltd
Korea Institute of Industrial Technology
Kyanite Mining Corp
Kyocera Corp
Kyocera International Inc
LECO Corp
Lithoz GmbH
Lucideon
Magneco/Metrel Inc
Management Recruiters of Aiken SC
Materials Research Furnaces Inc
Materion Ceramics
McDaniel Advanced Ceramic Technologies LLC
Microtrac
Mineral Research Processing (M.R. PRO) Missouri Refractories Co Inc
Mohr Corp
Morgan Advanced Materials
Materials Morgan Advanced Materials, Seals and Bearings
Mo-Sci Corp
Murata Mfg Co Ltd
Nabaltec AG
Nabertherm Inc
Nanoe
Nanoscience Instruments
Naval Surface Warfare Center, Carderock Division
Netzsch Instruments North America LLC
Netzsch Premier Technologies LLC
New Tech Ceramics Inc
Nexceris LLC
NGK Spark Plug Co Ltd
Niokem Inc
NovaBone Products LLC
NSL Analytical
Nutec Bickley SA de CV
OPF Enterprises
OptiPro Systems LLC
Ortech Inc
Osram Sylvania Inc
Owens-Illinois Inc
Oxy-Gon Industries Inc
Pacific Refractories Ltd
Powder Processing and Technology LLC
PremaTech Advanced Ceramics

Rath Inc
Rauschert Industries Inc
Raymond Bartlett Snow
Refractory Minerals Company Inc
Refractron Technologies Corp
Reno Refractories Inc
Resodyn Acoustic Mixers Inc
Rio Tinto Minerals
Riverside Refractories Inc
Robocasting Enterprises LLC
Roca Sanitario SA
RocCera LLC
RoMan Manufacturing
Saint-Gobain Ceramics & Plastics
Sandia National Laboratories
Sauereisen Inc
Schott North America Inc
SELEE Corp
Semiconductor Energy Laboratory Co Ltd (SEL)
Sharp Corp
Sigma Advanced Materials
Silicon Carbide Products Inc
Somany Ceramics Ltd
Specialty Glass Inc
Spectrochemical Laboratories
SRI International
Suntech Advanced Ceramics (Shenzhen) Co Ltd
Superior Graphite Co
Superior Technical Ceramics
Surmet Corp
Swindell Dressler International Co
TA Instruments
TAM Ceramics
Technology Assessment & Transfer Inc
Tethon 3D
TevTech LLC
Texers Technical Ceramics
The Furnace Source LLC
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Toyota Central R&D Labs Inc
Trans-Tech Inc
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19 K 39.0983 Potassium	20 Ca 40.078 Calcium	21 Sc 44.955912 Scandium	22 Ti 47.867 Titanium	23 V 50.9415 Vanadium	24 Cr 51.9961 Chromium	25 Mn 54.938045 Manganese	26 Fe 55.845 Iron	27 Co 58.933195 Cobalt	28 Ni 58.6934 Nickel	29 Cu 63.546 Copper	30 Zn 65.38 Zinc	31 Ga 69.723 Gallium	32 Ge 72.64 Germanium	33 As 74.9216 Arsenic	34 Se 78.96 Selenium	35 Br 79.904 Bromine	36 Kr 83.798 Krypton														
37 Rb 85.4678 Rubidium	38 Sr 87.62 Strontium	39 Y 88.90585 Yttrium	40 Zr 91.224 Zirconium	41 Nb 92.90638 Niobium	42 Mo 95.96 Molybdenum	43 Tc (98) Technetium	44 Ru 101.07 Ruthenium	45 Rh 102.9055 Rhodium	46 Pd 106.42 Palladium	47 Ag 107.8682 Silver	48 Cd 112.411 Cadmium	49 In 114.818 Indium	50 Sn 118.71 Tin	51 Sb 121.76 Antimony	52 Te 127.6 Tellurium	53 I 126.90447 Iodine	54 Xe 131.293 Xenon														
55 Cs 132.9054 Cesium	56 Ba 137.327 Barium	57 La 138.90547 Lanthanum	58 Ce 140.116 Cerium	59 Pr 140.90765 Praseodymium	60 Nd 144.242 Neodymium	61 Pm (145) Promethium	62 Sm 150.36 Samarium	63 Eu 151.964 Europium	64 Gd 157.25 Gadolinium	65 Tb 158.92535 Terbium	66 Dy 162.5 Dysprosium	67 Ho 164.93032 Holmium	68 Er 167.259 Erbium	69 Tm 168.93421 Thulium	70 Yb 173.054 Ytterbium	71 Lu 174.967 Lutetium	72 Hf 178.49 Hafnium	73 Ta 180.948 Tantalum	74 W 183.84 Tungsten	75 Re 186.207 Rhenium	76 Os 190.23 Osmium	77 Ir 192.217 Iridium	78 Pt 195.084 Platinum	79 Au 196.96657 Gold	80 Hg 200.59 Mercury	81 Tl 204.3833 Thallium	82 Pb 207.2 Lead	83 Bi 208.9804 Bismuth	84 Po (209) Polonium	85 At (210) Astatine	86 Rn (222) Radon
87 Fr (223) Francium	88 Ra (226) Radium	89 Ac (227) Actinium	90 Th 232.03806 Thorium	91 Pa 231.03688 Protactinium	92 U 238.02891 Uranium	93 Np (237) Neptunium	94 Pu (244) Plutonium	95 Am (243) Americium	96 Cm (247) Curium	97 Bk (247) Berkelium	98 Cf (251) Californium	99 Es (252) Einsteinium	100 Fm (257) Fermium	101 Md (288) Mendelevium	102 No (289) Nobelium	103 Lr (262) Lawrencium	104 Rf (261) Rutherfordium	105 Db (262) Dubnium	106 Sg (266) Seaborgium	107 Bh (264) Bohrium	108 Hs (277) Hassium	109 Mt (268) Meitnerium	110 Ds (271) Darmstadtium	111 Rg (281) Roentgenium	112 Cn (285) Copernicium	113 Nh (284) Nihonium	114 Fl (289) Flerovium	115 Uu (288) Ununpentium	116 Lv (293) Livermorium	117 Uhs (294) Unhseptium	118 Uuo (294) Ununoctium

92 Ce 140.116 Cerium	93 Pr 140.90765 Praseodymium	94 Nd 144.242 Neodymium	95 Pm (145) Promethium	96 Sm 150.36 Samarium	97 Eu 151.964 Europium	98 Gd 157.25 Gadolinium	99 Tb 158.92535 Terbium	100 Dy 162.5 Dysprosium	101 Ho 164.93032 Holmium	102 Er 167.259 Erbium	103 Tm 168.93421 Thulium	104 Yb 173.054 Ytterbium	105 Lu 174.967 Lutetium
106 Th 232.03806 Thorium	107 Pa 231.03688 Protactinium	108 U 238.02891 Uranium	109 Np (237) Neptunium	110 Pu (244) Plutonium	111 Am (243) Americium	112 Cm (247) Curium	113 Bk (247) Berkelium	114 Cf (251) Californium	115 Es (252) Einsteinium	116 Fm (257) Fermium	117 Md (288) Mendelevium	118 No (289) Nobelium	119 Lr (262) Lawrencium

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