34TH INTERNATIONAL CONFERENCE AND EXPOSITION ON

ADVANCED CERAMICS AND COMPOSITES

January 24-29, 2010 | Hilton Daytona Beach Resort & Ocean Center | Daytona Beach, FL, USA

Meeting Guide

Organized by The American Ceramic Society and The American Ceramic Society's Engineering Ceramics Division

The American Ceramic Society
www.ceramics.org

Engineering Ceramics Division
The American Ceramic Society

Welcome

Welcome to the 34th International Cocoa Beach Conference & Exposition on Advanced Ceramics & Composites. The International Conference on Advanced Ceramics and Composites (ICACC) is the most prominent international meeting in the area of advanced structural and functional ceramics, composites, and other emerging ceramic materials and technologies. This prestigious conference has been organized by the Engineering Ceramics Division (ECD), and The American Ceramic Society since 1977.

This year's meeting consists of eleven Symposia and four Focused Sessions related to various aspects of advanced ceramics and composites. The Symposium on Mechanical Behavior and Performance of Engineering Ceramics and Composites continues to be a cornerstone event, focusing on the underlying fundamentals of processing, microstructure, properties and performance of ceramics and composites. The meeting also includes symposia in Advanced Ceramic Coatings, Solid Oxide Fuel Cells, Armor Ceramics, Bioceramics, Nanostructured Materials & Nanotechnology, Advanced Processing & Manufacturing, and Porous Ceramics.

There are three new symposia in 2010. Advances toward the future of efficient electric energy and renewable energy technologies will be explored in the Symposium on Ceramics for Electric Energy Generation, Storage, and Distribution. Thermal Management Materials and Technologies will highlight the associated new materials and technologies. Critical developments in advanced ceramics sensors for various applications will be discussed in Advanced Sensor Technology, Developments and Applications.

Two new focused sessions have been organized in 2010 in conjunction with the Geopolymers and Other Inorganic Polymers session. Computational Design, Modeling, Simulation and Characterization of Ceramics and Composites will highlight recent progress of computational methodologies, which potentially can change every aspect of ceramic science and technology. Nanolaminated Ternary Carbides and Nitrides (MAX Phases) will discuss the latest advances in these phases, which currently attract considerable attention.

Special thanks go to our sponsors including the US Army Research Office, UBE Industries, Ltd., National Centre for Nanostructured Materials, Council for Scientific and Industrial Research, and A-Tech Systems Co., whose generous support enables a more successful meeting.

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

2010 Program Chair
Tatsuki Ohji
National Institute of Advanced Industrial Science and Technology (AIST)

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Final Program

ACerS Division Leadership

Engineering Ceramics Division Leadership

Trustee:
Mrityunjay Singh

Chair:
Jonathan Salem

Chair Elect/2010 Technical Program Chair:
Tatsuki Ohji

Vice Chair/Treasurer
Dileep Singh

Secretary:
Sanjay Mathur

Past Chair:
Andy Wereszczak

Schedule At A Glance

Sunday, January 24, 2010

	Time	Room
Conference Registration	2 PM – 7 PM	Hilton – Coquina Foyer
Speaker Ready Room	2 PM – 7 PM	Hilton – Manatee
Welcome Reception	5 PM – 7 PM	Hilton – Coquina Foyer

Monday, January 25, 2010

Conference Registration and Member and Publication Center	7 AM – 6 PM	Hilton – Coquina Foyer
Speaker Ready Room	8 AM – 4 PM	Hilton – Manatee
Companion Coffee	8 AM – 10 AM	Hilton – Oceanview Room
Opening Awards Ceremony & Plenary Session	8:30 AM – 12 PM	Hilton – Coquina D and E
New Member Welcome Meeting	12 PM – 12:30 PM	Hilton – Coquina A
Lunch On Own	12 PM – 1:20 PM	
Companion Tour to Ormond Beach Area	1 PM – 4 PM	Hilton – Hotel Lobby
Concurrent Technical Sessions	1:20 PM – 6 PM	Hilton
ACerS Town Hall Meeting	TBD	Hilton – TBD
Student Networking Reception	7 PM – 9 PM	Hilton – Oceanview Room and Oceanview Terrace

Tuesday, January 26, 2010

Conference Registration and Member and Publication Center	7 AM – 6 PM	Hilton – Coquina Foyer
Speaker Ready Room	8 AM – 4 PM	Hilton - Manatee
Concurrent Technical Sessions	8 AM – 12 PM	Hilton
Exhibitor Move-In	12 PM – 4 PM	Ocean Center
Lunch On Own	12 PM – 1:20 PM	
Concurrent Technical Sessions	1:20 PM – 5:20 PM	Hilton
Poster Session A Move-In	3 PM – 4:30 PM	Ocean Center
Exhibits & Poster Session A – Including Reception	5 PM – 8 PM	Ocean Center – Entrance through Atlantic B

Wednesday, January 27, 2010

Conference Registration and Member and Publication Center	7:30 AM – 5:30 PM	Hilton – Coquina Foyer
Speaker Ready Room	8 AM – 4 PM	Hilton - Manatee
Concurrent Technical Sessions	8 AM – 12 PM	Hilton
Lunch On Own	12 PM – 1:20 PM	
Concurrent Technical Sessions	1:20 PM – 5:20 PM	Hilton
Poster Session B Move-In	3 PM – 4:30 PM	Ocean Center
Exhibits & Poster Session B – Including Reception	5 PM – 7:30 PM	Ocean Center – Entrance through Atlantic B

Thursday, January 28, 2010

Conference Registration	7:30 AM – 6 PM	Hilton – Coquina Foyer
Speaker Ready Room	8 AM – 4 PM	Hilton - Manatee
Concurrent Technical Sessions	8 AM – 12 PM	Hilton
Lunch On Own	12 PM – 1:20 PM	
Concurrent Technical Sessions	1:20 PM – 6 PM	Hilton

Friday, January 29, 2010

Conference Registration	7:30 AM – 12:30 PM	Hilton – Coquina Foyer
Concurrent Technical Sessions	8 AM – 12:20 PM	Hilton

Special Events

Welcome Reception

Sunday, January 24

5:00 – 7:00 p.m.

Hilton – Coquina Foyer

Shot Glass Contest

Tuesday, January 26 – The Ocean Center

5:30 – 7:30 p.m.

Exhibit Show Floor

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

Don't miss this design contest! Students are given one shot glass and have 45 minutes to build their protection devices with drinking straws. Then, the glasses are dropped from varying levels until the breaking threshold is reached. The glass with the highest successful drop distance wins!

SHORT COURSE

Mechanical Properties of Ceramics and Glass*

Thursday, January 28 and Friday, January 29

8:00 AM – 5:00 PM

Hilton – Tomoka A

*Separate registration fee

Directions from the Hilton to Ocean Center

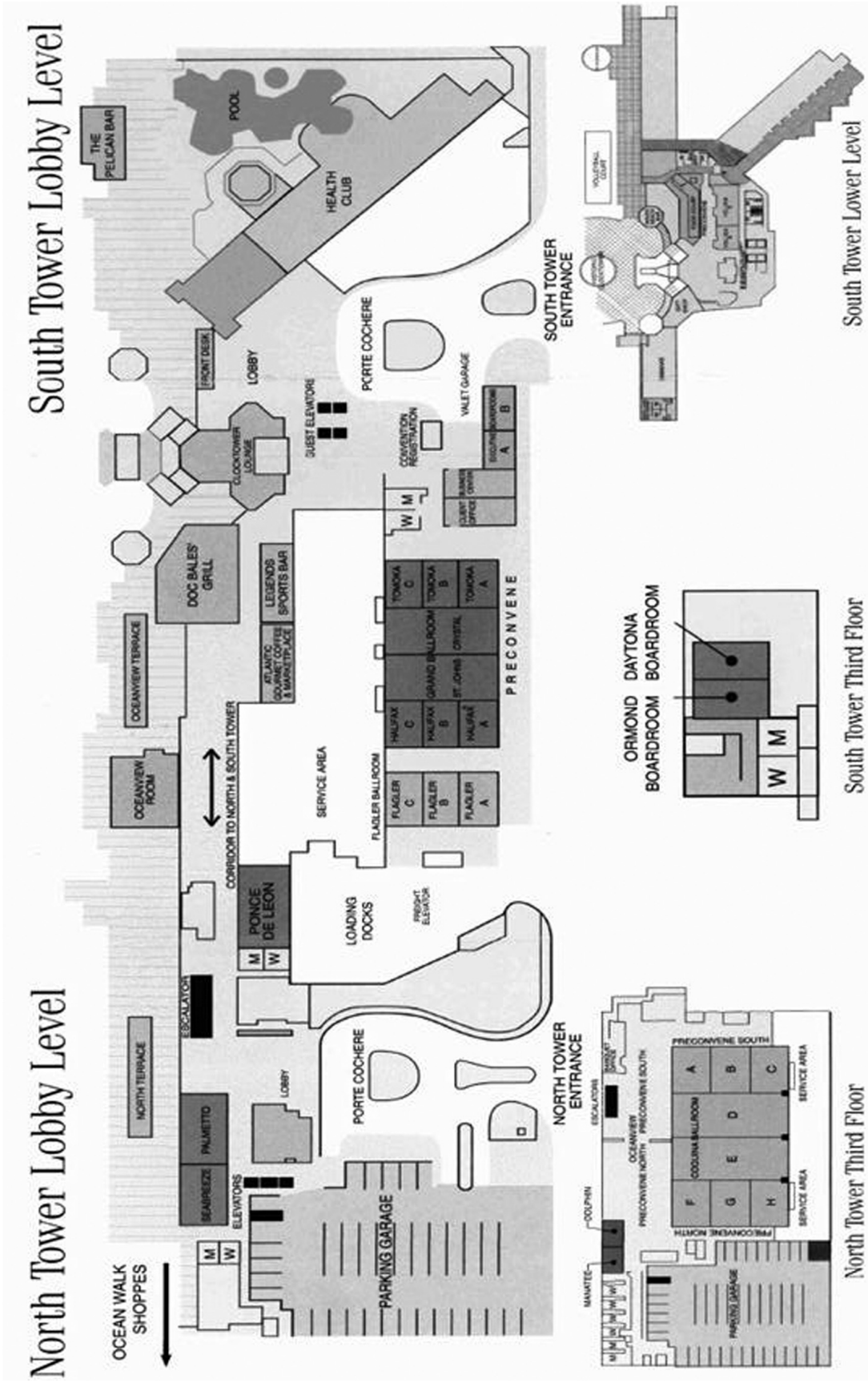
To get to the Ocean Center from the Hilton, exit the Hilton through the South Tower Lobby. Turn left on the sidewalk to the crosswalk. Proceed across the street to the Ocean Center entrance.

Hilton:
Welcome Reception
Registration
Technical Sessions
Member and Publications Center

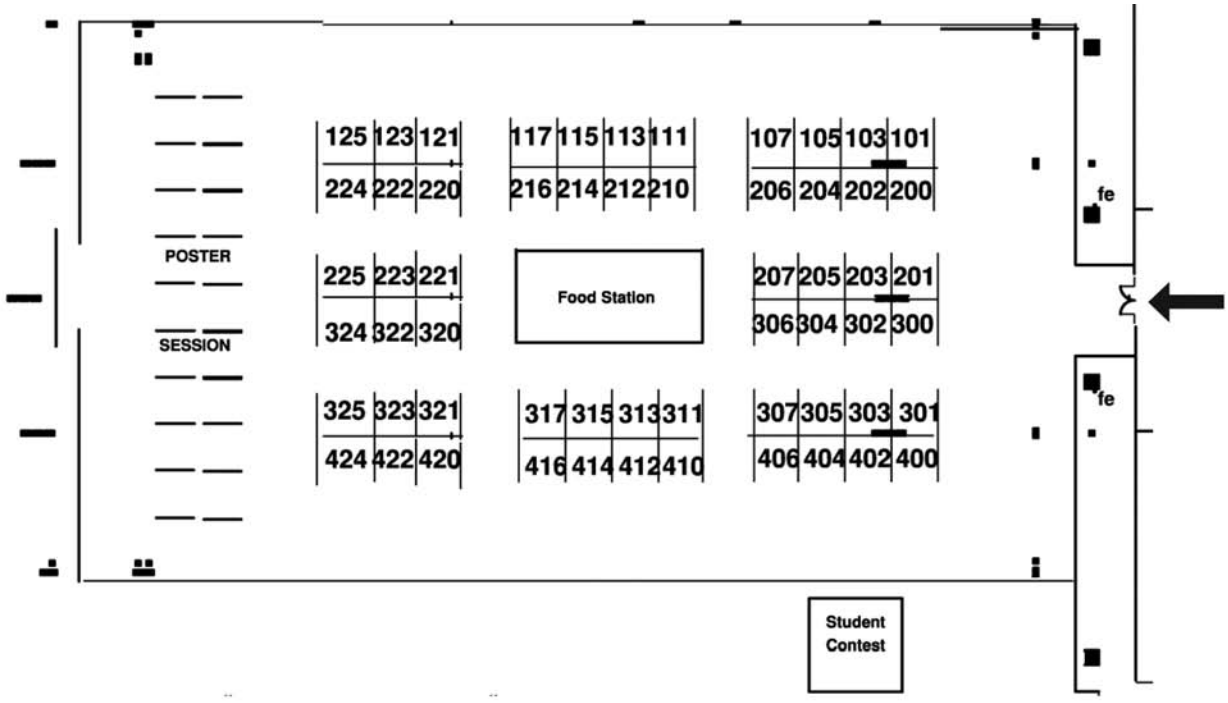
Ocean Center:
Exhibit & Reception
Poster Session

Hilton Meeting Room Floor Plan

Hilton Daytona Beach Oceanfront Resort Floor Plan



Expo Floor Plan & Booth Information



Exhibitors (as of 12/14/09)

Company	Booth#	Company	Booth#	Company	Booth#
AACCM	223	Empower Materials	204	New Lenox Machine Co. Inc.	306
American Ceramic Society	123-125	ESL ElectroScience	212	Oxy-Gon Industries, Inc.	220
Anter Corp.	300	Evans Analytical Group (Shiva Tech.)	121	PremaTech Advanced Ceramics	210
AVS, Inc.	207	fuelcell materials	101	PSC, Inc (Litzler)	225
Baikowski International	303	Gasbarre Products	302	PTX-Pentronix	302
Buhler, Inc.	321	Harper International	111	Quantachrome	324
Bullen	410	Harrop Industries	200	R.D. Webb Co.	216
Carbolite, Inc.	206	HED International	224	Riedhammer	320
Centorr Vacuum Industries Inc.	307	Heraeus Thick Film Division	117	Sonic Mill	100
CM Furnaces, Inc.	400	Hosokawa Micron Powder Systems	322	TEAM by Sacmi	320
Cyberstar	416	Linseis Inc.	315	TevTech	323
Dalian Jinma Fine Industry Ceramics Co. Ltd	301	McDanel Advanced Ceramic Technologies	311	Thermal Technology LLC	202
Deltech, Inc.	313	Microtrac	304	Thermal Wave Imaging	305
Dorst Technologies	222	Nabertherm	406	Trans-Tech Inc.	317
Dunhua Zhengxing Abrasives Co., Ltd.	205	Netzsch Fine Particle Technology LLC	201-203	Washington Mills Electro Minerals	214
Elkem Metals Inc.	325	Netzsch Instruments, Inc.	201-203	Wiley	221

Plenary Speakers

2010 James I. Mueller Award

Lecture Topic: Mechanical Reliability: Critical for Successful Application of Ceramics

9:00 AM

Dr. Hua-Tay Lin

Oak Ridge National Laboratory

USA

Dr. Hua-Tay Lin, Distinguished R&D staff member, Group Lead of Ceramic Science and Technology Group, Materials Science and Technology Division, Oak Ridge National Laboratory, is currently focusing researches on mechanical reliability of ceramic components and electronic devices, high-temperature mechanical performance of ceramics and composites, high-temperature steam effects on mechanical reliability of ceramics and environmental barrier coating systems, and engineering of microstructure and properties of ceramics and composites, and coatings. He has served as a PI on numerous programs sponsored by DOE's Office of Distributed Energy, Office of Electricity Distribution Reliability and Transmission, Office of Transportation Technologies, Office of Industrial Technologies, and Office of Power Technologies with frequent collaborations with researchers at institution in the U. S., Japan, Korea, and Europe. Dr. Lin is the pass Chair of the Engineering Ceramics Division of the American Ceramic Society. He currently serves as the Editor-in-Chief of the *International Journal of Applied Ceramic Technology*. He is a Fellow of The American Ceramic Society. Dr. Lin holds a M.S. and a Ph.D. in Materials Engineering from Auburn University, Auburn, Alabama, and a B.S. in Physics from National Central University, Taiwan.

2010 Bridge Building Award

Lecture Topic: Ceramic Matrix Composites for Lightweight Construction

9:40 AM

Prof. Walter Krenkel

University of Bayreuth, Department for Ceramic Materials Engineering

Germany

Dr. Walter Krenkel holds the chair of the department of Ceramic Materials Engineering at the University of Bayreuth, Germany, and is also in charge of the project group "Ceramic Composites" of the Fraunhofer Society in Bayreuth. He received his diploma degree in aeronautics and aerospace and his Ph.D. from the University of Stuttgart, Germany. Before joining the University of Bayreuth in 2004, he was head of the department Ceramic Composite Structures at the German Aerospace Center (DLR) in Stuttgart and head of the DLR-Center of Excellence "CMC Lightweight Structures". Professor Krenkel's main research work involves the development and qualification of novel structural ceramics for their use in lightweight structures.He holds 30 patents worldwide, is author of more than eighty papers, and has edited several books. Professor Krenkel has been a member of the Engineering Ceramics Division since 2000 and is an Associate Editor of the *International Journal of Applied Ceramic Technology*. In 2002 he was honored with the Karl Heinz Beckurts-Prize for his successful transfer of basic research to industry. He is also organizing and chairing diverse international conferences and symposia.

Plenary Speaker

Lecture Topic: Nanostructuring Approach to Explore High-Efficiency Thermoelectric Materials

10:40 AM

Prof. Kunihito Koumoto

Nagoya University

Dept. of Applied Chemistry

Japan

Professor Kunihito Koumoto is a professor in the Department of Applied Chemistry at Nagoya University. He earned his Ph.D. in the Department of Industrial Chemistry at The University of Tokyo in 1979. He has also been a professor in the Department of Molecular Design and Engineering and the Department of Applied Chemistry at Nagoya University. His research interests include materials science, solid state chemistry, thermoelectric materials, bio-inspired synthesis of inorganic materials, and nanomaterials. He most recently was awarded the MEXT Minister Award in Science and Technology (2008) and has also been recognized as the Academician of the World Academy of Ceramics (2006). In addition to his many awards, he won the Komoh Thermal Technology Promotion Award in 2006. Professor Koumoto's achievements include publishing 315 SCI Journal papers and 46 books. He currently holds 35 patents and has presented 140 invited talks at academic and technical meetings. Professor Koumoto is the former President of the International Thermoelectric Society (2003 – 2005), is active in The Ceramic Society of Japan, and is a Fellow in The American Ceramic Society.

Plenary Speaker

Lecture Topic: On the Quest of Engineering Ceramics for Very High Temperature Structural Applications

11:20 AM

Prof. Javier Llorca

Polytechnic University of Madrid and Madrid Institute for Advanced Studies of Materials (IMDEA-materials), Department of Materials Science

Spain

Professor Javier LLorca earned his Ph. D. in Materials Science at the Polytechnic University of Madrid in 1986. He was appointed Associate Professor in the Department of Materials Science in 1987 and Professor in 1995. He is currently head of the research group on "Advanced Structural Materials and Nanomaterials" at the Polytechnic University of Madrid and Director of Madrid Institute for Advanced Studies of Materials (IMDEA-Materials). His research activity has been focused in the analysis of the relationship between microstructure and mechanical properties in advanced structural materials. Professor Llorca has developed novel multiscale simulation strategies to predict the macroscopic mechanical behavior of materials from microstructural information as well as experimental characterization techniques to measure mechanical properties of materials under extreme conditions at microscopic and macroscopic levels. He has received various awards, including the Research Award from the Spanish Royal Academy of Sciences and the Gold Medal from the Spanish Structural Integrity Society. In the framework of his research activities, he has co-authored over 130 research papers in international peer-reviewed journals and has given about one hundred invited talks at national and international conferences and research centers throughout the world.

Technical Sessions By Symposium

Session Title	Day	Time	Location
S1: Mechanical Behavior and Performance of Ceramics & Composites			
Composites: Fibers, Matrices and Interfaces	Monday, January 25	1:20 - 6:00 PM	Coquina A
Processing-Microstructure-Mechanical Properties Correlations I	Tuesday, January 26	8 AM - 12 PM	Coquina A
Environmental Effects	Tuesday, January 26	1:20 - 5:20 PM	Coquina A
Fracture Mechanics, Modeling, and Testing	Wednesday, January 27	8 AM - 12 PM	Coquina A
Processing-Microstructure-Mechanical Properties Correlations II	Wednesday, January 27	1:20 - 5:20 PM	Coquina A
Ultra High-Temperature Ceramics - Processing	Thursday, January 28	8 AM - 12 PM	Coquina A
Ultra High-Temperature Ceramics - Characterization	Thursday, January 28	1:20 - 6 PM	Coquina A
Reliability and Life Prediction Methodologies	Thursday, January 28	8 - 11:20 AM	Coquina D
Joining	Thursday, January 28	1:20 - 4:10 PM	Coquina D
Tribological Properties	Thursday, January 28	4:10 - 5:50 PM	Coquina D
Non-destructive Evaluation	Friday, January 29	8 - 10:20 AM	Coquina A
S2: Advanced Ceramic Coatings for Structural, Environmental, and Functional Applications			
Environmental Barrier Coatings	Tuesday, January 26	1:20 - 6 PM	Ponce DeLeon
Thermal Barrier Coatings I	Wednesday, January 27	8 AM - 12 PM	Ponce DeLeon
Thermal Barrier Coatings II	Wednesday, January 27	1:20 - 6 PM	Ponce DeLeon
Multifunctional Coatings, Advanced Processing and Characterization	Thursday, January 28	8 AM - 12 PM	Ponce DeLeon
Coatings to Resist Wear, Erosion and Tribological Loadings	Thursday, January 28	1:20 - 5:20 PM	Ponce DeLeon
S3: 7th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology			
Electrochemical Performance	Monday, January 25	1:20 - 5:40 PM	Coquina E
Conduction in Ceramics	Tuesday, January 26	8 AM - 12 PM	Coquina E
Novel Cell and Stack Design	Tuesday, January 26	1:20 - 5:20 PM	Coquina E
Seals, Materials and Designs	Wednesday, January 27	8 AM - 12 PM	Coquina E
Interconnection and Application	Wednesday, January 27	1:20 - 5:20 PM	Coquina E
Electrode Materials and Microstructure I	Thursday, January 28	8 AM - 12 PM	Coquina E
Electrode Materials and Microstructure II	Thursday, January 28	1:20 - 4:20 PM	Coquina E

Technical Sessions By Symposium

S4: Armor Ceramics

Impact, Penetration and Material Modeling	Monday, January 25	1:20 - 6 PM	Coquina D
Boron Carbide	Tuesday, January 26	8 AM - 12 PM	Coquina D
Dynamic Material Behavior	Tuesday, January 26	1:20 - 3:20 PM	Coquina D
Silicon Carbide	Tuesday, January 26	3:20 - 5:40 PM	Coquina D
Transparent Materials	Wednesday, January 27	8 AM - 12 PM	Coquina D
NDE Applications	Wednesday, January 27	1:20 - 3 PM	Coquina D

S5: Next Generation Bioceramics

Advanced Bioceramics	Monday, January 25	1:20 - 6 PM	Coquina G
Next Generation Bioceramics	Tuesday, January 26	8 AM - 12 PM	Coquina G
Advanced Processing of Bioceramics	Tuesday, January 26	1:20 - 5:20 PM	Coquina G
Porous Bioceramics - Joint Session with S9 Porous Ceramics Symposium	Wednesday, January 27	8 AM - 12 PM	Coquina G
Nanostructured Bioceramics	Wednesday, January 27	1:20 - 5:20 PM	Coquina G

S6: International Symposium on Ceramics for Electric Energy Generation, Storage, and Distribution

Thermoelectric Materials for Energy Harvesting I	Tuesday, January 26	8 - 11:40 AM	Coquina H
Thermoelectric Materials for Energy Harvesting II	Tuesday, January 26	1:20 - 3:20 PM	Coquina H
Advanced Ceramics and Composites for Energy Applications	Tuesday, January 26	3:20 - 5 PM	Coquina H
Materials for Energy Storage	Wednesday, January 27	8 - 11:40 AM	Coquina H
Materials for Renewable Energy Applications	Wednesday, January 27	1:20 - 5:20 PM	Coquina H

S7: 4th International Symposium on Nanostructured Materials and Nanotechnology: Development and Applications

Synthesis, Functionalization, Processing and Self-Assembly of Nanoparticles	Monday, January 25	1:20 - 6 PM	Coquina C
Nanotubes, Nanorods, Nanowires and Other One-dimensional Structures	Tuesday, January 26	8 AM - 12 PM	Coquina C
Nanodevices: Fabrication and Large-scale Integration	Tuesday, January 26	1:20 - 5:20 PM	Coquina C
Nanostructured Membranes, Thin Films, Functional Coatings	Wednesday, January 27	8 AM - 12:20 PM	Coquina C
Industrial Development and Application of Nanomaterials	Wednesday, January 27	1:20 - 3:20 PM	Coquina C
Polymer Nanocomposites Technology and Nanoporous Materials	Wednesday, January 27	3:20 - 5:20 PM	Coquina C
Bio-active Nanomaterials and Nanostructured Materials for Bio-medical Applications	Thursday, January 28	8 - 10 AM	Coquina C
Nanomaterials for Photocatalysis and Solar Energy I	Thursday, January 28	10 AM - 12 PM	Coquina C
Nanomaterials for Photocatalysis and Solar Energy II	Thursday, January 28	1:20 - 3:20 PM	Coquina C
Recent Advances in New Composites and Architectures I	Thursday, January 28	3:20 - 6 PM	Coquina C
Recent Advances in New Composites and Architectures II	Friday, January 29	8 AM - 12 PM	Coquina C

Technical Sessions By Symposium

S8: 4th International Symposium on Advanced Processing and Manufacturing Technologies (APMT) for Structural and Multifunctional Materials and Systems

Global Mineral Issues and Green Manufacturing	Monday, January 25	1:20 - 6 PM	Coquina B
Novel Forming and Sintering	Tuesday, January 26	8 AM - 12 PM	Coquina B
Advanced Composite Manufacturing I	Tuesday, January 26	1:20 - 5:40 PM	Coquina B
Advanced Composite Manufacturing II	Wednesday, January 27	8 AM - 12 PM	Coquina B
Smart Processing I	Wednesday, January 27	1:20 - 5 PM	Coquina B
Smart Processing II	Thursday, January 28	8 AM - 12 PM	Coquina B
Microwave-Processing and SPS	Thursday, January 28	1:20 - 6 PM	Coquina B
Joining and Net Shape Forming	Friday, January 29	8 AM - 12:20 PM	Coquina B

S9: Porous Ceramics: Novel Developments and Applications

Processing Methods for Porous Ceramics I	Monday, January 25	1:20 - 3:20 PM	Coquina F
Processing Methods for Porous Ceramics II	Monday, January 25	3:20 - 6 PM	Coquina F
Structure and Properties of Porous Ceramics I	Tuesday, January 26	8 - 10 AM	Coquina F
Structure and Properties of Porous Ceramics II	Tuesday, January 26	10 AM - 12 PM	Coquina F
Structure and Properties of Porous Ceramics III	Tuesday, January 26	1:20 - 3:20 PM	Coquina F
Applications of Porous Ceramics I	Tuesday, January 26	3:20 - 5:40 PM	Coquina F
Applications of Porous Ceramics II	Wednesday, January 27	1:20 - 3:20 PM	Coquina F
Applications of Porous Ceramics III	Wednesday, January 27	3:20 - 5:40 PM	Coquina F

S10: Thermal Management Materials and Technologies

Thermal Management Materials and Technologies	Monday, January 25	1:20 - 5:20 PM	Coquina H

S11: Advanced Sensor Technology, Developments and Applications

Advanced Sensor Technology I	Thursday, January 28	8 AM - 12 PM	Coquina F
Advanced Sensor Technology II	Thursday, January 28	1:20 - 6 PM	Coquina F

FS1: Geopolymers and Other Inorganic Polymers

Porous Geopolymers	Monday, January 25	1:20 - 3:20 PM	Ponce DeLeon
Mechanical Properties	Monday, January 25	3:20 - 5 PM	Ponce DeLeon
Novel Applications I	Monday, January 25	5 - 5:40 PM	Ponce DeLeon
Novel Applications II	Tuesday, January 26	8 - 8:40 AM	Ponce DeLeon
Geopolymer Cements and Concretes	Tuesday, January 26	8:40 AM - 12 PM	Ponce DeLeon

FS2: Global Mineral Resources will be covered in Symposium 8

Technical Sessions By Symposium

FS3: Computational Design, Modeling, Simulation and Characterization of Ceramics and Composites

Modeling of Defects and Related Properties	Thursday, January 28	8 - 10 AM	Coquina H
Prediction of Crystal Structure, Electronic Structure and Properties	Thursday, January 28	10 AM - 12 PM	Coquina H
Molecular Dynamics Simulation and Prediction of Properties	Thursday, January 28	1:20 - 3:20 PM	Coquina H
Characterization of Interfaces/Grain Boundaries and Design of New Ceramics	Thursday, January 28	3:20 - 6 PM	Coquina H
Simulation/Characterization of Mechanical Behavior	Friday, January 29	8 - 10 AM	Coquina H
Simulation/Characterization of Deformation Mechanisms and Other Properties	Friday, January 29	10 - 11 AM	Coquina H

FS4: Nanolaminated Ternary Carbides and Nitrides (MAX Phases)

Physical and Mechanical Properties of MAX Phases	Thursday, January 28	8 AM - 12 PM	Coquina G
Processing of MAX Phases and Their Composites	Thursday, January 28	1:20 - 6 PM	Coquina G
Microstructural Characterization of MAX Phases	Friday, January 29	8 - 10 AM	Coquina G
Modeling of Thermodynamic Stability, Microstructure and Physical Properties of MAX Phases	Friday, January 29	10 - 11:40 AM	Coquina G

Symposia

2010 Program Chair: Tatsuki Ohji
National Institute of Advanced Industrial Science and Technology (AIST)

Symposium 1: Mechanical Behavior and Performance of Ceramics & Composites
Organizers: Dileep Singh, Argonne National Laboratory, USA; Monica Ferraris, Politecnico di Torino, Italy; Michael Halbig, NASA, USA; Greg Hilmas, Missouri Science & Technology Institute, Rolla, USA; Osama Jadaan, University of Wisconsin, Wisconsin-Platteville, USA; Yutai Katoh, Oak Ridge National Laboratory, Oak Ridge, USA; Jacques Lamon, University of Bordeaux, France; Edgar Lara-Curzio, Oak Ridge National Laboratory, USA; Jonathan Salem, NASA, USA; J. G. Sun, Argonne National Laboratory, USA; Z. M. Sun, National Institute of Advanced Industrial Science and Technology (AIST), Japan; James Webb, Corning Incorporated, USA; Y. C. Zhou, Chinese Academy of Sciences, Shenyang, China; Y. Zhou, Harbin Institute of Technology, Harbin, China

Symposium 2: Advanced Ceramic Coatings for Structural, Environmental, and Functional Applications
Organizers: Dongming Zhu, NASA Glenn Research Center, USA; H. T. Lin, Oak Ridge National Laboratory, USA; Uwe Schulz, German Aerospace Center, Germany; Brian Hazel, GE Aviation, Cincinnati, USA; Yutaka Kagawa, University of Tokyo, Japan; Sophoclis Patsias, Rolls-Royce plc, UK ; Irene T. Spitsberg, Kennametal Inc., USA; Dileep Singh, Argonne National Laboratory, USA; Rodney W. Trice, Purdue University, USA; Yong-Ho Sohn, University of Central Florida, USA; Ping Xiao, University of Manchester, UK; Robert Vaßen, Forschungszentrum Jülich GmbH, Germany; Jing Xu, Baker Hughes INTEQ GmbH, Germany

Symposium 3: 7th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology
Organizers: Prabhakar Singh, Connecticut Global Fuel Cell Center, University of Connecticut, USA; Narottam P. Bansal, NASA Glenn Research Center, USA; Tatsumi Ishihara, Kyushu University, Japan; Tatsuya Kawada, Tohoku University, Japan; Nguyen. Q. Minh, GE Power Systems, USA; Mogens Mogensen, Risoe National Laboratory, Denmark; Robert Steinberger-Wilckens, Forschungszentrum-Julich GmbH, Germany; Jeffrey W. Stevenson, Pacific Northwest National Lab., USA; Eric D. Wachsman, University of Florida, USA; Fatih Dogan, Missouri University of Science and Technology Rolla, USA; Masanobu Awano, National Institute of Advanced Industrial Science and Technology (AIST), Nagoya, Japan; Alexander Michaelis, Fraunhofer IKTS, Germany

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

Symposium 5: Next Generation Bioceramics
Organizers: Roger Narayan, University of North Carolina, USA; Chikara Ohtsuki, Nagoya University, Japan; Saranjit S. Bhasin, India; Suwan Jayasinghe, UK; Akiyoshi Osaka, Okayama University, Japan; Markus Reiterer, Medtronics, USA

Symposium 6: International Symposium on Ceramics for Electric Energy Generation, Storage, and Distribution
Organizers: Hua-Tay Lin, Oak Ridge National Laboratory, USA; Franziska Scheffler, Bavarian Center for Applied Energy Research, Germany; Anke Weidenkaff, EMPA, Switzerland; Tohru Sekino, Tohoku University, Japan; Kuan-Zong Fung, National Cheng Kung University, Taiwan; Kunihito Koumoto, Nagoya University, Japan; Lidong Chen, Shanghai Institute of Ceramics, China; Laifei Cheng, Northwestern Polytechnical University, China; Hai-Doo Kim, Korea Institute of Materials Science, Korea

Symposium 7: 4th International Symposium on Nanostructured Materials and Nanotechnology: Development and Applications
Organizers: Sanjay Mathur, University of Cologne, Germany; Suprakas Ray, CSIR- National Centre for Nanomaterials, South Africa; Francisco Hernandez-Ramirez, University of Barcelona, Spain; Yasuhiro Tachibana, Osaka University, Osaka, Japan; Gunnar Westin, Angstrom Laboratory, Uppsala University, Sweden; Kyoung Il Moon, KITECH, Korea; Mohammed Es-Souni, University of Applied Sciences, Germany

Symposium 8: 4th International Symposium on Advanced Processing and Manufacturing Technologies (APMT) for Structural and Multifunctional Materials and Systems
Organizers: Tatsuki Ohji, National Institute of Advanced Industrial Science and Technology (AIST), Japan; Jun Akedo, National Institute of Advanced Industrial Science and Technology (AIST), Japan; Srinivasa Rao Boddapati, Kennametal Conforma Clad, USA; Juergen G. Heinrich, Clausthal University of Technology, Germany; Byung-Koog Jang, National Institute for Materials Science (NIMS), Japan; Soshu Kirihara, Osaka University, Japan; Tomaz Kosmac, Josef Stefan Institute, Slovenia; Walter Krenkel, University of Bayreuth, Germany; Eugene Medvedovski, Umicore Indium Products, USA; Richard D. Sisson, Jr., Worcester Polytechnic Institute, USA; Houzheng Wu, Loughborough University, UK

Symposium 9: Porous Ceramics: Novel Developments and Applications
Organizers: Paolo Colombo, University of Padova, Italy; Sujanto Widjaja, CORNING Incorporated, USA; Aleksander J. Pyzik, The Dow Chemical Company, USA; Michael Scheffler, Brandenburgische Technische Universitaet Cottbus, Germany; Andreas Stein, University of Minnesota, USA; Thomas R. Watkins, Oak Ridge National Laboratory, USA; Yuji Iwamoto, Nagoya Institute of Technology, Japan

Symposium 10: Thermal Management Materials and Technologies
Organizers: Andrew L. Gyekenyesi, OAI, NASA Glenn Research Center, USA; Mrityunjay Singh, OAI, NASA Glenn Research Center, USA; Sylvia M. Johnson, NASA Ames Research Center, USA; Rajiv Asthana, University of Wisconsin-Stout, USA; Ajit K. Roy, Air Force Research Laboratory, WPAFB, USA; Walter Krenkel, University of Bayreuth, Germany; Michiko Kusunoki, Nagoya University, Japan

Symposium 11: Advanced Sensor Technology, Developments and Applications
Organizers: Linan An, University of Central Florida, USA; Ichiro Matsubara, National Institute of Advanced Industrial Science and Technology (AIST), Japan; Xun Gong, University of Central Florida, USA; Ralf Moos, University of Bayreuth, Germany; Joan R. Morante, University de Barcelona, Spain; Catalonia Institute of Energy Research, Spain; Yasuhiro Shimizu, Nagasaki University, Japan; Qingming Wang, University of Pittsburgh, USA; Yiguang Wang, Northwestern Polytechnical University, China

Focused Session 1: Geopolymers and Other Inorganic Polymers
Organizer: Waltraud M. Kriven University of Illinois at Urbana-Champaign Urbana, Illinois, USA

Focused Session 2: Global Mineral Resources for Strategic and Emerging Technologies
Organizers: Armin Reller, University of Augsburg, Germany; Takashi Goto, Tohoku University, Japan

Focused Session 3: Computational Design, Modeling, Simulation and Characterization of Ceramics and Composites
Organizers: Yanchun Zhou, Institute of Metal Research, Chinese Academy of Sciences, China; Michael J. Hoffmann, University of Karlsruhe, Germany; Wai-Yim Ching, University of Missouri-Kansas City, USA; Isao Tanaka, Kyoto University, Japan; Julian D Gale, Curtin University of Technology, Australia; Goffredo de Portu, Institute of Science and Technology for Ceramics, Italy; Omer van der Biest, Katholieke Universiteit Leuven, Belgium; Yuichi Ikuhara, University of Tokyo, Japan; Lars Hultman,Thin Film Physics Division, Sweden; Jochen Schneider, Aachen University, Germany; Jingyang Wang, Institute of Metal Research, Chinese Academy of Sciences, China

Focused Session 4: Nanolaminated Ternary Carbides and Nitrides (MAX Phases)
Organizers: Miladin Radovic, Texas A&M University, USA; Sylvain Dubois, Laboratoire de Physique des Matériaux, France ; Bikramjit Basu, Indian Institute of Technology Kanpur, India; Yanchun Zhou, Institute of Metal Research Chinese Academy of Sciences, China; Zheng Ming Sun, National Institute of Advanced Industrial Science and Technology (AIST), Japan

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Lu, K.	27-Jan	9:00AM	Coquina E	36
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Lu, Z.	26-Jan	10:40AM	Coquina E	25
Luo, J.	28-Jan	4:20PM	Coquina H	53
Luyten, J.	27-Jan	9:20AM	Coquina G	37
M				
Ma, P.X.	26-Jan	2:20PM	Coquina G	30
Magdefrau, N.	27-Jan	10:00AM	Coquina E	36
Maglica, A.	26-Jan	10:00AM	Coquina B	27
Magnant, J.	28-Jan	4:40PM	Coquina B	52
Mahapatra, M.K.	27-Jan	10:40AM	Coquina E	36
Maiorano, D.W.	26-Jan	9:00AM	Coquina D	25
Maitra, S.	27-Jan	10:40AM	Coquina H	37
Mall, S.	25-Jan	4:00PM	Coquina A	20
Mannila, M.	26-Jan	2:40PM	Coquina A	28
Marina, O.	26-Jan	8:00AM	Coquina E	25
Martinez-Crespiera, S.	28-Jan	11:20AM	Coquina B	48
Masuda, Y.	25-Jan	3:20PM	Coquina C	22
Masuda, Y.	26-Jan	5:00PM	Coquina B	32
Mathur, S.	27-Jan	2:00PM	Coquina C	41
Matsubara, I.	28-Jan	10:20AM	Coquina F	48
Matsudaira, T.	28-Jan	11:00AM	Ponce DeLeon	46
Matsunaga, A.	27-Jan	10:40AM	Coquina A	35
Matsunaga, K.	28-Jan	8:00AM	Coquina H	48
Matsunaga, T.	25-Jan	3:20PM	Coquina A	20
Matsunaga, T.	28-Jan	2:40PM	Coquina D	50
Matsuoka, M.	26-Jan	3:40PM	Coquina B	32
Matthews, S.	26-Jan	11:20AM	Coquina F	28
Mauchamp, V.	29-Jan	11:20AM	Coquina G	56
Mazaheri, M.	26-Jan	10:20AM	Coquina A	24
Mazaheri, M.	27-Jan	4:40PM	Coquina A	39
Mazeina, L.	26-Jan	4:00PM	Coquina C	31
McGee, T.D.	25-Jan	2:00PM	Coquina G	21
Mechighel, F.	29-Jan	9:20AM	Coquina H	55
Mechnich, P.	26-Jan	2:00PM	Ponce DeLeon	29
Medvedovski, E.	26-Jan	9:20AM	Coquina H	26
Medvedovski, E.	27-Jan	4:20PM	Coquina B	42
Mehta, B.R.	27-Jan	10:00AM	Coquina C	38
Meier, G.	27-Jan	8:40AM	Ponce DeLeon	35
Mera, G.	27-Jan	8:40AM	Coquina H	37
Metroke, T.	25-Jan	2:40PM	Ponce DeLeon	24
Mhlanga, S.D.	28-Jan	5:20PM	Coquina C	51
Michaelis, A.	26-Jan	1:20PM	Coquina B	32
Mikijelj, B.	26-Jan	8:40AM	Coquina A	24
Millange, F.	27-Jan	3:20PM	Coquina C	41
Miller, R.	27-Jan	1:20PM	Coquina E	39
Misra, A.	29-Jan	8:00AM	Coquina H	55
Mitchell, D.J.	28-Jan	8:00AM	Coquina F	48
Mitic, V.	27-Jan	2:40PM	Coquina B	42
Mo, Y.	28-Jan	11:20AM	Coquina G	49
Moseson, A.J.	26-Jan	10:20AM	Ponce DeLeon	28
Moseson, A.J.	26-Jan	11:00AM	Ponce DeLeon	28
Mucha, H.W.	27-Jan	10:20AM	Coquina B	38
Müller, F.	27-Jan	8:00AM	Coquina G	36
Müller, M.	26-Jan	10:40AM	Coquina B	27
Mumm, D.R.	28-Jan	10:00AM	Coquina E	46
Murata, H.	28-Jan	11:00AM	Coquina H	48
N				
Naito, M.	25-Jan	4:20PM	Coquina B	22
Nakayama, T.	27-Jan	3:40PM	Coquina B	42
Nandasiri, M.	26-Jan	11:40AM	Coquina E	25
Narayan, R.	25-Jan	4:20PM	Coquina G	22
Nawaz, Z.	26-Jan	4:40PM	Coquina D	30
Nelson, M.	28-Jan	5:00PM	Coquina F	52
Nelson, M.	28-Jan	5:20PM	Coquina F	53
Nemeth, N.N.	26-Jan	4:20PM	Coquina H	31
Nesterenko, V.	25-Jan	4:20PM	Coquina D	21
Neuman, E.W.	28-Jan	11:00AM	Coquina A	45
Neuman, E.W.	28-Jan	3:20PM	Coquina A	49
Nguyen, L.	28-Jan	3:40PM	Coquina D	50
Nielsen, K.A.	26-Jan	4:40PM	Coquina A	29
Nikoobakht, B.	26-Jan	1:20PM	Coquina C	31
Nishibori, M.	28-Jan	10:00AM	Coquina F	48
Nonaka, Y.	28-Jan	1:40PM	Coquina D	50
O				
Obando, N.H.	28-Jan	10:40AM	Coquina G	49
Oelgardt, C.	28-Jan	10:20AM	Coquina B	47
Oh, Y.	27-Jan	10:00AM	Coquina H	37
Oh, Y.	28-Jan	8:00AM	Coquina B	47
Ohtaki, M.	26-Jan	8:40AM	Coquina H	26
Olevsky, E.	28-Jan	2:20PM	Coquina B	52
Oner, M.	28-Jan	5:40PM	Coquina C	52
Opila, E.	27-Jan	3:20PM	Coquina E	40
Ortona, A.	26-Jan	2:40PM	Coquina F	32
Osaka, A.	26-Jan	2:00PM	Coquina G	30
Ozawa, K.	25-Jan	5:00PM	Coquina A	20
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Parakkulam Ramaswamy, A.	25-Jan	5:00PM	Coquina F	23
Parcianello, G.	27-Jan	11:00AM	Coquina B	38
Park, D.	26-Jan	1:20PM	Coquina H	31
Park, J.	27-Jan	2:00PM	Coquina B	42
Park, S.	28-Jan	11:40AM	Coquina G	49
Park, Y.	26-Jan	4:20PM	Coquina F	32
Pasaogullari, U.	26-Jan	2:40PM	Coquina E	29
Pascucci, M.R.	27-Jan	11:40AM	Coquina D	36
Pastor, J.Y.	26-Jan	4:40PM	Coquina F	33
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Pastor, J.Y.	28-Jan	5:40PM	Coquina A	50
Paul, A.	25-Jan	2:40PM	Coquina H	23
Pazik, R.	28-Jan	8:00AM	Coquina C	47
Pham, N.T.	26-Jan	9:20AM	Ponce DeLeon	28
Plucknett, K.P.	26-Jan	9:00AM	Coquina F	27
Plucknett, K.P.	27-Jan	10:40AM	Coquina B	38
Pogrebnjak, A.D.	27-Jan	10:40AM	Coquina C	38
Popovska, N.	26-Jan	8:40AM	Coquina F	27
Portune, A.	27-Jan	2:40PM	Coquina D	40
Pramanick, A.	27-Jan	11:00AM	Coquina E	36
Pratsinis, S.E.	25-Jan	1:20PM	Coquina C	22
Prette, A.L.	27-Jan	11:20AM	Coquina E	36
Prud'homme, E.	26-Jan	5:00PM	Coquina F	33
Puyoo, G.	25-Jan	2:00PM	Coquina A	20
Q				
Qian, P.	29-Jan	10:20AM	Coquina H	55
Qin, J.	29-Jan	8:40AM	Coquina C	54
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R				
Radovic, M.	27-Jan	4:40PM	Coquina B	42
Radovic, M.	28-Jan	11:00AM	Coquina B	48
Radovic, M.	28-Jan	5:00PM	Coquina G	54
Radovic, M.	28-Jan	5:20PM	Coquina G	54
Ragan, M.E.	26-Jan	11:20AM	Coquina H	26
Ramesh, K.	25-Jan	4:00PM	Coquina D	21
Ramrakhiani, M.	28-Jan	11:40AM	Coquina C	47
Randall, N.	27-Jan	8:40AM	Coquina A	35
Rangaraj, L.	28-Jan	8:40AM	Coquina A	45
Reller, A.	25-Jan	1:20PM	Coquina B	22
Renfor, M.	28-Jan	5:40PM	Coquina F	53
Riedel, R.	26-Jan	3:20PM	Coquina C	31
Ritt, P.	26-Jan	2:20PM	Coquina H	31
Rosei, F.	29-Jan	10:00AM	Coquina C	54
Roth, M.G.	29-Jan	8:00AM	Coquina B	55
Roy, A.	25-Jan	5:00PM	Coquina H	24
Rubat du Merac, M.	27-Jan	8:40AM	Coquina D	36
Ruehle, M.	27-Jan	8:00AM	Coquina A	35
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Ruggles-Wrenn, M.	26-Jan	1:20PM	Coquina A	28
Ruggles-Wrenn, M.	26-Jan	2:20PM	Coquina A	28
Rulis, P.	28-Jan	3:20PM	Coquina H	53
S				
Sagoe-Crentsil, K.	25-Jan	1:20PM	Ponce DeLeon	24
Saito, T.	27-Jan	9:20AM	Coquina C	37
Salem, J.	26-Jan	4:40PM	Ponce DeLeon	29
Sampath, S.	27-Jan	8:00AM	Ponce DeLeon	35
Samvedi, V.	28-Jan	4:00PM	Coquina H	53
Sandanayaka, S.A.	27-Jan	4:20PM	Coquina C	41
Santra, S.	27-Jan	2:20PM	Coquina G	40
Sara, Y.	26-Jan	4:20PM	Coquina B	32
Sarin, P.	27-Jan	10:40AM	Coquina G	37
Sawa, K.	27-Jan	11:00AM	Coquina A	35
Schaedler, T.A.	27-Jan	2:20PM	Ponce DeLeon	39
Scheffler, F.	26-Jan	2:00PM	Coquina F	32
Scheffler, F.A.	27-Jan	2:00PM	Coquina H	41
Schneider, J.J.	26-Jan	2:00PM	Coquina C	31
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Sciti, D.	28-Jan	1:20PM	Coquina A	49
Seabaugh, M.M.	26-Jan	2:00PM	Coquina E	29
Seifert, H.J.	28-Jan	2:00PM	Coquina H	53
Sekino, T.	27-Jan	1:20PM	Coquina H	41
Sekino, T.	28-Jan	2:00PM	Coquina C	51
Serizawa, H.	26-Jan	5:20PM	Coquina B	32
Sglavo, V.M.	28-Jan	8:40AM	Coquina D	45
Shanti, N.O.	26-Jan	4:20PM	Coquina E	29
Shen, H.	26-Jan	10:40AM	Coquina C	27
Shen, Z.	27-Jan	8:40AM	Coquina G	37
Shen, Z.	28-Jan	1:20PM	Coquina B	52
Sherman, D.	26-Jan	1:20PM	Coquina D	30
Shinoda, K.	28-Jan	10:00AM	Ponce DeLeon	46
Shinoda, Y.	26-Jan	11:40AM	Coquina D	25
Shinoda, Y.	27-Jan	3:20PM	Coquina A	39
Shockey, D.A.	25-Jan	5:00PM	Coquina D	21
Sikhwivhilu, L.M.	28-Jan	4:00PM	Coquina C	51
Silvestroni, L.	28-Jan	2:00PM	Coquina A	49
Singh, D.J.	26-Jan	10:00AM	Coquina H	26
Singh, S.	28-Jan	3:20PM	Coquina D	50
Sisson, R.D.	25-Jan	2:00PM	Coquina F	23
Sjostrom, S.	27-Jan	10:40AM	Ponce DeLeon	35
Slusark, D.M.	27-Jan	2:20PM	Coquina D	40
Smeacetto, F.	27-Jan	8:40AM	Coquina E	36
Smith, C.	25-Jan	4:00PM	Coquina H	23
Smovzh, D.V.	26-Jan	5:00PM	Coquina C	32
Sohn, S.	26-Jan	11:00AM	Coquina B	27
Solterbeck, C.	27-Jan	8:40AM	Coquina C	37
Son, J.	26-Jan	2:20PM	Coquina E	29
Song, G.	28-Jan	9:20AM	Coquina G	49
Soraru, G.	25-Jan	2:40PM	Coquina F	23
Srinivasan, R.	26-Jan	4:40PM	Coquina H	31
Steckenrider, S.	27-Jan	1:20PM	Coquina D	40
Stein, A.	25-Jan	3:20PM	Coquina F	23
Steinbrech, R.W.	27-Jan	1:20PM	Coquina A	38
Steunou, N.	26-Jan	4:00PM	Coquina G	30
Stevenson, J.	27-Jan	2:40PM	Coquina E	39
Stiglich, J.	28-Jan	2:40PM	Ponce DeLeon	50
Stoetzel, C.	27-Jan	4:00PM	Coquina G	40
Strack, E.	25-Jan	2:40PM	Coquina D	21
Strassburger, E.	27-Jan	10:00AM	Coquina D	36
Sturzenegger, P.N.	26-Jan	2:20PM	Coquina F	32
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Subramaniyan, A.	27-Jan	2:40PM	Coquina H	41
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Suedmeyer, I.J.	28-Jan	3:00PM	Coquina D	50
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Suh, M.	27-Jan	11:20AM	Coquina A	35
Suh, M.	28-Jan	5:30PM	Coquina D	50
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Sun, J.	27-Jan	4:40PM	Ponce DeLeon	39
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Suri, A.K.	26-Jan	4:40PM	Coquina E	29
Sutorik, A.C.	27-Jan	9:00AM	Coquina D	36
Suwa, M.	29-Jan	11:20AM	Coquina B	55
Suzuki, T.	25-Jan	1:20PM	Coquina E	20
Sylvie, R.	25-Jan	2:00PM	Ponce DeLeon	24
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Tachibana, Y.	28-Jan	10:40AM	Coquina C	47
Tahmasebi-Birgani, Z.	27-Jan	4:40PM	Coquina G	40
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Tan, Y.	28-Jan	10:20AM	Ponce DeLeon	46
Tanaka, S.	28-Jan	9:00AM	Coquina D	45
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Tomeckova, V.	27-Jan	5:00PM	Coquina F	42
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Tse, S.D.	28-Jan	4:40PM	Coquina C	51
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U				
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V				
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Van der Biest, O.	28-Jan	2:00PM	Coquina B	52
Van Gestel, T.	27-Jan	3:20PM	Coquina F	42
van Riessen, A.	25-Jan	5:00PM	Ponce DeLeon	24
van Rooyen, I.J.	27-Jan	10:00AM	Coquina A	35
Vasudevamurthy, G.	28-Jan	10:40AM	Ponce DeLeon	46
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Vignoles, G.L.	27-Jan	5:00PM	Coquina A	39
Vignoles, G.L.	28-Jan	10:40AM	Coquina D	45
Vignoles, G.L.	29-Jan	9:40AM	Coquina A	54
Vito, N.	28-Jan	11:20AM	Coquina E	46
Vogt, C.	28-Jan	9:20AM	Coquina C	47
von Hagen, R.	26-Jan	4:20PM	Coquina C	31
W				
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Wang, J.	28-Jan	5:20PM	Coquina H	53
Wang, J.	29-Jan	11:00AM	Coquina G	56
Wang, L.	28-Jan	10:00AM	Coquina H	48
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Wang, Q.	28-Jan	1:40PM	Coquina F	52
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White, M.	26-Jan	3:40PM	Coquina G	30
Wicks, G.	26-Jan	1:20PM	Coquina F	32
Wiederhorn, S.	27-Jan	11:00AM	Coquina G	37
Wilkes, J.	29-Jan	9:00AM	Coquina B	55
Winfree, W.P.	29-Jan	8:00AM	Coquina A	54
Wippler, J.B.	29-Jan	8:40AM	Coquina H	55
Woiton, M.	27-Jan	4:20PM	Coquina F	42
Woo, L.Y.	28-Jan	10:40AM	Coquina F	48
Wordenweber, R.	27-Jan	9:00AM	Coquina C	37
Wray, P.	25-Jan	2:40PM	Coquina B	22
Wu, H.	27-Jan	9:20AM	Coquina B	38
Wu, K.	26-Jan	3:20PM	Coquina H	31
Wu, S.	27-Jan	8:00AM	Coquina H	37
X				
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Xiao, P.	27-Jan	2:40PM	Ponce DeLeon	39
Xie, R.	27-Jan	3:20PM	Coquina H	41
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Xu, J.	28-Jan	4:00PM	Ponce DeLeon	50
Xu, Z.	28-Jan	10:40AM	Coquina E	46
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Yamaguchi, T.	25-Jan	4:00PM	Coquina E	21
Yasuoka, M.	28-Jan	4:00PM	Coquina B	52
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Zhang, C.	26-Jan	3:20PM	Coquina A	28
Zhang, G.	28-Jan	8:00AM	Coquina A	45
Zhang, J.	26-Jan	11:20AM	Coquina E	25
Zhang, Z.	28-Jan	5:20PM	Coquina B	52
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Zhou, Y.	26-Jan	8:00AM	Coquina A	24
Zhou, Y.	26-Jan	10:20AM	Coquina B	27
Zhou, Y.	28-Jan	10:20AM	Coquina A	45
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Zhu, J.	26-Jan	2:40PM	Coquina H	31
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Zimmermann, J.	26-Jan	10:00AM	Coquina A	24
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Zok, F.	25-Jan	1:20PM	Coquina D	21
Zollfrank, C.	26-Jan	4:20PM	Coquina G	30
Zuber, C.	29-Jan	11:00AM	Coquina B	55

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Çakir, E.	26-Jan	5:00PM	Exhibit Hall	34
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Ellingson, W.A.	26-Jan	5:00PM	Exhibit Hall	33
Emami, M.	27-Jan	5:00PM	Exhibit Hall	43
Es-Souni, M.	27-Jan	5:00PM	Exhibit Hall	44
Evans, B.	26-Jan	5:00PM	Exhibit Hall	34
Ferraris, M.	27-Jan	5:00PM	Exhibit Hall	43
Fountzoulas, C.G.	26-Jan	5:00PM	Exhibit Hall	33
Fujihara, T.	26-Jan	5:00PM	Exhibit Hall	33
Fung, K.	26-Jan	5:00PM	Exhibit Hall	33
Gokcekaya, O.	27-Jan	5:00PM	Exhibit Hall	43
Good, B.S.	27-Jan	5:00PM	Exhibit Hall	45
Gorsich, T.	26-Jan	5:00PM	Exhibit Hall	33
Green, W.H.	26-Jan	5:00PM	Exhibit Hall	33
Hayashi, K.	27-Jan	5:00PM	Exhibit Hall	44
Imaki, K.	26-Jan	5:00PM	Exhibit Hall	34
Jadoun, R.S.	26-Jan	5:00PM	Exhibit Hall	34
Jang, B.	26-Jan	5:00PM	Exhibit Hall	34
Janku, R.	26-Jan	5:00PM	Exhibit Hall	35
Jiang, W.	27-Jan	5:00PM	Exhibit Hall	45
Karakuscu, A.	27-Jan	5:00PM	Exhibit Hall	44
Karandikar, P.	26-Jan	5:00PM	Exhibit Hall	33
Kell, J.W.	27-Jan	5:00PM	Exhibit Hall	43
Khandaker, M.K.	27-Jan	5:00PM	Exhibit Hall	43
Khongwong, W.	27-Jan	5:00PM	Exhibit Hall	44
Kim, G.	26-Jan	5:00PM	Exhibit Hall	34
Kim, I.	26-Jan	5:00PM	Exhibit Hall	33
Kim, T.	27-Jan	5:00PM	Exhibit Hall	43
Kim, Y.	27-Jan	5:00PM	Exhibit Hall	44
Kisailus, D.	27-Jan	5:00PM	Exhibit Hall	45
Kohl, Y.	27-Jan	5:00PM	Exhibit Hall	44
Koo, H.	27-Jan	5:00PM	Exhibit Hall	44
Kraft, R.	26-Jan	5:00PM	Exhibit Hall	33
Kugimiya, K.	26-Jan	5:00PM	Exhibit Hall	34
Kumar, A.	26-Jan	5:00PM	Exhibit Hall	34
Kusunoki, M.	26-Jan	5:00PM	Exhibit Hall	34
LaSalvia, J.	26-Jan	5:00PM	Exhibit Hall	33
Lau, S.H.	26-Jan	5:00PM	Exhibit Hall	34
Lee, D.	27-Jan	5:00PM	Exhibit Hall	44
Lee, H.	27-Jan	5:00PM	Exhibit Hall	43
Lee, S.	27-Jan	5:00PM	Exhibit Hall	45
Lee, W.	26-Jan	5:00PM	Exhibit Hall	34
Levchenko, A.	26-Jan	5:00PM	Exhibit Hall	33
Liu, B.	27-Jan	5:00PM	Exhibit Hall	45
Lombardi, M.	26-Jan	5:00PM	Exhibit Hall	34
Lowry, D.	26-Jan	5:00PM	Exhibit Hall	34
Mathur, S.	27-Jan	5:00PM	Exhibit Hall	44
Meitzler, T.J.	26-Jan	5:00PM	Exhibit Hall	33
Mercurio, S.R.	26-Jan	5:00PM	Exhibit Hall	33
Metroke, T.	26-Jan	5:00PM	Exhibit Hall	35
Mikalsen, E.	27-Jan	5:00PM	Exhibit Hall	43
Miller, S.	26-Jan	5:00PM	Exhibit Hall	33
Mimura, K.	27-Jan	5:00PM	Exhibit Hall	44
Mitic, V.	26-Jan	5:00PM	Exhibit Hall	34
Moawad, H.M.	26-Jan	5:00PM	Exhibit Hall	33
Mohan, P.	27-Jan	5:00PM	Exhibit Hall	43
Moon, K.	27-Jan	5:00PM	Exhibit Hall	44
Muller, A.M.	26-Jan	5:00PM	Exhibit Hall	33
Negishi, H.	27-Jan	5:00PM	Exhibit Hall	43
Nielsen, K.A.	27-Jan	5:00PM	Exhibit Hall	43
Ojard, G.	27-Jan	5:00PM	Exhibit Hall	43
Park, J.	27-Jan	5:00PM	Exhibit Hall	43
Pastor, J.Y.	27-Jan	5:00PM	Exhibit Hall	43
Patil, S.B.	27-Jan	5:00PM	Exhibit Hall	44
Pikalova, E.	27-Jan	5:00PM	Exhibit Hall	44
Plucknett, K.P.	26-Jan	5:00PM	Exhibit Hall	34
Pogrebnjak, A.D.	27-Jan	5:00PM	Exhibit Hall	44
Ribeiro da Silva, C.E.	27-Jan	5:00PM	Exhibit Hall	43
Rill, E.	26-Jan	5:00PM	Exhibit Hall	34
Ruegamer, T.	27-Jan	5:00PM	Exhibit Hall	44
Sakamoto, W.	26-Jan	5:00PM	Exhibit Hall	34
Salamone, S.	27-Jan	5:00PM	Exhibit Hall	43
Salinas, A.J.	26-Jan	5:00PM	Exhibit Hall	33
Schmidt, K.	26-Jan	5:00PM	Exhibit Hall	33
Sciti, D.	27-Jan	5:00PM	Exhibit Hall	43
Seeber, B.S.	26-Jan	5:00PM	Exhibit Hall	34
Sekino, T.	26-Jan	5:00PM	Exhibit Hall	33
Shanholtz, E.R.	26-Jan	5:00PM	Exhibit Hall	33
Shimizu, S.	27-Jan	5:00PM	Exhibit Hall	43
Shinoda, Y.	27-Jan	5:00PM	Exhibit Hall	43
Shirahata, J.	26-Jan	5:00PM	Exhibit Hall	34
Shirai, T.	26-Jan	5:00PM	Exhibit Hall	34
Singh, A.P.	26-Jan	5:00PM	Exhibit Hall	34
Singh, K.L.	26-Jan	5:00PM	Exhibit Hall	34
Singh, N.	26-Jan	5:00PM	Exhibit Hall	34
Smeacetto, F.	27-Jan	5:00PM	Exhibit Hall	43
Srinivasan, R.	27-Jan	5:00PM	Exhibit Hall	43
Subrt, J.	27-Jan	5:00PM	Exhibit Hall	44
Sundberg, M.	27-Jan	5:00PM	Exhibit Hall	43
Suri, A.K.	26-Jan	5:00PM	Exhibit Hall	34
Suzuki, Y.	26-Jan	5:00PM	Exhibit Hall	34
Swab, J.J.	26-Jan	5:00PM	Exhibit Hall	33
Tabarino, C.	26-Jan	5:00PM	Exhibit Hall	33
Tatami, J.	27-Jan	5:00PM	Exhibit Hall	43
Thune, E.	27-Jan	5:00PM	Exhibit Hall	44
Tian, W.	26-Jan	5:00PM	Exhibit Hall	34
Tribout, C.M.	27-Jan	5:00PM	Exhibit Hall	43
Tu, C.	27-Jan	5:00PM	Exhibit Hall	43
Umar Usman, M.A.	27-Jan	5:00PM	Exhibit Hall	44
Umeda, J.	27-Jan	5:00PM	Exhibit Hall	44
Wadams, R.C.	26-Jan	5:00PM	Exhibit Hall	33
Wakihara, T.	26-Jan	5:00PM	Exhibit Hall	34
Wang, J.	26-Jan	5:00PM	Exhibit Hall	33
Weiss, C.A.	27-Jan	5:00PM	Exhibit Hall	43
Wereszczak, A.	26-Jan	5:00PM	Exhibit Hall	33
Yamamoto, Y.	26-Jan	5:00PM	Exhibit Hall	34
Yeckley, R.	26-Jan	5:00PM	Exhibit Hall	33
Yoo, J.	27-Jan	5:00PM	Exhibit Hall	44
Yoshida, K.	26-Jan	5:00PM	Exhibit Hall	34
Zhang, S.C.	26-Jan	5:00PM	Exhibit Hall	34
Zhu, D.	27-Jan	5:00PM	Exhibit Hall	43
Zhu, J.	27-Jan	5:00PM	Exhibit Hall	43
Zhuravleva, T.	27-Jan	5:00PM	Exhibit Hall	44

Monday, January 25, 2010

Plenary Session

Room: Coquina D/E

Session Chairs: Tatsuki Ohji, National Institute of Advanced Industrial Science & Technology; Jonathan Salem, NASA Glenn Research Center

8:30 AM

Opening Remarks

9:00 AM

(ICACC-PL-001-2010) Mechanical Reliability: Critical for Successful Application of Ceramics (Invited)
H. Lin*, Oak Ridge National Laboratory, USA

9:40 AM

(ICACC-PL-002-2010) Ceramic Matrix Composites for Lightweight Construction (Invited)
W. Krenkel*, Universitat Bayreuth, Germany

10:20 AM

Break

10:40 AM

(ICACC-PL-003-2010) On the Quest of Engineering Ceramics for Very High Temperature Structural Applications (Invited)
J. LLorca*, Polytechnic University of Madrid, Spain

11:20 AM

(ICACC-PL-004-2010) Nanostructuring Approach to Explore High-Efficiency Thermoelectric Materials (Invited)
K. Koumoto*, Nagoya University, Japan

S1: Mechanical Behavior and Performance of Ceramics & Composites

Composites: Fibers, Matrices and Interfaces

Room: Coquina A

Session Chairs: Greg Morscher, University of Akron; Shankar Mall, Air Force Institute of Technology

1:20 PM

(ICACC-S1-001-2010) The Properties and Life Limits of Future Fibrous Ceramic Composite (Invited)
R. Kerans*, Air Force Research Laboratory, USA

2:00 PM

(ICACC-S1-002-2010) Microstructure and thermodynamic descriptions of SiC-based ceramic fibers
G. Puyoo*, G. Chollon, R. Pailler, F. Teyssandier, LCTS, France

2:20 PM

(ICACC-S1-003-2010) Oxide Fiber Coatings for SiC/SiC Composites
E. E. Boakye*, P. Mogilevsky, M. K. Cinibulk, R. S. Hay, UES Inc., USA

2:40 PM

(ICACC-S1-004-2010) Strength of SiC Fibers after Passive and Active Oxidation
R. Hay*, G. Fair, AFRL, USA; R. Bouffioux, New Mexico Tech., USA; E. Urban, Appalachian State University, USA; J. Morrow, University of Cincinnati, USA

3:00 PM

Break

3:20 PM

(ICACC-S1-005-2010) Stress-temperature-lifetime response of SA-Tyrannohex in air
T. Matsunaga*, H. Lin, Oak Ridge National Laboratory, USA; T. Ishikawa, S. Kajii, K. Matsunaga, Ube Industries, Ltd., Japan; M. Singh, Ohio Aerospace Institute, USA

3:40 PM

(ICACC-S1-006-2010) Multiple cracking in transverse tows in woven CMCs: virtual testing
J. L. Lamon*, P. Pineau, CNRS, France

4:00 PM

(ICACC-S1-007-2010) Fatigue Behavior of An Oxide/Oxide CMC under Combustion Environment
S. Mall*, A. R. Nye, Air Force Institute of Technology, USA

4:20 PM

(ICACC-S1-008-2010) Foreign Object Damage in N720/Alumina Oxide/Oxide Ceramic Matrix Composite
D. J. Alexander*, D. Faucett, S. R. Choi, Naval Air Systems Command, USA

4:40 PM

(ICACC-S1-009-2010) Static Contact Damage in N720/Alumina Oxide/Oxide Ceramic Matrix Composite with Reference to Foreign Object Damage
D. Faucett*, D. J. Alexander, S. R. Choi, Naval Air Systems Command, USA

5:00 PM

(ICACC-S1-010-2010) Comparative Study on Tensile Properties of Uni-Directional Single-Tow SiC-Matrix Composites Reinforced with Various Near-Stoichiometric SiC fibers
K. Ozawa*, Y. Katoh, E. Lara-Curzio, L. L. Snead, Oak Ridge National Laboratory, USA; T. Nozawa, Japan Atomic Energy Agency, Japan; A. Szweda, Dow Corning Corporation, USA

5:20 PM

(ICACC-S1-011-2010) Effect of temperature induced matrix changes on the mechanical behavior of C/C composites
L. Gaab*, D. Koch, G. Grathwohl, University of Bremen, Germany

S3: 7th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Electrochemical Performance

Room: Coquina E

Session Chairs: Prabhakar Singh, Connecticut Global Fuel Center; Narottam Bansal, NASA Glenn Research Center

1:20 PM

(ICACC-S3-001-2010) Use of Hydrocarbon Fuel for Micro Tubular SOFCs (Invited)
T. Suzuki*, Z. Hasan, T. Yamaguchi, Y. Fujishiro, M. Awano, National Institute of Advanced Industrial Science and Technology, Japan; N. Sammes, Colorado School of Mine, USA; Y. Funahashi, Fine Ceramic Research Association, Japan

2:00 PM

(ICACC-S3-002-2010) Advanced Cell Development and Liquid Tin Anode Characterization for Direct Fuel Conversion
M. Koslowske*, T. Tao, L. Bateman, M. Slaney, CellTech Power, LLC, USA; S. Rayman, R. White, University of South Carolina, USA

2:20 PM

(ICACC-S3-003-2010) Nanosized precursor-coated anode functional layer for high performance solid oxide fuel cells operating below 600°C
K. Lee*, H. Yoon, J. Ahn, M. A. Camaratta, N. A. Sexson, E. D. Klump, E. D. Wachsman, University of Florida, USA

2:40 PM

(ICACC-S3-004-2010) Influence of operational parameters in LSCF and LSF cathodes degradation
A. Arregui*, L. Rodriguez-Martinez, IKERLAN S.Coop, Spain; S. Modena, M. Bertoldi, SOFCPOWER S.r.l., Italy; J. van Herle, EPFL, Switzerland; V. Sglavo, University of Trento, Italy

3:00 PM

Break

3:20 PM

(ICACC-S3-005-2010) Long Term Stability of Solid Oxide Electrolysis Cells (Invited)
S. Elangovan*, J. Hartvigsen, F. Zhao, I. Bay, D. Larsen, Ceramatec, Inc., USA

4:00 PM

(ICACC-S3-006-2010) Fabrication and Evaluation of Cathode-Supported Honeycomb SOFC Stack
T. Yamaguchi*, National Institution of Advanced Industrial Science and Technology, Japan; S. Shimizu, FCRA, Japan; T. Suzuki, Y. Fujishiro, M. Awano, National Institution of Advanced Industrial Science and Technology, Japan

4:20 PM

(ICACC-S3-007-2010) Longevity of Metal-Supported SOFCs
M. C. Tucker*, G. Y. Lau, L. C. DeJonghe, LBNL, USA

4:40 PM

(ICACC-S3-008-2010) CFD Analysis of Anode-supported Solid Oxide Fuel Cells with Heterogeneous electrode Properties
J. Shi, X. Xue*, University of South Carolina, USA

5:00 PM

(ICACC-S3-009-2010) Durability Improvement of Segmented-in-series Cell Stacks for small scale SOFCs
T. Ito*, Y. Matsuzaki, Tokyo Gas Co., Ltd., Japan; S. Yamashita, Kyocera Corporation, Japan

5:20 PM

(ICACC-S3-010-2010) A study of the LSM cathode contact strength with (Mn,Co)3O4 spinel coated surface
Y. Chou*, Pacific Northwest National Laboratory, USA; C. A. Ellefson, Washington State University, USA; R. T. Williams, Columbia Basic College, USA; J. Choi, J. W. Stevenson, Pacific Northwest National Laboratory, USA

S4: Armor Ceramics

Impact, Penetration and Material Modeling

Room: Coquina D

Session Chair: Jeffrey Swab, US Army Research Lab

1:20 PM

(ICACC-S4-001-2010) Penetration Resistance of Armor Ceramics (Invited)
F. Zok*, University of California, USA

2:00 PM

(ICACC-S4-002-2010) Computational Modeling of Brittle Materials (Invited)
T. Holmquist*, G. Johnson, S. Beissel, C. Gerlach, Southwest Research Institute, USA

2:40 PM

(ICACC-S4-003-2010) An Update on the Spatially Variable Kayenta Model
E. Strack*, Sandia National Laboratories, USA; R. M. Brannon, University of Utah, USA; R. P. Jensen, Sandia National Laboratories, USA

3:00 PM

Break

3:20 PM

(ICACC-S4-004-2010) Stochastic computational models of uniaxial compressive strength variability in ceramics with randomly occurring flaws
C. Zingale*, L. Graham-Brady, K. T. Ramesh, Johns Hopkins University, USA

3:40 PM

(ICACC-S4-005-2010) Computational Estimate of the Variability of the Failure Strength in Ceramics Containing Pre-existing Defects
N. P. Daphalapurkar*, K. T. Ramesh, L. Graham-Brady, The Johns Hopkins University, USA; J. Molinari, Ecole Polytechnique Federale de Lausanne, Switzerland

4:00 PM

(ICACC-S4-006-2010) Modeling the confined failure of brittle materials with interacting micro-cracks
G. Hu, K. Ramesh*, Johns Hopkins Uni., USA; B. Paliwal, Sandia National Laboratory, USA; J. Kimberley, Johns Hopkins Uni., USA

4:20 PM

(ICACC-S4-044-2010) Shock and high strain, high strain rate shear deformation of particulate materials (Invited)
V. Nesterenko*, University of California - San Diego, USA

5:00 PM

(ICACC-S4-007-2010) The Damage Mechanism Route to Better Armor Materials
D. A. Shockey*, J. W. Simons, D. R. Curran, SRI international, USA

5:20 PM

(ICACC-S4-008-2010) Ballistic Impact Damage Observations in a Pressureless-Sintered Silicon Carbide
J. LaSalvia*, H. T. Miller, J. R. Houskamp, B. Leavy, U.S. Army Research Laboratory, USA

5:40 PM

(ICACC-S4-009-2010) Ballistic Property Testing and Damage Characterization of Metal-Ceramic Interpenetrating Composites for Light Armour Applications
H. Chang*, J. Binner, R. Higginson, Loughborough University, United Kingdom

S5: Next Generation Bioceramics

Advanced Bioceramics

Room: Coquina G

Session Chairs: Roger Narayan, University of North Carolina; Thomas McGee, Iowa State University

1:20 PM

(ICACC-S5-001-2010) Ceramic Biosensors for Breathanalysis Diagnostics (Invited)
P. Gouma*, SUNY at Stony Brook, USA

2:00 PM

(ICACC-S5-002-2010) Requirements for Load-Bearing, Biologicaly Active Orthopedic Implants (Invited)
T. D. McGee*, Iowa State University, USA

2:40 PM

(ICACC-S5-003-2010) Advanced alumina-zirconia composites for orthopaedic applications : state of the art and current trends (Invited)
J. Chevalier*, INSA-lyon, France

3:00 PM

Break

3:20 PM

(ICACC-S5-004-2010) Calcium-aluminate Based Dental Luting Cement with Improved Sealing Properties (Invited)
L. A. Hermansson*, J. Lööf, A. Faris, Doxa AB, Sweden; G. Gómez-Ortega, R&D, Sweden

3:40 PM

(ICACC-S5-006-2010) Material properties and fractography of an indirect dental resin composite
J. B. Quinn, G. D. Quinn*, ADAF Paffenbarger Research Center, USA

4:00 PM

(ICACC-S5-007-2010) Consolidation at low temperature of biomimetic apatites by Spark Plasma Sintering (SPS) (Invited)
D. Grossin*, C. Rey, S. Rollin-Martinet, C. Drouet, C. Combes, CIRIMAT, France; C. Estournes, PNF2, France; E. Champion, F. Rossignol, SPCTS, France

4:20 PM

(ICACC-S5-008-2010) Two Photon Polymerization of Organically Modified Ceramic Materials
R. Narayan*, S. Gittard, North Carolina State University, USA; B. Chichkov, A. Ovsianikov, Laser Zentrum Hannover, Germany

4:40 PM

(ICACC-S5-009-2010) Chemically Bonded Ceramic Carriers for Drug Delivery
L. A. Hermansson*, Doxa AB, Sweden

5:20 PM

(ICACC-S5-010-2010) A guided missile targeting tumors: novel bioceramics as multifunctional targeted traceable nanocarriers
A. Darvish, M. S. Azimi*, M. Solati, Z. T. Birgani, S. Shafiei, Amirkabir University of Technology, Iran

S7: 4th International Symposium on Nanostructured Materials and Nanotechnology: Development and Applications

Synthesis, Functionalization, Processing and Self-Assembly of Nanoparticles

Room: Coquina C

Session Chair: Sanjay Mathur, University of Cologne

1:20 PM

(ICACC-S7-001-2010) Core-shell nanostructures: Scalable, one-step aerosol synthesis and in-situ coating with nanothin SiO2 on superparamagnetic Fe2O3 nanoparticles (Invited)
S. E. Pratsinis*, ETH Zurich, Switzerland

2:00 PM

(ICACC-S7-002-2010) Stable suspensions of magnetic nanoparticle assemblies (Invited)
D. Brougham*, J. K. Stolarczyk, C. J. Meledandri, Dublin City University, Ireland

2:40 PM

(ICACC-S7-003-2010) Sol-gel processing of Y2O3-MgO nanopowder and its sintered infrared transparent nanocomposite
D. Jiang*, A. Mukherjee, University of California, USA

3:00 PM

Break

3:20 PM

(ICACC-S7-004-2010) Self-assembly of Metal Oxides (Invited)
Y. Masuda*, National Institute of Advanced Industrial Science and Technology (AIST), Japan

4:00 PM

(ICACC-S7-005-2010) Subsurface Indentation Damage and Mechanical Characterization of SWNT-Silicon Nitride Nanocomposites
E. L. Corral*, University of Arizona, USA

4:20 PM

(ICACC-S7-006-2010) Electrical, Mechanical, and Thermal Properties of Multiwalled Carbon Nanotube and Zirconia Composites
K. Ahmad*, P. Wei, Tsinghua University, China

4:40 PM

(ICACC-S7-007-2010) Properties of Nano-metal carbide contained Mg-TiC (SiC) composites
M. Aydin*, R. Koc, Southern Illinois Unv., USA

5:00 PM

(ICACC-S7-008-2010) Synthesis and Magnetic Characterization of Cobalt Doped Zn- Ferrite Magnetic Nanoparticles Via a PEG-Assisted Route
Y. Koseoglu*, F. Gözüak, A. Baykal, Fatih University, Turkey

5:20 PM

(ICACC-S7-009-2010) Nanostructured sapphire vicinal surfaces as templates for the growth of self-organized oxide nanostructures
E. Thune*, A. Boulle, W. Hamd, SPCTS-ENSCI, France; D. Babonneau, PHYMAT, France; C. Moquin, A. Fakih, R. Guinebretière, SPCTS-ENSCI, France

5:40 PM

(ICACC-S7-010-2010) A Liquid-based TiO_2 Nanoparticle Synthesis and Array Patterning Process
K. Lu*, J. Zhao, J. Sions, Virginia Polytechnic Institute and State University, USA

S8: 4th International Symposium on Advanced Processing and Manufacturing Technologies (APMT) for Structural and Multifunctional Materials and Systems

Global Mineral Issues and Green Manufacturing

Room: Coquina B

Session Chairs: Armin Reller, University of Augsburg; Takashi Goto, IMR Tohoku Univ

1:20 PM

(ICACC-S8-001-2010) Strategic resources for emerging energy technologies (Invited)
A. Reller*, University of Augsburg, Germany

2:00 PM

(ICACC-S8-002-2010) Challenge of Materials Science against Resource Risk (Invited)
K. Halada*, National Institute for Mateial Science, Japan

2:40 PM

(ICACC-S8-003-2010) Geopolitics and the supply chain for strategic material (Invited)
P. Wray*, The American Ceramic Society, USA

3:00 PM

Break

3:20 PM

(ICACC-S8-004-2010) Securing the supply of precious and special metals - the need of closing the loop (Invited)
C. Hagelüken*, C. Meskers, Umicore, Germany

4:00 PM

(ICACC-S8-005-2010) Alumina Coating on Ti(C, N)-based Cermet by Laser Chemical Vapor Deposition for Rare Metal Substitute Materials (Invited)
T. Goto*, A. Ito, Institute for Materials Research, Tohoku University, Japan

4:20 PM

(ICACC-S8-006-2010) Smart Powder Processing for Advanced Materials (Invited)
M. Naito*, H. Abe, A. Kondo, Osaka University, Japan

5:00 PM

(ICACC-S8-007-2010) Novel Recycling Process of Waste FRP Using New Attrition Type Apparatus (Invited)
N. Isu*, M. Miura, Y. Okuni, INAX Corporation, Japan; A. Kondo, H. Abe, M. Naito, Osaka University, Japan

5:20 PM

(ICACC-S8-008-2010) Soft Processing for Ceramics:Single -Step Fabrication of Nano-Structured Oxide Ceramics (Particles, Films, Integrated Layers and Patterns) from Solution without Firing (Invited)
M. Yoshimura*, Tokyo Institute of Technology, Japan

S9: Porous Ceramics: Novel Developments and Applications

Processing Methods for Porous Ceramics I

Room: Coquina F

Session Chair: Paolo Colombo, University of Padova

1:20 PM

(ICACC-S9-001-2010) Elimination of Grain Boundary Defects from Zeolite Membranes (Invited)
M. Tsapatsis*, University of Minnesota, USA

2:00 PM

(ICACC-S9-002-2010) Fabrication of Porous Ceramics by Anodization of Titanium and Zirconium
M. Yang, H. Duan, J. Liang, R. Datta, R. D. Sisson*, Worcester Polytechnic Institute, USA

2:20 PM

(ICACC-S9-003-2010) Granulating fine powders into millimetric spheres with a multiscale porosity
C. Pagnoux*, A. Pringuet, A. Videcoq, J. Baumard, ENSCI/SPCTS, France

2:40 PM

(ICACC-S9-004-2010) Nanoporous OxyCarbideDerived Carbons: a kinetic study of the HF etching reaction
L. Tavella, University of Trento, Italy; P. Dibandjo, Université de Haute-Alsace, France; G. Soraru*, University of Trento, Italy

3:00 PM

Break

Processing Methods for Porous Ceramics II

Room: Coquina F

Session Chair: Yuji Iwamoto, Nagoya Institute of Technology

3:20 PM

(ICACC-S9-005-2010) Shape Development of Zeolite Nanocrystals in Confined Syntheses
A. Stein*, W. Yoo, S. Kumar, R. Penn, M. Tsapatsis, University of Minnesota, USA

3:40 PM

(ICACC-S9-006-2010) Low O2 process technology for thermal treatment of high quality porous ceramics
H. Weber*, A. Hajduk, Riedhammer GmbH, Germany

4:00 PM

(ICACC-S9-007-2010) Ceramic Foams with Hierarchical Cellular Structure
B. Ceron Nicolat*, University Erlangen-Nuremberg, Germany

4:20 PM

(ICACC-S9-008-2010) Ceramic foams with hierarchical porosity from preceramic polymers
C. Vakifahmetoglu, P. Colombo*, University of Padova, Italy; J. Woltersdorf, E. Pippel, Max-Planck-Institut für Mikrostrukturphysik, Germany

4:40 PM

(ICACC-S9-009-2010) Porous Structures by Templating of Pickering Emulsions
O. Van der Biest*, B. Neirinck, T. Mattheys, A. Braem, J. Fransaer, J. Vleugels, Leuven University, Belgium

5:00 PM

(ICACC-S9-010-2010) Porous Silicon Oxycarbide Glasses Derived from High Surface Area Hybrid Aerogels
A. Parakkulam Ramaswamy*, S. Gian Domenico, University of Trento, Italy

5:20 PM

(ICACC-S9-011-2010) Templated Silicon Oxycarbide thin films with controlled porosity
L. Malfatti, C. Gervais, C. Boissiere, F. Babonneau*, UPMC-Paris6 / CNRS, France

5:40 PM

(ICACC-S9-012-2010) TiO2 Nano/Micro porous Layers grown by Microarc Oxidation
M. Bayati, F. Golestani-Fard*, Iran University of Science & Technology, Iran; A. Moshfegh, Sharif University of Technology, Iran

S10: Thermal Management Materials and Technologies

Thermal Management Materials and Technologies

Room: Coquina H

Session Chair: Andrew Gyekenyesi, Ohio Aerospace Institute

1:20 PM

(ICACC-S10-001-2010) Application of Carbon Nanotube and SiC composites for a thermal interface material (Invited)
M. Kusunoki*, W. Norimatsu, C. Kawai, Nagoya University, Japan

2:00 PM

(ICACC-S10-002-2010) Thermal and Mechanical Testing of Hafnium-Based Ultra High Temperature Ceramics
S. Johnson*, M. J. Gasch, NASA Ames Research Center, USA; M. M. Stackpoole, M. I. Gusman, Eloret Corporation, USA

2:20 PM

(ICACC-S10-003-2010) Cu/SiC Honeycombs for Thermal Management
K. Pappacena*, M. T. Johnson, Northwestern University, USA; H. Wang, W. Porter, Oak Ridge National Laboratory, USA; K. T. Faber, Northwestern University, USA

2:40 PM

(ICACC-S10-004-2010) Ultra-high Temperature Ceramic Composites
A. Paul*, J. Binner, B. Vaidhyanathan, Loughborough University, United Kingdom; P. Brown, A. Heaton, Dstl, United Kingdom

3:00 PM

Break

3:20 PM

(ICACC-S10-005-2010) Utilizing Graphitic Foams for Thermal Management
A. Gyekenyesi*, M. Singh, Ohio Aerospace Institute, USA; P. Stansberry, GrafTech International Holdings, Inc., USA; M. Alam, Ohio University, USA; D. Vrable, Thermal Management & Materials Technology, Inc., USA

3:40 PM

(ICACC-S10-006-2010) Integration of Graphitic Foam to Metals for Thermal Management Applications
M. Singh, R. Asthana*, A. L. Gyekenyesi, University of Wisconsin-Stout, USA

4:00 PM

(ICACC-S10-007-2010) Mechanical Behavior of Graphitic Carbon Foams
C. Smith*, A. Gyekenyesi, M. Singh, Ohio Aerospace Institute, USA; P. Stansberry, GrafTech International Holdings, Inc., USA

4:20 PM

(ICACC-S10-008-2010) Cost-Effective, High-Temperature Ceramic Heat Exchangers for High Efficiency Power Generation
J. Fellows*, H. Anderson, J. Cutts, Ceramatec, Inc., USA; M. Vick, Naval Research Laboratory, USA; M. Wilson, Ceramatec, Inc., USA

5:00 PM

(ICACC-S10-010-2010) Conductive Carbon Foam for Materials Multifunctionality
A. Roy*, S. Sihn, S. Ganguli, Air Force Research Laboratory, USA

FS1: Geopolymers and Other Inorganic Polymers

Porous Geopolymers

Room: Ponce DeLeon

Session Chair: Waltraud Kriven, University of Illinois at Urbana-Champaign

1:20 PM

(ICACC-FS1-001-2010) Interrelationship between permeability, performance and long-term durability of mesoporous Geopolymer binder systems (Invited)
K. Sagoe-Crentsil*, CSIRO Materials Science and Engineering, Australia

2:00 PM

(ICACC-FS1-002-2010) Formation and Thermal Properties of Porous Geo-Materials (Invited)
R. Sylvie*, D. Smith, P. Michaud, E. Prud'homme, J. Bourret, GEMH-ENSCI, France

2:40 PM

(ICACC-FS1-003-2010) Effect of Curing Conditions on the Porosity Characteristics of Metakaolin-Fly Ash Geopolymers (Invited)
T. Metroke*, Universal Technology Corporation, USA; M. V. Henley, M. Hammons, Air Force Research Laboratory, USA

3:00 PM

Break

Mechanical Properties

Room: Ponce DeLeon

Session Chair: Kwesi Sagoe-Crentsil, CSIRO Materials Science and Engineering

3:20 PM

(ICACC-FS1-004-2010) New insights on geopolymerisation using molybdate, Raman and infrared spectroscopy (Invited)
C. Ruescher*, E. Mielcarek, J. Wongpa, F. Jirasit, W. Lutz, University Hannover, Germany

4:00 PM

(ICACC-FS1-005-2010) Transformation of Al-rich and Si-rich Metakaolin to condensed polysialates structural matrixes (Invited)
E. Kamseu*, C. Leonelli, University of Modena and reggio Emilia, Italy

4:20 PM

(ICACC-FS1-006-2010) The Synthesis of Geopolymers from SiO2 and Al(OH)3 in KOH and NaOH solutions
M. Lizcano*, H. Kim, M. Radovic, Texas A&M University, USA

4:40 PM

(ICACC-FS1-007-2010) Mechanical Properties and Thermal Behavior of Geopolymer Composites (Invited)
W. M. Kriven*, B. Andress, B. Choragwicki, D. Lowry, E. Rill, B. C. Wagoner, University of Illinois at Urbana-Champaign, USA

Novel Applications I

Room: Ponce DeLeon

Session Chair: Waltraud Kriven, University of Illinois at Urbana-Champaign

5:00 PM

(ICACC-FS1-008-2010) Evolution of Fire Resistant Geopolymers (Invited)
A. van Riessen*, J. Temuujin, W. Rickard, Curtin University of Technology, Australia

Tuesday, January 26, 2010

S1: Mechanical Behavior and Performance of Ceramics & Composites

Processing-Microstructure-Mechanical Properties Correlations I

Room: Coquina A

Session Chairs: Yu Zhou, Harbin Institute of Technology; Walter Krenkel, Universitat Bayreuth

8:00 AM

(ICACC-S1-013-2010) Microstructure and High-temperature Properties of Si-B-C-N MA-powders and Ceramic (Invited)
Y. Zhou*, Z. Yang, D. Jia, Harbin Institute of Technology, China

8:40 AM

(ICACC-S1-014-2010) Grain Boundary Control for Si3N4 Ceramics with Improved Mechanical Properties
B. Mikijelj*, Z. Nawaz, Ceradyne, Inc., USA; J. Swab, ARL, USA; P. Becher, University of Tennessee, USA

9:00 AM

(ICACC-S1-015-2010) Synthesis, Structure and Mechanical Properties of AlN-Si3N4-SiC Composite
C. Cui*, Y. L. Du, Y. T. Wang, J. G. Jiang, Nanjing University of Science and Technology, China

9:20 AM

(ICACC-S1-016-2010) The role of carbon in processing hot pressed AlN doped SiC
N. Ur-rehman*, Imperial College London, United Kingdom; P. Brown, Defence Science and Technology Laboratory, United Kingdom; L. J. Vandeperre, Imperial College London, United Kingdom

9:40 AM

Break

10:00 AM

(ICACC-S1-017-2010) Aluminum titanate – cordierite composites with high thermal shock resistance
J. Zimmermann*, P. Tepesch, B. Oyer, Corning Incorporated, USA

10:20 AM

(ICACC-S1-018-2010) Processing of Titania Nanoceramics via Conventional Sintering, Two-step Sintering and Two-step Sintering Assisted by Phase Transformation
M. Mazaheri*, EPFL: Swiss Federal Institute of Technology in Lausanne, Switzerland; S. Sadrnezhaad, Advanced Materials, Iran

10:40 AM

(ICACC-S1-019-2010) Relation of Microstructure and Mechanical Properties of Functional Non-Oxide Ceramics Produced by Direct Ink-Jet Printing
B. Cappi*, J. Ebert, R. Telle, RWTH Aachen University, Germany

11:00 AM

(ICACC-S1-020-2010) Effect of Precursor Impurities and Carbothermic Reaction Variations on Chemistry, Crystallinity, and Plasticity of SiC for Dynamic Energy Dissipation Applications
R. A. Haber, V. Domnich*, Rutgers University, USA

11:20 AM

(ICACC-S1-101-2010) Fabrication and properties of porous SiC ceramics via an in-suit reaction-bonding processing
Y. Zeng*, Shanghai Institute of Ceramics, CAS, China; S. Liu, Shanghai Institute of Ceramics, CAS, China; S. Ding, Shanghai Institute of Ceramics, CAS, China; D. Jiang, Shanghai Institute of Ceramics, CAS, China

S3: 7th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Conduction in Ceramics

Room: Coquina E

Session Chairs: Atul Verma, University of Connecticut; Toshio Suzuki, National Institute of Advanced Industrial Science and Technology

8:00 AM

(ICACC-S3-011-2010) The Role of Electrical Polarization on Nickel Interactions with Fuel Gas Impurities (Invited)
O. Marina*, C. A. Coyle, E. C. Thomsen, C. D. Cramer, K. J. Yoon, L. R. Pedersen, Pacific Northwest National Lab, USA

8:40 AM

(ICACC-S3-012-2010) Effect of the oxygen partial pressure change steps in electrical conductivity relaxation measurements
Y. Li*, West Virginia University, USA; K. Gerdes, R. Gemmen, National energy technology laboratory, USA; X. Liu, West Virginia University, USA

9:00 AM

(ICACC-S3-013-2010) Modelling the Effect of Dopant Concentration on Lattice Strain and Ionic Conductivity in Fluorite Oxides
K. L. Duncan*, E. D. Wachsman, University of Florida, USA

9:20 AM

(ICACC-S3-014-2010) Microstructure-Electrical Conductivity Co-relation in 8 mol% Scandia Doped Fully Stabilized Zirconia
A. Ghosh*, S. Koley, A. K. Sahu, A. K. Suri, Bhabha Atomic Research Centre, India

9:40 AM

Break

10:00 AM

(ICACC-S3-015-2010) Proton Conductor based Solid Oxide Fuel Cells
S. Elangovan*, J. Hartvigsen, F. Zhao, Ceramatec, Inc., USA

10:20 AM

(ICACC-S3-016-2010) Contribution of Electrolyte to the Oxygen Reduction Reaction in Composite Cathodes
E. N. Armstrong*, K. T. Lee, D. J. Oh, K. C. Seymour, E. D. Wachsman, University of Florida, USA

10:40 AM

(ICACC-S3-017-2010) On the Ohmic Loss in Anode-supported Solid Oxide Fuel Cells
Z. Lu*, X. Zhou, J. Templeton, J. Stevenson, Pacific Northwest National Lab, USA

11:00 AM

(ICACC-S3-018-2010) Hydrogen Production and Separation from Carbon Dioxide Reforming of Methane
J. Li*, E. Wachsman, University of Florida, USA

11:20 AM

(ICACC-S3-019-2010) Fabrication and Properties of Nano-structural Bi_2O_3-Y_2O_3-ZrO_2 Composite
J. Zhang*, K. Sun, J. Gao, H. Liu, T. An, Shandong University, China

11:40 AM

(ICACC-S3-020-2010) Engineered Samaria doped Ceria Thin Films for Oxygen Sensing Applications
M. Nandasiri*, Pacific Northwest National Laboratory, USA; R. Sanghavi, Arizona State University, USA; S. Kuchibhatla, P. Nachimuthu, M. H. Engelhard, V. Shutthanandan, W. Jiang, S. Thevuthasan, Pacific Northwest National Laboratory, USA; S. Prasad, Arizona State University, USA; A. Kayani, Western Michigan University, USA

S4: Armor Ceramics

Boron Carbide

Room: Coquina D

Session Chair: James Campbell, Army Research Laboratory

8:00 AM

(ICACC-S4-010-2010) Ab initio modeling and spectroscopic characterization of disordered boron carbide as armor materials (Invited)
W. Ching*, University of Missouri-Kansas City, USA

8:40 AM

(ICACC-S4-011-2010) Characterization of Boron Carbide Composites by Confocal Raman Spectroscopy
H. J. Brown-Shaklee*, W. G. Fahrenholtz, G. E. Hilmas, Missouri University of Science and Technology, USA

9:00 AM

(ICACC-S4-012-2010) The Effect of High Impact Energy Comminution on the Structure of Boron Carbide
D. W. Maiorano*, R. A. Haber, Rutgers, The State University of New Jersey, USA

9:20 AM

(ICACC-S4-013-2010) NDT Characterization of Boron Carbide for Ballistic Applications
C. Roberson, Advanced Defence Materials Limited, United Kingdom; D. Liaptsis*, TWI Wales, United Kingdom; N. Ludford, TWI, United Kingdom; A. Gunner, TWI, United Kingdom; M. Williams, Sintec, United Kingdom; D. Willis, Sintec, United Kingdom; L. Falticeanu, Advanced Defence Materials Limited, United Kingdom

9:40 AM

Break

10:00 AM

(ICACC-S4-014-2010) High-pressure Amorphization of Boron Carbide (Invited)
X. Yan, Z. Tang, T. Goto, Tohoku University, Japan; J. McCauley, U.S. Army Research Laboratory, USA; M. Chen*, Tohoku University, Japan

10:40 AM

(ICACC-S4-015-2010) Dynamic Equation of State and Strength of Boron Carbide
D. Grady*, Applied Research Associates, USA

11:00 AM

(ICACC-S4-016-2010) Synthesis and Processing of Nanostructured B-C-N Phases
S. D. Tse*, G. Sun, J. Doyle, C. Brenci, J. Al-Sharab, B. H. Kear, Rutgers University, USA; O. Voronov, Diamond Materials Inc., USA

11:20 AM

(ICACC-S4-017-2010) Microstructure, Mechanical Properties and Performance of MgAlB14
R. Cutler*, B. Isaac, Ceramatec, Inc., USA; J. Campbell, J. LaSalvia, Army Research Laboratory, USA

11:40 AM

(ICACC-S4-018-2010) Deformation behavior of boron carbide ceramics at elevated temperatures
Y. Shinoda*, Tokyo Institute of Technology, Japan

S5: Next Generation Bioceramics

Next Generation Bioceramics

Room: Coquina G

Session Chairs: Jay Hanan, Oklahoma State University; Peter Ma, University of Michigan

8:00 AM

(ICACC-S5-011-2010) Resolving the Influence of Residual Stress on Ceramic Dental Crown Lifetime (Invited)
J. C. Hanan*, Oklahoma State University, USA

8:40 AM

(ICACC-S5-012-2010) Investigation on Wear Resistance of Plasma Sprayed Hydroxyapatite-Carbon Nanotube Composite Coating and Cytotoxicity of Wear Debris
D. Lahiri*, F. Rouzaud, Florida International University, USA; J. Solomon, University of Florida, USA; A. K. Keshri, L. Kos, A. Agarwal, Florida International University, USA

9:00 AM

(ICACC-S5-013-2010) Wollastonite and Wollastonite/Hydroxyapatite Ceramics from a Preceramic Polymer Filled with Nano-particles (Invited)
E. Bernardo*, E. Tomasella, P. Colombo, University of Padova, Italy

9:20 AM

(ICACC-S5-014-2010) Biocompatibility of nano-structured CaP coatings prepared from supersaturated CaP solutions (Invited)
S. Beranic Klopcic, Lek d.d., Slovenia; K. Krnel*, I. Pribosic, T. Kosmac, Jozef Stefan Institute, Slovenia

9:40 AM

Break

10:00 AM

(ICACC-S5-015-2010) Enzymatic Mineralization of Hydroxyapatite for Advanced Processing of Biomaterials (Invited)
H. Unuma*, T. Kawai, Yamagata University, Japan

10:20 AM

(ICACC-S5-016-2010) Fe_3O_4-containing SiO_2 Microspheres for Hyperthermia of Cancer (Invited)
M. Kawashita*, Z. Li, Tohoku University, Japan; N. Araki, Kyoto University, Japan; M. Mitsumori, M. Hiraoka, Kyoto Medical Center, Japan

10:40 AM

(ICACC-S5-017-2010) Synthesis and characterization of B, Ag, Ti, Cu, Al Substituted Hydroxylapatite (Invited)
C. Ergun*, Istanbul Technical University, Turkey; T. J. Webster, Brown University, USA; G. Gunes, A. Bahadir, Istanbul Technical University, Turkey; H. Liu, Brown University, USA; I. Erdun, Yildiz Technical University, Turkey

11:00 AM

(ICACC-S5-018-2010) The effect of glycerol on the injectability of calcium phosphate paste
M. Hafezi-Ardakani*, Academic Center for Education, Culture and Research, Iran; F. Moztarzadeh, Amirkabir University of Technology, Iran; S. Hesaraki, Materials and Energy Research Center (MERC),, Iran

11:20 AM

(ICACC-S5-019-2010) In-Situ Synthesis of Hydroxyapatite-Beta Tricalcium Phosphate Composite Bioceramic Using Microwave Irradiation
A. Farzadi*, M. Solati-Hashjin, A. Aminian, Z. Tahmasebi-Birgani, F. Bakhshi, Amirkabir University of Technology (Tehran Polytechnic), Iran

11:40 AM

(ICACC-S5-020-2010) Bioglass/Chitosan Composite as a New Bone Substitute
P. Khoshakhlagh*, F. Moztarzadeh, S. Rabiee, R. Moradi, R. Ravarian, P. Heidari, Amirkabir university of Technology(Polytechninc of Tehran), Iran

S6: International Symposium on Ceramics for Electric Energy Generation, Storage, and Distribution

Thermoelectric Materials for Energy Harvesting I

Room: Coquina H

Session Chairs: David Singh, Oak Ridge National Laboratory; Terry Tritt, Clemson University

8:00 AM

(ICACC-S6-001-2010) Thermoelectric Nanocomposites: Potential Materials for Solid State Energy Conversion and Refrigeration (Invited)
T. M. Tritt*, Clemson University, USA

8:40 AM

(ICACC-S6-002-2010) Selective Suppression of Lattice Thermal Conductivity in Oxide Thermoelectric Materials for Higher *ZT*
M. Ohtaki*, S. Teraoka, K. Yamamoto, T. Sugahara, Kyushu University, Japan

9:00 AM

(ICACC-S6-003-2010) Self-propagating High-temperature Synthesis n of Calcium Cobaltate Thermoelectric Powders
S. Lin*, J. Selig, Lamar University, USA

9:20 AM

(ICACC-S6-004-2010) Oxide Ceramic Semiconductors for High Temperature Thermoelectric Applications
E. Medvedovski*, Umicore Indium Products, USA; O. Gregory, X. Chen, University of Rhode Island, USA; C. J. Szepesi, O. Yankov, Umicore Indium Products, USA

9:40 AM

Break

10:00 AM

(ICACC-S6-005-2010) New Directions in Thermoelectric Materials (Invited)
D. J. Singh*, Oak Ridge National Laboratory, USA

10:40 AM

(ICACC-S6-006-2010) Structure formation and very low thermal conductivity in PbTe-Ag2Se mixtures
F. Drymiotis*, T. Drye, Y. Wang, J. He, D. Rhodes, K. Modic, S. Cawthorne, T. Tritt, Clemson University, USA

11:00 AM

(ICACC-S6-007-2010) Thermoelectric properties of n-type CoSb3-based double-filled skutterudites
S. Bai*, L. Chen, W. Zhang, X. Huang, Shanghai Institute of Ceramics, CAS, China

11:20 AM

(ICACC-S6-008-2010) Strength of n- and p-Type Skutterudites
M. E. Ragan*, A. Wereszczak, K. T. Strong, Jr., Oak Ridge National Laboratory, USA; J. Salvador, J. Yang, General Motors, USA

S7: 4th International Symposium on Nanostructured Materials and Nanotechnology: Development and Applications

Nanotubes, Nanorods, Nanowires and Other One-dimensional Structures

Room: Coquina C

Session Chair: Ralf Riedel, Technische Universitaet Darmstadt

8:00 AM

(ICACC-S7-011-2010) Preparation and integration of metal oxide nanowires into functional devices (Invited)
E. Comini*, G. Faglia, A. Vomiero, G. Sberveglieri, SENSOR, Italy

8:40 AM

(ICACC-S7-012-2010) Low temperature synthesis and applications of ZnO nanowires and their heteronanostructure arrays (Invited)
K. Yong*, Pohang University of Science and Technology, Korea, South

9:20 AM

(ICACC-S7-013-2010) Core-shell Nanowires reveal their inner structure
M. Keplinger*, J. Stangl, D. Kriegner, B. Mandl, Johannes Kepler University, Austria; T. Martensson, Lund University, Sweden; G. Bauer, Johannes Kepler University, Austria

9:40 AM

Break

10:00 AM

(ICACC-S7-014-2010) Solar Energy Conversion to Electricity or Fuel Using Self-Assembled TiO2 Nanotube Arrays (Invited)
C. A. Grimes*, The Pennsylvania State University, USA

10:40 AM

(ICACC-S7-015-2010) Mechanism and Orientation Evolution of Tin Oxide Nanowire Arrays Growth (Invited)
S. Mathur, H. Shen*, J. Pan, University of Cologne, Germany; J. Prades, F. Hernandez-Ramirez, A. Romano-Rodriguez, Universitat de Barcelona, Spain

11:00 AM

(ICACC-S7-016-2010) Fabrication and Electrical Characterization of Barium Titanate Nanorods
F. Hernandez-Ramirez*, J. Prades, Catalonia Institute for Energy Research, Spain; C. Zamani, R. Jimenez-Diaz, Jozef Stefan Institute, Slovenia; J. Morante, Catalonia Institute for Energy Research, Spain; K. Zagar, M. Ceh, Jozef Stefan Institute, Slovenia

11:20 AM

(ICACC-S7-017-2010) Wettability control of semiconductor nanowires through chemical modification
G. Kwak*, K. Yong, POSTECH, Korea, South

11:40 AM

(ICACC-S7-018-2010) Ceria-based Nanotubes as Catalyst Supports for Pd Nanoparticles
R. O. Fuentes*, L. M. Acuña, F. F. Muñoz, CONICET-CITEDEF, Argentina; A. G. Leyva, CAC-CNEA, Argentina; M. D. Cabezas, D. G. Lamas, CONICET-CITEDEF, Argentina; R. T. Baker, University of St Andrews, United Kingdom

S8: 4th International Symposium on Advanced Processing and Manufacturing Technologies (APMT) for Structural and Multifunctional Materials and Systems

Novel Forming and Sintering

Room: Coquina B

Session Chairs: Makio Naito, Osaka University; Rainer Gadow, IFKB University of Stuttgart

8:00 AM

(ICACC-S8-009-2010) Thermoplastic Ceramic Injection Molding of Zirconia-toughened-Alumina Components (Invited)
R. Gadow*, F. Kern, M. Abou El Ezz, IFKB University of Stuttgart, Germany

8:40 AM

(ICACC-S8-010-2010) Nano-sized TiN dispersed Si3N4 ceramics as new bearing balls (Invited)
K. Komeya*, J. Tatami, T. Wakihara, T. Yamakawa, Yokohama National University, Japan; H. Komorita, Y. Fukuda, Toshiba Materials Co., Ltd., Japan; M. Takeda, T. Hattori, JTECT Corp., Japan, Japan

9:20 AM

(ICACC-S8-011-2010) Investigations of a Geothermite Reaction Utilizing Lunar Regolith Simulant in a Vacuum
E. J. Faierson*, K. V. Logan, National Institute of Aerospace - Virginia Tech, USA

9:40 AM

Break

10:00 AM

(ICACC-S8-012-2010) Si3N4/ZrN Ceramic Composites Produced from ZrO2 Coated Si3N4 Powder
A. Maglica*, K. Krnel, T. Kosmac, Jozef Stefan Institute, Slovenia

10:20 AM

(ICACC-S8-013-2010) Preparation of Silicon Nitride Ceramics with High Thermal Conductivity and Good Mechanical Properties
Y. Zhou*, H. Hyuga, Y. Yoshizawa, K. Hirao, National Institute of Advanced Industrial Science and Technology (AIST), Japan

10:40 AM

(ICACC-S8-014-2010) Processing of complex-shaped micro parts by reaction-bonding and sintering of silicon nitride
M. Müller*, Forschungszentrum Karlsruhe, Germany; J. Rögner, Universitaet Karlsruhe, Germany; W. Bauer, R. Knitter, Forschungszentrum Karlsruhe, Germany

11:00 AM

(ICACC-S8-015-2010) Sintering behavior of oxide coated BaTiO3 ceramics
S. Sohn*, S. Lee, M. Kim, M. Hong, S. Kim, C. Lim, S. Kwon, K. Hur, Y. Yoon, Samsung electro-mechanics co., ltd., Korea, South

11:20 AM

(ICACC-S8-016-2010) Grain Size Reduction via Pressure-Induced Reversible Phase Transformation in Y2O3
B. H. Kear*, Rutgers University, USA; O. Voronov, Diamond Materials Inc., USA; R. Sadangi, J. F. Al-Sharab, S. Deutsch, N. B. Kavukcuoglu, A. Mann, S. D. Tse, Rutgers University, USA

11:40 AM

(ICACC-S8-017-2010) Sintering Schedule for Enhancement of Densification of mixed Ceramic Powder
O. L. Ighodaro*, O. I. Okoli, B. Wang, HPMI, FAMU-FSU College of Engineering, USA

S9: Porous Ceramics: Novel Developments and Applications

Structure and Properties of Porous Ceramics I

Room: Coquina F

Session Chair: Urs Gonzenbach, ETH Zürich

8:00 AM

(ICACC-S9-013-2010) Acicular Mullite-Cordierite Composites with Controllable CTE (Invited)
D. Grohol*, C. Han, A. Pyzik, C. Todd, J. Goss, The Dow Chemical Company, USA

8:40 AM

(ICACC-S9-014-2010) Thermal Conductivity of Biomorphic Porous SiC Based Ceramics
N. Popovska*, E. Alkhateeb, T. Kugler, A. Fröba, A. Leipertz, University Erlangen-Nuremberg, Germany

9:00 AM

(ICACC-S9-015-2010) β-Si_3N_4 Seeding and α-Si_3N_4 Powder Size Effects on the Development of Porous β-Si_3N_4
K. P. Plucknett*, D. A. Gould, Dalhousie University, Canada; L. B. Garrido, CETMIC, Argentina; G. A. Luis, IPEN, Brazil

9:20 AM

(ICACC-S9-016-2010) Synthesis, structure and properties of porous material from diatomite by hydrothermal synthesis
F. Akhtar*, L. Bergström, Institute of Inorganic Chemistry, Sweden

9:40 AM

Break

Structure and Properties of Porous Ceramics II

Room: Coquina F

Session Chair: Irene Peterson, Corning Incorporated

10:00 AM

(ICACC-S9-017-2010) Particle-Stabilized Foams, Emulsions and Capsules: Basics and Potential Applications (Invited)
U. T. Gonzenbach*, L. J. Gauckler, ETH Zürich, Switzerland

10:40 AM

(ICACC-S9-018-2010) Relations between mechanical properties and porosity features in a gelcast alumina ceramic
M. Lombardi*, Politecnico di Torino, Italy; S. Meille, J. Chevalier, Université de Lyon, INSA-Lyon, France; L. Montanaro, Politecnico di Torino, Italy

11:00 AM

(ICACC-S9-019-2010) Fabrication and property of ultrahighly porous alumina with oriented micrometer-sized cells
M. Fukushima*, Y. Yoshizawa, National Institute of Advanced Industrial Science and Technology (AIST), Japan

11:20 AM

(ICACC-S9-020-2010) Porous 3D ceramic structures formed using a supercritical fluid-assisted weaving technique
S. Matthews*, J. Matthews, SCF Processing Ltd, Ireland

11:40 AM

(ICACC-S9-021-2010) Transformations and Micro-Mechanical Instability Behavior in Zirconia-Based Porous Ceramic
S. Kulkov*, S. Buyakova, Institute of Strength Physics and Material Sciences RAS and Tomsk State Univeersity, Russia

FS1: Geopolymers and Other Inorganic Polymers

Novel Applications II

Room: Ponce DeLeon

Session Chair: Arie van Riessen, Curtin University of Technology

8:00 AM

(ICACC-FS1-009-2010) Novel applications of metal-geopolymers (Invited)
O. Bortnovsky*, P. Bezucha, Research Institute of Inorganic Chemistry, Czech Republic; P. Sazama, J. Dedecek, Z. Sobalik, Z. Tvaruzkova, J. Heyrovsky Institute of Physical Chemistry, AS CR, Czech Republic

Geopolymer Cements and Concretes

Room: Ponce DeLeon

Session Chair: Elie Kamseu, University of Modena and reggio Emilia

8:40 AM

(ICACC-FS1-010-2010) Issues related to mass production of geopolymer cement (Invited)
J. Davidovits*, Geopolymer Institute, France

9:20 AM

(ICACC-FS1-011-2010) Making Foam Concrete From Fly Ash Based On Geopolymer Method
N. T. Pham*, HoChiMinh city Institute of Resources geography, Viet Nam; H. H. Le, HoChiMinh city Institute of Resources geography, Viet Nam

9:40 AM

Break

10:00 AM

(ICACC-FS1-012-2010) Development of Fly Ash-Based Geopolymer Concrete Mixtures
M. I. Hammons*, Air Force Research Laboratory, USA; T. Metroke, Universal Technology Corporation, USA; M. V. Henley, Air Force Research Laboratory, USA

10:20 AM

(ICACC-FS1-013-2010) Design Of Experiment (DOE) Investigation of the Mechanical and Chemical Properties of Alkali Activated Slag Fine Aggregate Concrete (Invited)
A. J. Moseson*, A. Sakulich, Drexel University, USA; D. E. Moseson, Emerson Resources, USA; K. MacKenzie, Victoria University Of Wellington, New Zealand; M. W. Barsoum, Drexel University, USA

11:00 AM

(ICACC-FS1-014-2010) Application of ASTM Standard Test Methods to Competing Cementitious Materials
A. J. Moseson*, M. W. Barsoum, Drexel University, USA

11:20 AM

(ICACC-FS1-015-2010) Geopolymerization of red mud and its influence on strength development
J. He*, G. Zhang, Louisiana State University, USA

11:40 AM

(ICACC-FS1-016-2010) A Partial Solution to the Mystery of the Great Pyramids of Egypt (Invited)
M. Barsoum*, Drexel University, USA

S1: Mechanical Behavior and Performance of Ceramics & Composites

Environmental Effects

Room: Coquina A

Session Chairs: Marina Ruggles-Wren, Air Force Institute of Technology; Randall Hay, AFRL

1:20 PM

(ICACC-S1-021-2010) Cyclic Creep and Recovery Behavior of Nextel™720/Alumina Ceramic Composite at 1200 °C (Invited)
B. Whiting, M. Ruggles-Wrenn*, Air Force Institute of Technology, USA

2:00 PM

(ICACC-S1-022-2010) Characterization of Environmental Effects on Damage in Oxide-Oxide CMCs by TEM
R. Hay*, G. Fair, AFRL, USA; K. Keller, T. Parthasarathy, UES, Inc., USA; M. Ruggles-Wren, AFIT, USA

2:20 PM

(ICACC-S1-023-2010) Effects of Environment on Creep Behavior of Nextel™720/Alumina-Mullite Ceramic Composite with ±45° Fiber Orientation at 1200 °C
M. Ozer, M. Ruggles-Wrenn*, Air Force Institute of Technology, USA

2:40 PM

(ICACC-S1-024-2010) Influence of water quality on corrosion of porous multi-oxide engineering ceramics
M. Mannila*, A. Häkkinen, Lappeenranta University of Technology, Finland

3:00 PM

Break

3:20 PM

(ICACC-S1-025-2010) Effect of oxidation on modulous of 2D-C/SiBC composites
C. Zhang*, Q. Shengru, Northwestern Polytechnical University, China

3:40 PM

(ICACC-S1-026-2010) Effects of Helium Production on Silicon Carbide Ceramics and Composites for Fusion and Nuclear Services
Y. Katoh*, L. Snead, Oak Ridge National Laboratory, USA; A. Hasegawa, Tohoku University, Japan; S. Kondo, Kyoto University, Japan

4:00 PM

(ICACC-S1-027-2010) Swelling of SiC Containing Sintering Additives under Ion Irradiation
T. Koyanagi*, S. Kondo, T. Hinoki, Kyoto University, Japan

4:20 PM

(ICACC-S1-028-2010) Effect of particle size and crystalline structure on passive-oxidation behavior of SiC powders
O. Ebrahimpour*, J. Chaouki, C. Dubois, Ecole Polytechnique de Montreal, Canada

4:40 PM

(ICACC-S1-029-2010) Aqueous corrosion of silicon nitride ceramics
K. A. Nielsen*, Risoe National Laboratory, Denmark

5:00 PM

(ICACC-S1-030-2010) Cyclic Fatigue of Silicon Nitride Influenced by High Temperature and Water
T. Schwind*, K. Lang, Universitaet Karlsruhe, Germany; E. Kerscher, Technische Universitaet Kaiserslautern, Germany

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

Environmental Barrier Coatings

Room: Ponce DeLeon

Session Chairs: Hua-Tay Lin, Oak Ridge National Laboratory; Peter Mechnich, German Aerospace Center (DLR)

1:20 PM

(ICACC-S2-001-2010) Kinetics and Mechanism of Oxidation of the Reinforced Carbon/Carbon in the Space Shuttle Orbiter (Invited)
N. Jacobson*, D. Hull, NASA Glenn Research Center, USA; J. Cawley, Case Western Reserve University, USA; D. Curry, The Boeing Company, USA

2:00 PM

(ICACC-S2-002-2010) High-temperature interaction of YSZ ceramic coatings and Fe,Ti-containing CMAS-type deposits
P. Mechnich*, W. Braue, German Aerospace Center (DLR), Germany

2:20 PM

(ICACC-S2-003-2010) Polymer-Derived Silicon Oxycarbide/Hafnia Ceramic Nanocomposites – Potential Materials for EBC Applications
E. Ionescu*, B. Papendorf, H. Kleebe, R. Riedel, Technische Universitaet Darmstadt, Germany

2:40 PM

(ICACC-S2-004-2010) Research on the MoSi2 oxidation protective coating on SiC-coated carbon/carbon composites prepared by supersonic plasma spraying
H. Li*, H. Wu, Q. Fu, J. Wei, K. Li, Northwestern Polytechnical University, China

3:00 PM

Break

3:20 PM

(ICACC-S2-005-2010) Design and selection of silicate environmental barrier coatings (Invited)
Y. Wang*, Northwestern Polytechnical University, China

4:00 PM

(ICACC-S2-006-2010) Recent Progress in Multilayer EBCs for Silicon Based Ceramics
C. Lewinsohn*, H. Anderson, Ceramatec, Inc., USA; R. Bhatt, NASA Glenn Research Center, USA

4:20 PM

(ICACC-S2-007-2010) High Temperature Thermal/Environmental Barrier Coatings for Silicon Carbide Composites
C. Weyant*, Stony Brook University, USA; B. Keyes, MesoScribe Technologies, USA; R. Dey, Stony Brook University, USA

4:40 PM

(ICACC-S2-008-2010) Biaxial Strength of Environmental Barrier Coated Silicon Nitride
J. Salem*, R. T. Bhatt, D. S. Fox, NASA Glenn Research Center, USA

5:00 PM

(ICACC-S2-009-2010) Internal Stress Analysis of Plasma-Sprayed Ytterbium-Silicate Environmental Barrier Coatings
B. Harder*, J. Ramirez-Rico, K. T. Faber, Northwestern University, USA; J. D. Almer, Advanced Photon Source, USA; K. N. Lee, Rolls-Royce Corporation, USA

5:20 PM

(ICACC-S2-010-2010) Nano-particle-filled SiCN-precursor coatings
T. Kraus*, M. Günthner, W. Krenkel, G. Motz, University of Bayreuth, Germany

5:40 PM

(ICACC-S2-011-2010) Aluminum Oxide and Silicon Nitride Thin Films as Anti-corrosion Layers
C. Qu, P. Li, J. Fan, D. Edwards, W. Schulze, G. Wynick, X. Wang*, Alfred University, USA

S3: 7th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Novel Cell and Stack Design

Room: Coquina E

Session Chairs: Jeff Stevenson, Pacific Northwest National Laboratory; Thomas Cable, NASA Glenn Research/ U. Toledo

1:20 PM

(ICACC-S3-021-2010) NexTech's FlexCell Planar SOFC Technology (Invited)
M. J. Day*, S. L. Swartz, K. Chenault, J. R. Archer, NexTech Materials, Ltd., USA

2:00 PM

(ICACC-S3-022-2010) Oxide Coatings for Metallic SOFC Interconnects
M. M. Seabaugh*, M. J. Day, S. Ibanez, M. G. Beachy, S. L. Swartz, NexTech Materials, Ltd., USA

2:20 PM

(ICACC-S3-023-2010) Low-Temperature Performance Improvement of Solid Oxide Fuel Cell by Employing Thin Film Electrolyte and Nano-Structured Electrodes Fabricated by Pulsed Laser Deposition
J. Son*, H. Noh, J. Kim, D. Myung, J. Lee, H. Lee, Korea Institute of Science and Technology, Korea, South

2:40 PM

(ICACC-S3-024-2010) Anodic electrode processes in Liquid Tin Solid Oxide Fuel Cells (LT-SOFC)
U. Pasaogullari*, A. Verma, University of Connecticut, USA; G. McVay, Pacific Northwest National Laboratory, USA; P. Singh, University of Connecticut, USA

3:00 PM

Break

3:20 PM

(ICACC-S3-025-2010) Stack Performance of the NASA Symmetrical Bi-Supported Cell (BSC) Concept (Invited)
T. L. Cable*, J. A. Setlock, U. Toledo / NASA GRC, USA; S. C. Farmer, NASA GRC, USA

4:00 PM

(ICACC-S3-026-2010) Fabrication and Characterization of SOFC Stack Using Anode-Supported Micro Tubular Cells
K. Kikuta*, C. Kubota, Y. Takeuchi, T. Usui, Y. Izumi, Nagoya University, Japan

4:20 PM

(ICACC-S3-027-2010) Ni-YSZ-Based SOFC Anode and Electrolyte Production by a Direct Lamination Tapecasting Technique Using Thermoreversible Gels
N. O. Shanti*, D. M. Bierschenk, S. A. Barnett, K. T. Faber, Northwestern University, USA

4:40 PM

(ICACC-S3-028-2010) Synthesis and Sintering of Yttrium-doped Barium Zirconate
A. K. Suri*, A. K. Sahu, A. Ghosh, S. Koley, Bhabha Atomic Research Centre, India

5:00 PM

(ICACC-S3-029-2010) Effect of Geometrical and Mechanical Properties of Various Components on Stresses of the Seals in SOFCs
W. Liu*, B. Koeppel, X. Sun, M. Khaleel, Pacific Northwest National Lab, USA

S4: Armor Ceramics

Dynamic Material Behavior

Room: Coquina D

Session Chair: Lisa Prokurat Franks, TARDEC

1:20 PM

(ICACC-S4-019-2010) Ballistic Failure Mechanisms in Al2O3 and SiC Multimaterial Multilayered Armor
S. Genihovitz, D. Sherman*, Technion, Israel

1:40 PM

(ICACC-S4-020-2010) Failure mechanisms of Aluminum Nitride under uniaxial and confined dynamic compression
G. Hu*, K. Ramesh, Johns Hopkins Uni., USA; J. McCauley, Army Research Laboratory, USA

2:00 PM

(ICACC-S4-021-2010) Shear Strength of Titanium Diboride Under Shock Wave and Static Compressions
D. P. Dandekar*, U. S. Army Research Laboratory, USA

2:20 PM

(ICACC-S4-022-2010) Dynamic compressive strength of micron and sub-micron grain polycrystalline spinel ($MgAl_2O_4$)
J. Kimberley*, K. T. Ramesh, The Johns Hopkins University, USA; J. W. McCauley, US Army Research Laboratory, USA

2:40 PM

(ICACC-S4-023-2010) Effects of an Interface on Dynamic Crack Propagation
H. Park, W. W. Chen*, Purdue University, USA

3:00 PM

Break

Silicon Carbide

Room: Coquina D

Session Chair: Lisa Prokurat Franks, TARDEC

3:20 PM

(ICACC-S4-024-2010) Grain Boundary Engineering in Toughened Ceramics: Compositional Effects on Microstructure and Fracture (Invited)
P. Becher*, G. Painter, Oak Ridge National Laboratory, USA; N. Shibata, The University of Tokyo, Japan; H. Lin, S. Waters, Oak Ridge National Laboratory, USA

4:00 PM

(ICACC-S4-025-2010) Recognition of stacking-fault induced plasticity in different Silicon Carbide polytypes via photoluminescence spectroscopy
G. Fanchini*, University of Western Ontario, Canada

4:20 PM

(ICACC-S4-026-2010) Influence of Impurities on Stacking Fault Dynamics in SiC under External Loading
V. Domnich*, R. A. Haber, Rutgers University, USA

4:40 PM

(ICACC-S4-027-2010) Evaluation of microstructure and mechanical properties of hot pressed SiC-AlN solid solutions
B. Mikijelj, Z. Nawaz*, Ceradyne, Inc., USA; J. Adams, J. LaSalvie, ARL, USA

5:00 PM

(ICACC-S4-028-2010) Evolution of AlN distribution during processing of AlN doped SiC
N. Ur-rehman*, Imperial College London, United Kingdom; P. Brown, Defence Science and Technology Laboratory, United Kingdom; L. J. Vandeperre, Imperial College London, United Kingdom

5:20 PM

(ICACC-S4-029-2010) Development of Biomorphic SiSiC- and C/SiSiC-Materials for Lightweight Armor
M. Crippa, B. Heidenreich*, DLR (German Aerospace Center), Germany; E. Strassburger, Fraunhofer Gesellschaft, Germany; H. Gedon, Wehrwissenschaftliches Institut für Werk- und Betriebsstoffe (WIWeB), Germany; H. Voggenreiter, DLR (German Aerospace Center), Germany

S5: Next Generation Bioceramics

Advanced Processing of Bioceramics

Room: Coquina G

Session Chairs: Mufit Akinc, Iowa State University; Akiyoshi Osaka, Okayama University

1:20 PM

(ICACC-S5-021-2010) Bioinspired synthesis of nanocomposites using self-assembling block copolymers (Invited)
Y. Yusufoglu, Y. Hu, R. Mullen, M. Kanapathipillai, K. Schmidt-Rohr, S. Mallapragada, M. Akinc*, Iowa State University, USA

2:00 PM

(ICACC-S5-022-2010) GRAPE Technology or bone-like apatite deposition in narrow grooves (Invited)
A. Sugino, Nakashima Medical, Co., Japan; S. Hayakawa, Y. Shirosaki, K. Tsuru, K. Kuramoto, A. Osaka*, Okayama U, Japan

2:20 PM

(ICACC-S5-023-2010) Biomimetic Scaffolds for Bone Regeneration (Invited)
P. X. Ma*, University of Michigan, USA

2:40 PM

(ICACC-S5-024-2010) Inorganic/ organic hybrid scaffolds for vascularized bone regeneration (Invited)
J. R. Jones*, Imperial College London, United Kingdom

3:00 PM

Break

3:20 PM

(ICACC-S5-025-2010) Multinuclear solid state NMR characterization of substituted hydroxyapatites
F. Babonneau*, C. Bonhomme, C. Gervais, UPMC-Paris6 / CNRS, France; J. Nedelec, S. Gomes, G. Renaudin, Clermont University/ENSCCF/CNRS, France; E. Jallot, Clermont University/CNRS, France; S. Hayakawa, A. Osaka, Graduate School of Natural Science and Technology, Japan

3:40 PM

(ICACC-S5-026-2010) Thermal Conductivity of Nacre and Modified Nacre (Invited)
M. White*, M. Johnson, P. Tremblay, Dalhousie University, Canada

4:00 PM

(ICACC-S5-027-2010) Assembling vanadium oxides and proteins into novel bionanocomposites through a complex coacervation process (Invited)
N. Steunou*, F. Carn, UPMC-Collège de France, France; M. Djabourov, ESPCI, France; B. Fayolle, ENSAM, France; O. Durupthy, T. Coradin, J. Livage, UPMC-Collège de France, France

4:20 PM

(ICACC-S5-028-2010) Bioinspired Materials Engineering using Polysaccharide based Biotemplates (Invited)
C. Zollfrank*, University of Erlangen-Nuremberg, Germany

4:40 PM

(ICACC-S5-029-2010) Biomaterials and Bioinspired Materials: Towards Structure by Advanced Solid State Nuclear Magnetic Resonance Techniques (Invited)
C. Bonhomme*, C. Gervais, F. Babonneau, universite P et M Curie, France; S. Hayakawa, A. Osaka, Biomaterials Laboratory, Graduate School of Natural Science and Technology, Japan; M. Smith, Department of Physics, United Kingdom; D. Laurencin, Institut Charles Gerhardt, France

5:00 PM

(ICACC-S5-030-2010) Synthesis of calcium phosphate crystals in polymeric hydrogels having carboxyl groups through gel-mediated processing
T. Yokoi*, Nagoya University, Japan; M. Kawashita, Tohoku University, Japan; K. Kikuta, C. Ohtsuki, Nagoya University, Japan

S6: International Symposium on Ceramics for Electric Energy Generation, Storage, and Distribution

Thermoelectric Materials for Energy Harvesting II

Room: Coquina H

Session Chair: Sidney Lin, Lamar University

1:20 PM

(ICACC-S6-009-2010) Thermoelectric Thick Film by Aerosol Deposition (Invited)
W. Yoon, D. Park*, J. Ryu, B. Hahn, J. Choi, B. Lee, J. Choi, Korea Institute of Materials Science, Korea, South

2:00 PM

(ICACC-S6-010-2010) Filled FeSb3-based Skutterudite Compound: a Promising p-type Thermoelectric Material
P. Qiu, R. Liu, X. Huang*, X. Chen, L. Chen, Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

2:20 PM

(ICACC-S6-011-2010) Transport Properties of Thermoelectrics for Waste Heat Recovery
P. Ritt*, H. Wang, Oak Ridge National Laboratory, USA

2:40 PM

(ICACC-S6-012-2010) Phase Transition, Piezoelectric Properties, and Dielectric properties of (1-x)Bi(Mg1/2Zr1/2)O3-xPbTiO3 Ceramics
J. Zhu*, W. Shi, Sichuan University, China

3:00 PM

Break

Advanced Ceramics and Composites for Energy Applications

Room: Coquina H

Session Chair: Dong-Soo Park, Korea Institute of Materials Science

3:20 PM

(ICACC-S6-013-2010) Electrical and thermal properties of ceramic – multiwalled carbon nanotube composites synthesized by direct in-situ growth of nanotubes (Invited)
A. Datye, The University of Tennessee, USA; K. Wu*, Florida International University, USA; H. Lin, Oak Ridge National Laboratory, USA

4:00 PM

(ICACC-S6-014-2010) A Comparison of Methods of Joining for Compact, Ceramic, Microchannel Heat Exchangers
C. Lewinsohn, J. Fellows*, H. Anderson, J. Cutts, M. Wilson, Ceramatec, Inc., USA

4:20 PM

(ICACC-S6-015-2010) Pooled Weibull Analysis of Legacy H-451 Graphite Specimen Rupture Data
N. N. Nemeth*, NASA Glenn Research Center, USA; A. G. Walker, Wright State University, USA; E. H. Baker, Connecticut Reserve Technologies, USA; R. L. Bratton, Idaho National Laboratory, USA

4:40 PM

(ICACC-S6-016-2010) Powder Synthesis, Characterization and Sintering behavior of Lithium Titanate
R. Srinivasan*, BARC, India

S7: 4th International Symposium on Nanostructured Materials and Nanotechnology: Development and Applications

Nanodevices: Fabrication and Large-scale Integration

Room: Coquina C

Session Chair: Hao Shen, Institute of Inorganic Chemistry, University of Cologne

1:20 PM

(ICACC-S7-019-2010) Characteristics of growth of horizontal semiconductor nanowires and some of their applications in electro-optical devices (Invited)
B. Nikoobakht*, National Institute of Standards and Technology, USA

2:00 PM

(ICACC-S7-020-2010) Carbon Composite Nanostructures for Engineering Applications (Invited)
J. J. Schneider*, Technische Universität Darmstadt, Germany

2:20 PM

(ICACC-S7-021-2010) Highly Sensitive pH Detectors Based on Localized Nanowire Arrays
V. A. Antohe*, Université Catholique de Louvain, Belgium; A. Radu, University of Bucharest, Romania; M. Mátéfi-Tempfli, A. Attout, S. Yunus, P. Bertrand, C. A. Dutu, S. Melinte, L. Piraux, S. Mátéfi-Tempfli, Université Catholique de Louvain, Belgium

2:40 PM

(ICACC-S7-022-2010) Ultra-fast gas sensors based on self-heating operated individual metal oxide nanowires (Invited)
J. Prades, Catalonia Institute for Energy Research (IREC), Spain; R. Jimenez-Diaz, University of Barcelona, Spain; F. Hernandez-Ramirez*, Catalonia Institute for Energy Research (IREC), Spain; J. Pan, University of Cologne, Germany; A. Romano-Rodriguez, University of Barcelona, Spain; S. Mathur, University of Cologne, Germany; J. Morante, Catalonia Institute for Energy Research (IREC), Spain

3:00 PM

Break

3:20 PM

(ICACC-S7-023-2010) Silicon Based Nanostructured Ceramics with Integrated Functional and Sensoric Properties (Invited)
R. Riedel*, Technische Universitaet Darmstadt, Germany

4:00 PM

(ICACC-S7-024-2010) Room temperature gas sensing devices based on novel SnO2-Ga2O3 and ZnO-Ga2O3 nanostructures (Invited)
L. Mazeina*, S. M. Prokes, F. K. Perkins, S. P. Arnold, Naval Research Laboratory, USA

4:20 PM

(ICACC-S7-025-2010) Ink-Jet- Printing for Manipulation and Fabrication of Nanostructures
R. von Hagen*, D. Zopes, G. Fornalczyk, H. Shen, S. Mathur, University of Cologne, Germany

4:40 PM

(ICACC-S7-026-2010) Nanostructured Tin Dioxide and Tungsten Trioxide Gas Sensors Prepared by Glancing Angle Deposition
D. Deniz*, A. Reghu, J. Misener, R. J. Lad, University of Maine, USA

5:00 PM

(ICACC-S7-027-2010) Charged and mobility of CNTs in glow discharge plasma
D. V. Smovzh*, Institute of thermophysics, Russia

S8: 4th International Symposium on Advanced Processing and Manufacturing Technologies (APMT) for Structural and Multifunctional Materials and Systems

Advanced Composite Manufacturing I

Room: Coquina B

Session Chairs: Alexander Michaelis, Fraunhofer Institute; Junichi Tatami, Yokohama National University

1:20 PM

(ICACC-S8-018-2010) Advanced Processing Technologies for Innovative Ceramic Systems (Invited)
A. Michaelis*, Fraunhofer Institute, Germany

2:00 PM

(ICACC-S8-019-2010) Cost effective Processing for Superior Mechanical Properties for Ceramic Composite via Thermal Mismatch Reduction
O. L. Ighodaro*, O. I. Okoli, B. Wang, HPMI, FAMU-FSU College of Engineering, USA

2:20 PM

(ICACC-S8-020-2010) Carbon Nanofiber Reinforced Ceramic Nanocomposites
C. Li, F. Liang, Y. Tang, J. Guo, C. Xu, L. An*, University of Central Florida, USA

2:40 PM

(ICACC-S8-021-2010) Fabrication of CNT dispersed Al_2O_3 ceramics by dry mechanical mixing technique
J. Tatami*, M. Kondo, T. Wakihara, K. Komeya, T. Meguro, Yokohama National University, Japan

3:00 PM

Break

3:20 PM

(ICACC-S8-023-2010) Properties and Fabrication of Carbon Nanotubes Dispersed Al2O3 Composites
B. Jang*, Y. Sakka, National Institute for Materials Science, Japan; J. Kim, T. Sekino, Tohoku University, Japan

3:40 PM

(ICACC-S8-024-2010) Fabrication of CNT-dispersed Si_3N_4 ceramics by HfO_2 and TiO_2 adding as sintering aids
M. Matsuoka*, T. Yamakawa, J. Tatami, T. Wakihara, K. Komeya, T. Meguro, Yokohama National University, Japan

4:00 PM

(ICACC-S8-025-2010) Silicon carbide based composites by direct in-situ reinforcement by secondary phases and carbon nanotubes
A. Datye*, K. Wu, Florida International University, USA; H. Lin, Oak Ridge National Laboratory, USA; K. Vanmeensel, J. Vleugels, KU Leuven, Belgium

4:20 PM

(ICACC-S8-026-2010) Dispersion behavior of carbon nanotubes in ethanol suspension prepared by beads milling process
Y. Sara*, T. Junichi, W. Toru, K. Katutosi, M. Takeshi, A. Kenji, Yokohama National University, Japan

4:40 PM

(ICACC-S8-027-2010) Controlled amine functionalization of multi walled carbon nanotubes for PLA-CNT composites
S. Kesavan Pillai*, J. Ramontja, S. Sinha Ray, Council for Scientific and Industrial Research (CSIR), South Africa

5:00 PM

(ICACC-S8-028-2010) Metal Oxide Nanoelectrodes for Environmental Sensors
Y. Masuda*, D. Chu, X. Hu, T. Ohji, K. Kato, National Institute of Advanced Industrial Science and Technology (AIST), Japan; M. Ajimi, TOTO Ltd., Japan; M. Bekki, TOTO Ltd., Japan; S. Sonezaki, TOTO Ltd., Japan

5:20 PM

(ICACC-S8-071-2010) Effect of Various Factors on Interface Formation in Magnetic Pressure Seam Welding
H. Serizawa*, I. Shibahara, S. Rashed, H. Murakawa, Osaka University, Japan; S. Kumai, Tokyo Institute of Technology, Japan

S9: Porous Ceramics: Novel Developments and Applications

Structure and Properties of Porous Ceramics III

Room: Coquina F

Session Chair: Omer Van der Biest, Leuven University

1:20 PM

(ICACC-S9-022-2010) SRNL Porous Wall, Hollow Glass Microspheres (PW-HGMs) (Invited)
G. Wicks*, Savannah River National Laboratory, USA

2:00 PM

(ICACC-S9-023-2010) Glass formation and cell structure in porous borosilicate glasses
M. Scheffler, C. Ohl, M. Kappa, C. Olschewski, V. Wilker, BTU Cottbus, Germany; S. Bhattacharjee, Institute of Minerals & Materials Technology, India; F. Scheffler*, Otto-von-Guericke University, Germany

2:20 PM

(ICACC-S9-024-2010) Fabrication of solid-coated microcapsules with unique microstructural and mechanical properties
P. N. Sturzenegger*, U. T. Gonzenbach, L. J. Gauckler, ETH Zürich, Switzerland

2:40 PM

(ICACC-S9-025-2010) Reticulated SiC foam X-ray CT, meshing, and simulation
A. Ortona*, S. Pusterla, SUPSI, Switzerland

3:00 PM

Break

Applications of Porous Ceramics I

Room: Coquina F

Session Chair: Sujanto Widjaja, Corning Incorporated

3:20 PM

(ICACC-S9-026-2010) Aluminum titanate-based composites for diesel particulate filter application (Invited)
M. Backhaus-Ricoult*, B. Wheaton, P. Tepesch, Corning Inc, USA

4:00 PM

(ICACC-S9-027-2010) A better life through porous ceramics
L. Jan*, M. Steven, S. Frans, B. Anita, VITO, Belgium

4:20 PM

(ICACC-S9-028-2010) Fabrication of SRBSNs with wide pore channel by Si mixture granule
Y. Park*, J. Hwang, H. Yoon, J. Lee, I. Song, H. Kim, Korea Institute of Materials Science, Korea, South

4:40 PM

(ICACC-S9-029-2010) Mechanical Behavior with Temperature of Cellular SiC
J. Y. Pastor*, M. Presas, Universidad Politecnica de Madrid, Spain; J. LLorca, Imdea-Materiales, Spain

5:00 PM

(ICACC-S9-030-2010) In-situ foam characterization prepared by various clays
E. Prud'homme*, P. Michaud, GEMH-ENSCI, France; E. Joussein, GRESE, France; S. Rossignol, GEMH-ENSCI, France

5:20 PM

(ICACC-S9-031-2010) In-situ Foaming and Controlled Drying of Particles' Stabilized Foams
G. S. Grader*, G. E. Shter, D. Fuks, Technion, Israel

Poster Session A

Room: Exhibit Hall

5:00 PM

(ICACC-S4-P001-2010) Elastic-Plastic Indentation Response of Transparent Ceramics
A. M. Muller*, D. J. Green, The Pennsylvania State University, USA

(ICACC-S4-P002-2010) Apparent Yield Stress and Hardness
A. Wereszczak*, K. T. Strong, Jr., Oak Ridge National Laboratory, USA; J. J. Swab, D. Danna, J. LaSalvia, US Army Research Laboratory, USA; M. Ragan, Oak Ridge National Laboratory, USA

(ICACC-S4-P003-2010) Processing Method for Producing SiC Armor Tiles of Higher Performance at Lower Cost
B. Chelluri*, E. Knoth, E. Schumaker, IAP Research Inc, USA; L. Prokurat Franks, U.S. Army, USA

(ICACC-S4-P004-2010) Elaboration and mechanical properties of boron-carbide reinforced alumina composites as light ceramic armors
C. Tabarino*, C. Pagnoux, J. Baumard, SPCTS, ENSCI, CNRS, France

(ICACC-S4-P005-2010) Future Transparent Materials Evaluated through Parametric Analysis
C. G. Fountzoulas*, Army Reserach Laboratory, USA

(ICACC-S4-P006-2010) Response of Several Tough Monolithic Ceramics to Quasi-Static Indentation
E. R. Shanholtz*, H. T. Miller, U.S. Army Research Laboratory, USA; R. L. Yeckley, Kennametal, Inc., USA; J. LaSalvia, U.S. Army Research Laboratory, USA

(ICACC-S4-P007-2010) Progress toward an ultra-hard MeB_2-SiC-B_4C (Me=Ti, Zr, or Hf) composite
H. J. Brown-Shaklee*, E. W. Neuman, W. G. Fahrenholtz, G. E. Hilmas, Missouri University of Science and Technology, USA

(ICACC-S4-P008-2010) Strength Testing of Transparent Armor Ceramics
J. J. Swab*, US Army Research Laboratory, USA; D. Danna, Oak Ridge Institute for Science & Technology, USA; G. Gilde, P. Patel, US Army Research Laboratory, USA

(ICACC-S4-P009-2010) Effect of Quasi-Plasticity on Cone Cracking
J. LaSalvia*, J. W. McCauley, U.S. Army Research Laboratory, USA

(ICACC-S4-P010-2010) Y2O3-MgO-ZrO2 High Performance Optical Ceramics for Infrared Windows
J. Wang*, Naval Research Laboratory, USA; E. H. Jordan, M. Gell, University of Connecticut, USA

(ICACC-S4-P011-2010) Optimization of a Portable Microwave Interference Scanning System for Nondestructive Testing of Multi-Layered Dielectric Materials
K. Schmidt*, J. Little, Evisive, Inc., USA; W. Ellingson, Argonne National Laboratory, USA; W. Green, US Army Research Laboratory, USA

(ICACC-S4-P012-2010) Static and Dynamic Properties of Mg/Ceramic MMCs
M. K. Aghajanian*, A. L. McCormick, A. L. Marshall, M Cubed Technologies, USA

(ICACC-S4-P013-2010) Microstructure and property development in reaction bonded boron carbide (RBBC)
P. Karandikar*, S. Wong, G. Evans, M. Aghajanian, M Cubed Technologies, USA

(ICACC-S4-P014-2010) Multiscale Computational Modeling of Armor Ceramics
R. Kraft*, U.S. Army Research Laboratory, USA

(ICACC-S4-P015-2010) Comparing Microstructure Differences between Rare Earth Doped Silicon Carbides by Hot Pressing and Spark Plasma Sintering
R. C. Wadams*, S. R. Mercurio, R. A. Haber, Rutgers University, USA

(ICACC-S4-P016-2010) RCIF and Apparent Yield Strength of Sialon Composites
R. Yeckley*, Kennametal, USA; A. Wereszczak, K. Strong, Oak Ridge National Laboratory, USA; J. LaSalvia, Army Research Laboratory, USA

(ICACC-S4-P017-2010) Impact Study of AIN-AION Composite
K. Das, M. H. Dafadar, Central Glass & Ceramic Research Institute, India; R. K. Varma, Terminal Ballistic Research Laboratory, India; S. K. Biswas*, Central Glass & Ceramic Research Institute, India

(ICACC-S4-P018-2010) Ultra Fast Radio Frequency Lamination for Large Armor Panels
S. Allan*, M. Fall, H. Shulman, Ceralink Inc, USA

(ICACC-S4-P019-2010) Corrective Techniques for Ultrasonic Nondestructive Evaluation
S. Bottiglieri*, R. A. Haber, Rutgers University, USA

(ICACC-S4-P020-2010) A Study of Grain Boundary Phases in Silicon Carbide using Transmission Electron Microscopy
S. Miller*, S. Mercurio, R. Haber, Rutgers University, USA

(ICACC-S4-P021-2010) Exploring the Role of Core/Rim Microstructures in Silicon Carbide
S. R. Mercurio*, R. Wadams, M. Jitianu, S. Miller, R. Haber, Rutgers University, USA

(ICACC-S4-P023-2010) Optimization Design of Ceramic Pellet Armor Systems from High-Velocity Impact
T. Gorsich*, J. Jones, D. Templeton, U.S. Army TACOM, USA

(ICACC-S4-P024-2010) Identification of NDE Methods for Inspection of Multi-Layer Ceramic Composite Armor
T. J. Meitzler*, L. P. Franks, US Army, USA; W. A. Ellingson, E. R. Koehl, Argonne National Laboratory, USA; S. Steckenrider, Illinois College, USA

(ICACC-S4-P025-2010) A Comparison of NDE Methods for Inspection of Composite Ceramic Armor
W. A. Ellingson*, E. R. Koehl, Argonne National Laboratory, USA; T. J. Meitzler, L. P. Franks, US Army, USA; S. Steckenrider, Illinois College, USA

(ICACC-S4-P026-2010) Quantitative Evaluation of Structural Damage in Lightweight Armor Materials via XCT
W. H. Green*, K. Cho, J. Montgomery, U.S. Army Research Laboratory, USA

(ICACC-S5-P027-2010) NMR characterization of the apatite-like layer formed on a sol-gel glass soaked in SBF
A. J. Salinas*, M. Vallet-Regi, Universidad Complutense, Spain; F. Pourpoint, G. Gasqueres, C. Bonhomme, F. Babonneau, UPMC/CNRS, France

(ICACC-S5-P028-2010) Fabrication of nano-macro porous glass with a water soluble pore former
H. M. Moawad*, H. Jain, Lehigh University, USA

(ICACC-S5-P029-2010) Changes of mechanical properties of PEEK/calcium silicate composites in a simulated body fluid
I. Kim*, Nagoya university, Japan; S. Cho, Korea Institute of Geosciences and Mineral Resources, Korea, South; K. Kikuta, C. Ohtsuki, Nagoya university, Japan

(ICACC-S6-P030-2010) High-temperature calorimetry and thermal analysis of perovskites
A. Levchenko*, Setaram Inc, USA

(ICACC-S6-P031-2010) Transfer of $LiCoO_2$ Thin Film onto a Polymer Substrate for Li Microbattery Applications
C. Ni, K. Fung*, National Cheng Kung University, Taiwan

(ICACC-S6-P032-2010) The orientational control of BN nano sheet using nano trench structure
T. Fujihara*, H. Cho, T. Nakayama, M. Shoji, M. Takeda, T. Suzuki, Y. Tokoi, H. Suematsu, K. Niihara, Nagaoka Univ of Tech, Japan

(ICACC-S6-P033-2010) Dye-sensitized solar cell based on anodic TiO2 nanotubes produced from anodization in fluoride-free electrolyte
N. F. Fahim, T. Sekino*, iInstitute of Multidisciplinary Research for Advanced Materials, Tohoku university, Japan

(ICACC-S6-P034-2010) Processing and properties of LiFePO4 particles by hydrothermal method
W. Sakamoto*, R. Isomura, T. Shimura, M. Moriya, T. Yogo, Nagoya University, Japan

(ICACC-S6-P035-2010) Effect of rare-earth doping on thermoelectric properties of porous SiC synthesized by silicon carbonization technique
Y. Yamamoto*, H. Mabuchi, T. Matsui, Osaka Prefecture University, Japan

(ICACC-S8-P036-2010) Blocking Effect in Microwave Processed YSZ -II
A. Kumar*, SBS College of Engineering and Technology, India; K. L. Singh, Lala Lajpat Rai Institute of Engineering and Technology, India; A. P. Singh, SBS College of Engineering and Technology, India; S. S. Sekhon, Guru Nanak Dev Universiy, India

(ICACC-S8-P037-2010) Superhydrophobic nanostructured boehmite coatings prepared by AlN powder hydrolysis
A. Dakskobler*, A. Kocjan, T. Kosmac, Jozef Stefan Institute, Slovenia

(ICACC-S8-P038-2010) Improvement in Properties of Microwave Processed CGYO an Electrolyte for Intermediate Temperature SOFC
A. P. Singh*, S. P. Kaur, SBS College of Engineering and Technology, India; K. L. Singh, Lala Lajpat Rai Institute of Engineering and Technology, India; A. Kumar, SBS College of Engineering and Technology, India

(ICACC-S8-P039-2010) Nano-Crystalline Yttria Samaria Codoped Zirconia: Comparison of Electrical Conductivity of Microwave & Conventionally Sintered Samples
S. Koley, A. Ghosh, A. K. Sahu, A. K. Suri*, Bhabha Atomic Research Centre, India

(ICACC-S8-P040-2010) The effect of carbon black addition during LSI process for C/C-SiC composite
S. Kim, S. Woo, I. Han, Korea Institute of Energy Research, Korea, South; B. Jang*, National Institute for Materials Science, Japan

(ICACC-S8-P041-2010) Sintering and mechanical properties of silicon carbide composites with in-situ converted titanium oxide to titanium carbide
D. Ahmoye*, V. D. Krstic, Queen's University, Canada

(ICACC-S8-P042-2010) Synthesis of B4C / ZrB2 Composite from Sugar Based Precursor
E. Çakir*, C. Ergun, ÖZKAN. Gökçekaya, F. Ç. Sahin, I. Erden, Istanbul Technical University, Turkey

(ICACC-S8-P043-2010) Fabrication of Carbon Short Fiber Reinforced RBSC Composites with High Toughness for Ceramic Heat Exchanger
G. Cho*, J. Yang, G. Kim, S. Park, Korea Inst. of Science and Technology, Korea, South

(ICACC-S8-P044-2010) Synthesis of High Purity β-SiC Powder with Controlled Size using Modified Sol-Gel Process
G. Kim*, G. Cho, Y. Cho, Korea Inst. of Science and Technology, Korea, South; D. Lim, Korea University, Korea, South; S. Park, Korea Inst. of Science and Technology, Korea, South

(ICACC-S8-P045-2010) Oxidation Behavior of Zirconium Diboride-Silicon Carbide Composites
I. Akin*, F. Sahin, O. Yucel, G. Goller, Istanbul Technical University, Turkey

(ICACC-S8-P046-2010) Mechanical properties of Cr-Si-N-O thin films deposited by RF reactive unbalanced magnetron sputtering
J. Shirahata*, T. Ohori, T. Suzuki, T. Nakayama, H. Suematsu, K. Niihara, Nagaoka University of Technology, Japan

(ICACC-S8-P047-2010) Blocking Effect in Microwave Processed YSZ -I
K. L. Singh*, Lala Lajpat Rai Institute of Engineering and Technology, India; A. Kumar, A. P. Singh, Shaheed Bhagat Singh College of Engineering and Technology, India; S. S. Sekhon, Guru Nanak Dev University, India

(ICACC-S8-P048-2010) The development of high throughput type nano imprint technique using the AlN heater
K. Imaki*, T. Nakayama, H. Kim, J. Yoshimura, Y. Tokoi, S. Suzuki, T. Suzuki, H. Suematsu, K. Niihara, Nagaoka Univ of Tech, Japan

(ICACC-S8-P049-2010) Aqueous Colloidal Processing of PLZT Ceramics near the Morphotropic Phase Boundary
C. D. Munro, K. P. Plucknett*, Dalhousie University, Canada

(ICACC-S8-P050-2010) Response Surface Modeling For predicting the Production Accuracy In Ultrasonic Drilling Of Engineering Ceramics
R. S. Jadoun, GBPUAT, Pantnagar, India; N. Singh*, Maharaja Agarsen Institute of Technology, India

(ICACC-S8-P051-2010) Modeling and Analysis of Machinability Evaluation in the Ultrasonic Drilling (USD) Process of Aluminum Oxide-Based Ceramics
R. S. Jadoun*, GBPUAT, Pantnagar, India

(ICACC-S8-P052-2010) Pressureless Sintering of Carbon Nanotube-Zirconium Diboride (ZrB2) Composites
S. C. Zhang*, G. E. Hilmas, W. G. Fahrenholtz, Missouri University of Science and Technology, USA

(ICACC-S8-P053-2010) Synthesis of Ba S-phase SiAlON by nitridation using ammonia gas
T. Wakihara*, A. Ihara, J. Tatami, K. Komeya, T. Meguro, Yokohama National University, Japan

(ICACC-S8-P054-2010) Microstructure Dependance of Electrical Properties of BaTiO3 -Ceramics
V. Mitic*, University of Nis, Serbia; V. B. Pavlovic, University of Belgrade, Serbia; V. Paunovic, University of Nis, Serbia; B. Jordovic, University of Kragujevac, Serbia; M. Miljkovic, L. Zivkovic, University of Nis, Serbia

(ICACC-S8-P055-2010) Using chemical mechanical polishing to smoothen a high k nanocomposite polyimide insulator for organic thin film transistors application
W. Lee*, S. Wang, National Cheng-Kung University, Taiwan

(ICACC-S8-P056-2010) Joining of SiC by liquid phase sintering SiC with Al-B4C-C additives
W. Tian*, N. Kondo, H. Hyuga, H. Kita, National Institute of Advance Industrial Science and Technology, Japan

(ICACC-S9-P057-2010) Foams, Emulsions and Colloidal Capsules stabilized by Particles
B. S. Seeber*, P. N. Sturzenegger, F. Krauss, U. T. Gonzenbach, E. Tervoort, L. J. Gauckler, ETH Zürich, Switzerland

(ICACC-S9-P058-2010) Fabrication of porous silicon carbide using in-situ crystal growth
K. Yoshida*, C. See, T. Yano, Tokyo Institute of Technology, Japan

(ICACC-S9-P059-2010) Porosity and 3D microstructural characterization of ceramics and composites at multiscale resolution
S. H. Lau*, Xradia Inc., USA; N. Chawla, Arizona State University, USA; L. Hunter, T. Fong, J. Gelb, Xradia Inc., USA

(ICACC-S9-P060-2010) In Situ Processing of Porous Ceramics with Pseudobrookite-type Structure Toward Third Generation Diesel Particulate Filter Materials
Y. Suzuki*, Kyoto University, Japan

(ICACC-S10-P061-2010) Fabrication of heat insulator using porous ceramics materials
K. Kugimiya*, H. Matsubara, Japan Fine Ceramics Center, Japan

(ICACC-S10-P062-2010) Polymer composites with ceramic nanofillers for ablative thermal protection systems
M. Lombardi*, P. Fino, Politecnico di Torino, Italy; M. Antonacci, C. Chiarelli, G. Pippia, Thales Alenia Space – Italia, Italy; G. Malucelli, A. Frache, L. Montanaro, Politecnico di Torino, Italy

(ICACC-S10-P063-2010) High Thermal Conductivity of Carbon Nanotube and SiC Composites Synthesized by Surface Decomposition
M. Kusunoki*, W. Norimatsu, C. Kawai, Nagoya University, Japan

(ICACC-S10-P064-2010) Approach to the Heat-Island Effect Mitigation by a Novel Ceramics Forming Technique
T. Shirai*, T. Kato, H. Watanabe, M. Fuji, M. Takahashi, Nagoya Institute of Technology, Japan

(ICACC-FS1-P066-2010) Effect of Synthesis Parameters and Post-Cure Temperature Exposure on the Mechanical Properties of Geopolymers Containing Slag
B. Evans*, J. Eichler, T. Metroke, Universal Technology Corporation, USA; M. V. Henley, M. I. Hammons, Air Force Research Laboratory, USA

(ICACC-FS1-P067-2010) Effect of PVA Chopped Fiber Reinforcements on the Mechanical Properties of Potassium-based Geopolymer Systems
D. Lowry*, W. M. Kriven, University of Illinois at Urbana-Champaign, USA

(ICACC-FS1-P068-2010) Properties of Basalt Fiber Reinforced Geopolymer Composites
E. Rill*, W. M. Kriven, University of Illinois at Urbana-Champaign, USA

(ICACC-FS1-P069-2010) Porosity Characteristics of Geopolymers
T. Metroke*, Universal Technology Corporation, USA; M. Hammons, M. V. Hammons, Air Force Research Laboratory, USA

(ICACC-FS1-P070-2010) Preparation of electric conductance materials based on geopolymer
Z. Cerny*, Institute of inorganic chemistry, AVCR, v.v.i., Czech Republic; P. Roubicek, České lupkové závody a.s., Czech Republic; I. Jakubec, P. Bezdicka, Institute of inorganic chemistry, AVCR, v.v.i., Czech Republic

(ICACC-FS1-P071-2010) Experience of the industrial production with pre-cast geopolymer building elements
R. Janku*, Czech Development Agency, Czech Republic; T. Hanzlicek, I. Perna, Czech Academy of Science, Czech Republic; Z. Ertl, Czech Development Agency, Czech Republic

Wednesday, January 27, 2010

S1: Mechanical Behavior and Performance of Ceramics & Composites

Fracture Mechanics, Modeling, and Testing

Room: Coquina A

Session Chairs: Nicholas Randall, CSM Instruments; Sung Choi, Naval Air Systems Command

8:00 AM

(ICACC-S1-031-2010) Fundamental Aspects of Heterophase Boundaries in Composites (Invited)
M. Ruehle*, MPI for Metal Research, Germany

8:40 AM

(ICACC-S1-032-2010) Nanoindentation analysis as a two-dimensional tool for mapping the mechanical properties of complex microstructures
N. Randall*, CSM Instruments, USA

9:00 AM

(ICACC-S1-033-2010) Modelling of the influence of damage on the thermal conductivity of ceramic matrix composites
J. L. Lamon*, J. El Yagoubi, J. Batsale, CNRS, France

9:20 AM

(ICACC-S1-034-2010) Silicon nitride ceramics with high bridging stresses
S. Fünfschilling*, University of Karlsruhe, Germany; P. F. Becher, Oak Ridge National Laboratory, USA; T. Fett, University of Karlsruhe, Germany; H. Özcoban, Hamburg University of Technology, Germany; R. Oberacker, Oak Ridge National Laboratory, USA; G. A. Schneider, Hamburg University of Technology, Germany; M. J. Hoffmann, Oak Ridge National Laboratory, USA

9:40 AM

(ICACC-S1-035-2010) Investigation of Creep Behavior of Si-C-O Ceramics by Nano- and Micro-Tests at High Temperatures
M. Gan*, V. Tomar, Purdue University, USA

10:00 AM

(ICACC-S1-036-2010) Nano-indentation Hardness measurements as a characterization technique of SiC- and pyrolytic carbon layers of experimental PBMR coated particles
I. J. van Rooyen*, E. Nquma, J. Mahlangu, PBMR, South Africa; J. H. Neethling, Nelson Mandela Metropolitan University, South Africa

10:20 AM

(ICACC-S1-037-2010) Hertzian Indentation of Ceramic Cutting Tools
R. Yeckley*, S. Landwehr, Kennametal, USA; A. Wereszczak, Oak Ridge National Laboratory, USA

10:40 AM

(ICACC-S1-038-2010) Observation of Fracture Surface of PMN-PT Single Crystal by Scanning Probe Microscope
A. Matsunaga*, S. Tasaki, J. Tatami, T. Wakihara, K. Komeya, T. Meguro, Yokohama National University, Japan

11:00 AM

(ICACC-S1-039-2010) Stress analysis on control rod of C/C composite for Very High Temperature Reactor (VHTR) application
T. Shibata, J. Sumita, Japan Atomic Energy Agency (JAEA), Japan; T. Makita, Japan Atomic Energy Agency (JAEA), Japan, Japan Atomic Energy Agency (JAEA), JapanTokai Carbon, Japan; I. Fujirta, Japan Atomic Energy Agency (JAEA), Japan; T. Takagi, Ibiden, Japan; K. Sawa*, Japan Atomic Energy Agency (JAEA), Japan

11:20 AM

(ICACC-S1-040-2010) Threshold of Ring Crack Initiation on Ceramic Materials under Particle Impact
M. Suh*, Kyoto University, Japan; S. Oh, W. Jeong, Kyungpook National University, Korea, South; A. Kohyama, Muroran Institute of Technology, Japan; T. Hinoki, Kyoto University, Japan; C. Suh, Kyungpook National University, Korea, South

11:40 AM

(ICACC-S1-041-2010) Chemical Vapor Deposited Carbon Nanotubes Reinforced Aluminum Oxide Coating with Improved Fracture Resistance
A. K. Keshri*, J. Huang, Florida International University, USA; V. Singh, University of Central Florida, USA; W. Choi, Florida International University, USA; S. Seal, University of Central Florida, USA; A. Agarwal, Florida International University, USA

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

Thermal Barrier Coatings I

Room: Ponce DeLeon

Session Chairs: Dongming Zhu, NASA Glenn Research Center; Uwe Schulz, German Aerospace Center

8:00 AM

(ICACC-S2-012-2010) Recent Advances in Plasma Spray Processing of Conventional and Novel Thermal Barrier Coatings (Invited)
S. Sampath*, Center for Thermal Spray Research, USA

8:40 AM

(ICACC-S2-013-2010) The Durability of High-Purity, Low-Density Thermal Barrier Coatings Fabricated by Air Plasma Spraying (Invited)
M. A. Helminiak, N. M. Yanar, F. S. Petit, G. Meier*, University of Pittsburgh, USA; T. A. Taylor, Praxair Surface Technologies, USA

9:40 AM

Break

10:00 AM

(ICACC-S2-015-2010) Oxidation-Induced Stresses in Thermal Barrier Coating Systems (Invited)
H. E. Evans*, University of Birmingham, United Kingdom

10:40 AM

(ICACC-S2-016-2010) Thermomechanical fatigue life of TBCs: Experimental and modelling aspects (Invited)
S. Sjostrom*, SIEMENS Industrial Turbomachinery AB, Sweden; H. Brodin, Linkoping University, Sweden

11:20 AM

(ICACC-S2-017-2010) Effect of microstructure change of APS-TBCs on the interfacial mechanical property under shear loading
M. Hasegawa*, H. Fukutomi, Yokohama National University, Japan

11:40 AM

(ICACC-S2-018-2010) Damage Evolution of Thermal Barrier Coatings under TMF Test: Out-of-phase and In-phase
R. Kitazawa*, M. Tanaka, Y. Liu, Y. Kagawa, The University of Tokyo, Japan

S3: 7th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Seals, Materials and Designs

Room: Coquina E

Session Chairs: Prabhakar Singh, Connecticut Global Fuel Center; Tatsumi Ishihara, Kyushu University

8:00 AM

(ICACC-S3-030-2010) Thermal properties and interfacial reaction of Sr-Ca-Al-Y-B-Si SOFC sealing glasses (Invited)
Y. Chou*, Pacific Northwest National Laboratory, USA; R. T. Williams, Columbia Basin College, USA; J. Choi, J. W. Stevenson, Pacific Northwest National Laboratory, USA

8:40 AM

(ICACC-S3-031-2010) Performance and testing of glass-ceramic sealant in planar SOFC
F. Smeacetto*, M. Salvo, P. Leone, M. Santarelli, Politecnico di Torino, Italy; A. Chrysanthou, University of Hertfordshire, United Kingdom; T. Moskalewicz, AGH University of Science and Technology, Poland; M. Ferraris, Politecnico di Torino, Italy

9:00 AM

(ICACC-S3-032-2010) Interfacial Behavior of T441 Interconnect/Glass Seal for Solid Oxide Fuel/Electrolyzer Cells
T. Jin, K. Lu*, Virginia Institute of Polytechnic and State University, USA

9:20 AM

(ICACC-S3-033-2010) Resistance to highly humidified conditions for glass/ceramic composite gas-tight seals
S. Suda*, K. Kawahara, Y. Nakamura, K. Jono, Japan Fine Ceramics Center, Japan

9:40 AM

Break

10:00 AM

(ICACC-S3-034-2010) High Temperature Materials for SOFC Seal Applications
N. Magdefrau*, S. Tulyani, E. Sun, J. Yamanis, United Technologies Research Center, USA

10:20 AM

(ICACC-S3-035-2010) Preparation and Characterization of LSCF (La0.58Sr0.4Co0.2Fe0.8Ox)/GDC (Ce0.8Gd0.2O2) Cathode
N. Li, A. Smirnova, A. Verma, P. Singh, Connecticut Global Fuel Cell Center, USA; J. Kim*, University of Connecticut, USA

10:40 AM

(ICACC-S3-036-2010) Sealing Performance of an Alkaline Earth Silicate Glass for Solid Oxide Fuel/Electrolyzer Cell
M. K. Mahapatra*, K. Lu, Virginia Tech, USA

11:00 AM

(ICACC-S3-037-2010) Evaluation of Cr-blocking thin films on stainless steel SOFC interconnects
A. Pramanick*, J. Lee, R. Lacey, D. Edwards, Kazuo Inamori School of Engineering, Alfred University, USA; R. Naum, Applied Coatings Inc, USA; S. T. Misture, Kazuo Inamori School of Engineering, Alfred University, USA

11:20 AM

(ICACC-S3-038-2010) Sintering of Co_2MnO_4 spinel for protecting coating on stainless steel interconnectors
A. L. Prette*, V. M. Sglavo, University of Trento, Italy

11:40 AM

(ICACC-S3-039-2010) (MnCo)3O4 Based Spinel as Coating Material for SOFC Interconnect (Invited)
L. Chen*, D. Frame, N. Magdefrau, E. Y. Sun, J. Yamanis, United Technologies Research Center, USA

S4: Armor Ceramics

Transparent Materials

Room: Coquina D

Session Chair: Andrew Wereszczak, Oak Ridge National Laboratory

8:00 AM

(ICACC-S4-030-2010) Nano-Processing for Larger Transparent Spinel Compacts (Invited)
A. Krell*, T. Hutzler, K. Jens, Fraunhofer IKTS, Germany

8:40 AM

(ICACC-S4-031-2010) Chemical interactions of transparent magnesium aluminate spinel hot-pressed with LiF
M. Rubat du Merac*, I. Reimanis, Colorado School of Mines, USA; H. Kleebe, Technische Universität Darmstadt, Germany

9:00 AM

(ICACC-S4-032-2010) Physical Evaluation of Transparent MgAl2O4 Prepared From Commerically Available Mg and Al Oxides and Hydroxides
A. C. Sutorik*, G. Gilde, S. Kilczewski, J. Swab, A. Lidie, Army Research Laboratory, USA

9:20 AM

(ICACC-S4-033-2010) Microstructure and IR Transmittance of Yttria-Magnesia (50:50 vol.%) Nano-composites Consolidated from Agglomerated and Ultrasonic Horn Treated Nano-Powders
J. Liu*, University of California-Davis, USA; B. Kear, Rutgers University, USA; A. K. Mukherjee, University of California-Davis, USA

9:40 AM

Break

10:00 AM

(ICACC-S4-034-2010) Experimental Methods for Characterization and Evaluation of Transparent Armor Materials (Invited)
E. Strassburger*, Fraunhofer EMI, Germany; J. W. McCauley, P. Patel, US Army Research Laboratory, USA; M. Hunzinger, Fraunhofer EMI, Germany

10:40 AM

(ICACC-S4-035-2010) Transparent Armor Cost Benefit Study
R. P. Kleinberg*, US Army TACOM, USA; L. Prokurat-Franks, TARDEC, USA; D. Holm, US Army TACOM, USA

11:00 AM

(ICACC-S4-036-2010) Fabrication and Characterization of Transparent Polycrystalline YAG Ceramic Materials
H. Choi*, B. Sirn, K. Keller, H. Lee, UES Inc, USA

11:20 AM

(ICACC-S4-037-2010) Strengthening of Soda-Lime Silicate Glass Using High-Intensity Plasma-Arc Heating
A. Wereszczak*, D. C. Harper, Oak Ridge National Laboratory, USA

11:40 AM

(ICACC-S4-038-2010) Transparent Polycrystalline Alumina for MWIR Missile Domes
M. R. Pascucci*, M. V. Parish, CeraNova Corporation, USA

S5: Next Generation Bioceramics

Porous Bioceramics - Joint Session with S9 Porous Ceramics Symposium

Room: Coquina G

Session Chairs: Karin Hing, Queen Mary University of London; Jan Luyten, VITO NV

8:00 AM

(ICACC-S5-031-2010) Porous bioceramics (Invited)
F. Müller*, Friedrich-Schiller-University, Germany

8:40 AM

(ICACC-S5-032-2010) Nano-porous hydroxyapatite microspheres
C. Lin, C. Xiao, Z. Shen*, Stockholm University, Sweden

9:00 AM

(ICACC-S5-033-2010) Enhanced cell response mediated by protein layer at porous silicate substituted apatite surfaces (Invited)
K. Guth, C. Campion, Queen Mary University of London, United Kingdom; T. Buckland, ApaTech Ltd, United Kingdom; K. Hing*, Queen Mary University of London, United Kingdom

9:20 AM

(ICACC-S5-034-2010) Tissue engineering based on porous scaffolds (Invited)
J. Luyten*, S. Mullens, M. Ravelingien, VITO NV, Belgium

9:40 AM

Break

10:00 AM

(ICACC-S5-035-2010) Porous bioceramics: new processing routes for high performance components (Invited)
D. Koch*, S. Barg, M. Pulkin, C. Soltmann, K. Rezwan, G. Grathwohl, University of Bremen, Germany

10:20 AM

(ICACC-S5-036-2010) Development and Characterization of High Strength Porous Tissue Scaffolds
J. Liu*, A. Wallen, J. Nuutinen, K. Patel, GEO2 Technologies, USA

10:40 AM

(ICACC-S5-037-2010) Porous Biphasic Calcium Phosphate Scaffolds Using Cuttlefish Bone
P. Sarin*, University of Illinois at Urbana-Champaign, USA; S. Lee, Mokpo National University, Korea, South; Z. Apostolov, W. M. Kriven, University of Illinois at Urbana-Champaign, USA

11:00 AM

(ICACC-S5-038-2010) The Use of Atomic Force Microscopy to Study Cell Adhesion in Borate Glasses
S. Wiederhorn*, Y. Chae, C. Simon, National Institute of Standards and Technology, USA; D. Day, Missouri University of Science and Technology, USA

11:20 AM

(ICACC-S5-039-2010) Rapid biomimetic calcium phosphate coating on metals and polymers at room temperature
A. Tas*, Yeditepe University, Turkey

11:40 AM

(ICACC-S5-040-2010) Hydrothermal Synthesis of Silicon-Substituted Hydroxyapatite with Two Different Starting Materials as Source of Phosphorous
A. Aminian*, M. Solati-Hashjin, F. Bakhshi, A. Farzadi, Amirkabir University of Technology, Iran; N. Barati, Sharif University, Iran; A. Darvish, Amirkabir University of Technology, Iran

S6: International Symposium on Ceramics for Electric Energy Generation, Storage, and Distribution

Materials for Energy Storage

Room: Coquina H

Session Chairs: Franziska Scheffler, OvGU Magdeburg; Zoltan Lences, Slovak Academy of Sciences

8:00 AM

(ICACC-S6-017-2010) Effects of impurities on the cycling performance of LiFePO4 cathode materials (Invited)
S. Wu*, M. Chen, J. Shiu, Tatung University, Taiwan

8:40 AM

(ICACC-S6-018-2010) Carbon-Rich SiCN Polymer-Derived Ceramics and their Composites - Novel Materials for Anodes in Li-Ion Batteries?
G. Mera*, M. Graczyk-Zajac, R. Riedel, Technische Universität Darmstadt, Germany

9:00 AM

(ICACC-S6-019-2010) High temperature cycling performance of LiFePO4 cathode enhanced by Tris(pentafluorophenyl) borane additive (Invited)
C. Chang*, T. Chen, National University of Tainan, Taiwan

9:40 AM

Break

10:00 AM

(ICACC-S6-020-2010) Nanocomposite electrodes for electrochemical supercapacitor prepared by solution processing (Invited)
Y. Oh*, C. Lee, O. Shlyakhtin, KIST, Korea, South

10:40 AM

(ICACC-S6-021-2010) Synthesis and Characterization of Fe and Ni Doped BST
S. Maitra*, Universiti Teknologi Petronas, Malaysia; M. Banerjee, Bengal Institute of Technology, India; S. Mukherjee, Jadavpur University, India

11:00 AM

(ICACC-S6-022-2010) Multiform Oxide Optical Materials via the Versatile Pechini-type Sol-Gel Process: Synthesis and Characteristics (Invited)
J. Lin*, M. Yu, C. Lin, X. Liu, Chinese Academy of Sciences, China

S7: 4th International Symposium on Nanostructured Materials and Nanotechnology: Development and Applications

Nanostructured Membranes, Thin Films, Functional Coatings

Room: Coquina C

8:00 AM

(ICACC-S7-028-2010) Nanostructured epitaxial TiO2 films: photocatalytically active and ferromagnetic (Invited)
G. K. Goh*, Institute of Materials Research and Engineering, Singapore

8:40 AM

(ICACC-S7-029-2010) TiO2-Ag-nanocomposites: Processing microstructure and photocurrent measurements using conductive-tip AFM
C. Solterbeck*, K. Zhao, M. Es-Souni, UAP Kiel, IMST, Germany

9:00 AM

(ICACC-S7-030-2010) Stress generated modifications of structural, morphologic, ferroelectric and microwave properties of epitaxial SrTiO3 films on sapphire
R. Wordenweber*, E. Hollmann, J. Schubert, FZ-Juelich, Germany

9:20 AM

(ICACC-S7-031-2010) Simple Fabrication Process of Ultrathin Cylindrical Al2O3 Tube
T. Saito*, T. Matsumoto, K. Matsumura, Y. F. Liu, Y. Kagawa, The University of Tokyo, Japan

9:40 AM

Break

10:00 AM

(ICACC-S7-032-2010) Nanoscale electrical characterization of CuInO2 delafossite thin films for optoelectronic applications (Invited)
B. R. Mehta*, Indian Institute of Technology Delhi, India

10:40 AM

(ICACC-S7-033-2010) Effect of Substrate on Structure and Mechanical Properties of Coatings on Ti-Al-N Base
A. D. Pogrebnjak*, V. M. Bersnev, Sumy Institute for Surface Modification, Ukraine; M. M. Il'yashenko, Sumy State University, Ukraine; G. V. Kirik, Concern "UKRROSMETAL", Ukraine; A. P. Shypylenko, Sumy State University, Ukraine; S. N. Dub, Sumy Institute for Surface Modification, Ukraine; P. W. Zhukovski, Lublin University of Technology, Poland; S. B. Kislitsyn, Y. Z. Tuleushev, Nuclear Physics Institute, Kazakhstan; M. K. Kylyshkanov, East-Kazakhstan State Technical University, Kazakhstan

11:00 AM

(ICACC-S7-034-2010) Five-level Compositive Rotary Plan for the AISI 316L SS Surface Optimization after Magnetoelectropolishing
T. Hryniewicz*, K. Rokosz, Politechnika Koszalinska, Poland

11:20 AM

(ICACC-S7-035-2010) Self-cleaning surfaces of transparent ZnO thin films synthesized by sol gel technique
S. K. Bera*, Tamralipta Mahavidyalaya, India; S. Sarkar, S. Patra, G. K. Paul, R. Ghosh, Haldia Institute of Technology, India

11:40 AM

(ICACC-S7-036-2010) Development of titania nanostructure coating for corrosion protection of stainless steel
N. Barati*, sharif university of technology, Iran; M. Faghihi Sani, Sharif University Of Technology, Iran; A. Aminian, Amirkabir University Of Technology, Iran

12:00 PM

(ICACC-S7-071-2010) Microstructural Control and the Optimization of Mechanical Properties of Ceramic Matrix Nanocomposites
W. D. Kaplan*, G. Gluzer, Technion - Israel Institute of Technology, Israel

S8: 4th International Symposium on Advanced Processing and Manufacturing Technologies (APMT) for Structural and Multifunctional Materials and Systems

Advanced Composite Manufacturing II

Room: Coquina B

Session Chairs: Walter Krenkel, Universitat Bayreuth; Shaoming Dong, Shanghai Institute of ceramics Chinese Academy of Sciences

8:00 AM

(ICACC-S8-029-2010) Shaping radiation curable colloidal dispersions - from polymer/ceramic fibers and microspheres to gradient porosity ceramic bulk materials (Invited)
Y. DeHazan*, J. Heinecke, G. Mueller, T. Graule, Empa, Switzerland

8:40 AM

(ICACC-S8-030-2010) Development of Ultra-High Temperature stable Ceramic Carbides by Reactive Melt Infiltration
W. Krenkel*, R. Voigt, G. Motz, University of Bayreuth, Germany

9:00 AM

(ICACC-S8-031-2010) C/C-SiC Materials Based on Filament Wound CFRP Preforms
B. Heidenreich*, F. Breede, M. Scheiffele, M. Friess, H. Voggenreiter, DLR, German Aerospace Center, Germany

9:20 AM

(ICACC-S8-032-2010) The nature of silicon carbide phases developed from different carbonaceous sources and Its Impact on the microstructure of Cf/SiC composites
A. Leatherborrow, H. Wu*, Loughborough University, United Kingdom

9:40 AM

Break

10:00 AM

(ICACC-S8-033-2010) Improvement of CMC Properties by a Multifunctional Enhancement Mechanism (Invited)
S. Dong*, B. Lu, Z. Wang, B. Wu, Shanghai Institute of ceramics Chinese Academy of Sciences, China

10:20 AM

(ICACC-S8-034-2010) An experimental approach to correlate mechanical and microscopical properties of C-SiC composites and their tribological properties
H. W. Mucha*, W. Krenkel, D. Richter, Universitaet Bayreuth, Germany; M. Rabenstein, Fraunhofer Institut Silicatforschung, Germany

10:40 AM

(ICACC-S8-035-2010) Melt-Infiltration Processing of Titanium Carbide-Stainless Steel Composites
K. P. Plucknett*, T. Stewart, B. Collier, Dalhousie University, Canada

11:00 AM

(ICACC-S8-036-2010) Mullite and SiAlON-based Ceramics from a Silicon Resin and Nano-Fillers
G. Parcianello*, E. Bernardo, P. Colombo, University of Padova, Italy

11:20 AM

(ICACC-S8-037-2010) Three-Dimensional Fabrication of ZrO2-Based Composite
M. Hotta*, S. Kirihara, Osaka University, Japan

11:40 AM

(ICACC-S8-038-2010) Effect of ceramics matrix sintering behavior for graphitization of polymer in gelcasted green body
K. Tomoaki*, S. Takashi, W. Hideo, F. Masayoshi, T. Minoru, Nagoya Institute of Technology, Japan

S9: Porous Ceramics is in Joint Session with S5: Bioceramics

Room: Coquina G

S1: Mechanical Behavior and Performance of Ceramics & Composites

Processing-Microstructure-Mechanical Properties Correlations II

Room: Coquina A

Session Chairs: Michael Halbig, US Army Research Laboratory; Rolf Steinbrech, Forschungszentrum Juelich

1:20 PM

(ICACC-S1-042-2010) Thermo-mechanical Characterization of Perovskite-Type Oxygen Transport Membranes
B. Huang, J. Malzbender, R. W. Steinbrech*, L. Singheiser, Forschungszentrum Jülich GmbH, Germany

1:40 PM

(ICACC-S1-043-2010) Synthesis and Characterization of Multiferroic $BiFeO_3$ Ceramic
H. Cheng-Ming*, Fu Jen University, Taiwan

2:00 PM

(ICACC-S1-044-2010) Characterization of poled single-layer PZT for piezo stack in fuel injection system
H. Wang*, T. Matsunaga, H. Lin, ORNL, USA

2:20 PM

(ICACC-S1-045-2010) Characterisation of laser assisted machined silicon nitride
J. Hoffmeister*, T. Schwind, V. Schulze, Universitaet Karlsruhe, Germany

2:40 PM

(ICACC-S1-046-2010) Damage evolution in short carbon fiber dispersed SiC matrix composites compressive loading in through-thick direction
M. Ikegami*, The University of Tokyo, Japan; S. Guo, National Institute for Materials Science, Japan; S. Aonuma, Covalent Materials Corporation, Japan; K. Matsumura, Y. Kagawa, The University of Tokyo, Japan

3:00 PM

Break

3:20 PM

(ICACC-S1-047-2010) Deformation behavior of glass-like carbon at elevated temperatures
Y. Shinoda*, Tokyo Institute of Technology, Japan

3:40 PM

(ICACC-S1-048-2010) Fabrication and Characterization of Ni/Cu/YSZ cermet electrode prepared by high-speed ball-milling method
H. Hong*, Institute for Advanced Engineering, Korea, South; S. Woo, KIER, Korea, South

4:00 PM

(ICACC-S1-049-2010) Correlations between mechanical properties and microstructures of Al/Al-Cu-Fe Composite Materials
G. Laplanche, A. Joulain*, J. Bonneville, V. Gauthier-Brunet, S. Dubois, University of Poitiers, France

4:20 PM

(ICACC-S1-050-2010) Melt Spheroidization and Ion Exchange of Glass Proppants for Oil and Natural Gas Extraction
J. R. Hellmann*, D. G. Hartwich, R. P. Koseski, B. E. Scheetz, The Pennsylvania State University, USA

4:40 PM

(ICACC-S1-051-2010) High temperature mechanical loss of nanostructured yttria stabilized zirconia (3Y-TZP) reinforced with carbon nanotubes
M. Mazaheri*, D. Mari, R. Schaller, Institute of Physics of the Condensed Matter, Switzerland

5:00 PM

(ICACC-S1-052-2010) Adsorption and surface diffusion of oxygen on 3C and 2H SiC polytypes : numerical studies
J. Wang, L. Zhang, Q. Zeng, Northwestern Polytechnical University, China; G. L. Vignoles*, University Bordeaux 1, France

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

Thermal Barrier Coatings II

Room: Ponce DeLeon

Session Chairs: Yongho Sohn, University of Central Florida; Yutaka Kagawa, National Institute for Materials Science

1:20 PM

(ICACC-S2-019-2010) Reactive Interfaces in EB-PVD TBC Systems Initiated By CMAS-Type Hot Corrosion (Invited)
W. Braue*, German Aerospace Center (DLR), Germany

2:00 PM

(ICACC-S2-020-2010) CMAS attack of EB-PVD thermal barrier coatings with novel compositions
U. Schulz*, German Aerospace Center, Germany

2:20 PM

(ICACC-S2-021-2010) Impact Testing of Thermal Barrier Coatings
T. A. Schaedler*, B. T. Hazel, M. Fu, D. Konitzer, GE Aviation, USA

2:40 PM

(ICACC-S2-022-2010) Characterisation of Thermal Barrier Coatings After thermal treatments
X. Zhao, F. Yang, P. Xiao*, University of Manchester, United Kingdom

3:00 PM

Break

3:20 PM

(ICACC-S2-023-2010) Evolution of Phase Constituents and Microstructure in Thermally Grown Oxides on β-NiAl without and with Implanted-Yttrium (Invited)
J. Jedlinski*, AGH University of Science and Technology, Poland; H. B. Choi, B. Yao, Y. H. Sohn, University of Central Florida, USA

4:00 PM

(ICACC-S2-024-2010) A Quantitative Description of Optimal Bond Coat – Thermal Barrier Coating Interfacial Morphology in Air-Plasma Sprayed Thermal Barrier Coating Systems
M. D. Weeks*, D. R. Mumm, UC Irvine, USA

4:20 PM

(ICACC-S2-025-2010) Correlation of microstructual evolution with toughness measurement and nondestructive evaluation of EB-PVD thermal barrier coating systems
Y. Liu*, Y. Kagawa, Research Center for Advanced Science and Technology, University of Tokyo, Japan

4:40 PM

(ICACC-S2-026-2010) Thermal Property Measurement for Thermal Barrier Coatings by Thermal Imaging Method
J. Sun*, Argonne National Laboratory, USA

5:00 PM

(ICACC-S2-027-2010) Effect of Thermal Gradient on the Through-thickness Thermal Conductivity of Plasma-sprayed TBCs
Y. Tan*, S. Sampath, Stony Brook University, USA

5:20 PM

(ICACC-S2-028-2010) Ta-doped YSZ for thermal barrier coatings
A. K. Bhattacharya*, ETH Zurich, Switzerland; O. Fabrichnaya, Freiberg Mining Academy, Germany; W. Steurer, ETH Zurich, Switzerland; H. Bossmann, G. Witz, ALSTOM Switzerland AG, Switzerland; V. Shklover, ETH Zurich, Switzerland

5:40 PM

(ICACC-S2-029-2010) Failure Assessment of Dense Vertically Cracked Thermal Barrier Coatings by Quantitative Microstructural Analysis
C. Bargraser*, P. Mohan, H. Choi, S. Mukherjee, Y. Sohn, University of Central Florida, USA

S3: 7th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Interconnection and Application

Room: Coquina E

Session Chairs: Matthew Seabaugh, NexTech Materials, Ltd.; Mark Koslowske, CellTech Power, LLC

1:20 PM

(ICACC-S3-040-2010) Solid Oxide Fuel Cell (SOFC) Based Power Systems for Mobile Applications (Invited)
T. L. Reitz, R. Miller*, J. Fellner, Air Force Research Lab, USA

2:00 PM

(ICACC-S3-041-2010) Mechanism Of Chromium Transport During Solid State Diffusion On Cathode Materials Of Solid Oxide Fuel Cell
G. Y. Lau*, M. C. Tucker, Lawrence Berkeley National Laboratory, USA; S. Gleixner, San Jose State University, USA; L. DeJonghe, Lawrence Berkeley National Laboratory, USA

2:20 PM

(ICACC-S3-042-2010) Recent Progress in Cathode/Interconnect Contact Materials R&D for SOFCs at PNNL
G. Xia*, G. Yang, Z. Lu, J. Templeton, J. Stevemson, Pacific Northwest National Laboratory, USA

2:40 PM

(ICACC-S3-043-2010) Development of Alloy-based SOFC Interconnects
J. Stevenson*, G. Yang, G. Xia, T. Josh, J. Choi, Pacific Northwest National Laboratory, USA

3:00 PM

Break

3:20 PM

(ICACC-S3-044-2010) Stability of Oxides in High Temperature Water Vapor (Invited)
E. Opila*, N. Jacobson, NASA Glenn Research Center, USA

4:00 PM

(ICACC-S3-045-2010) Stability Testing of Aluminized Stainless Steel for Planar SOFC Stack Applications
J. Choi*, S. Weil, J. Stevenson, Pacific Northwest National Laboratory, USA

4:20 PM

(ICACC-S3-046-2010) Oxygen diffusion in Bi2M4O9 (M = Al, Ga, Fe) systems and the effect of Sr doping Bi2-2xSr2xAl4O9-x studied by isotope exchange and IR absorption
T. Debnath*, C. Ruescher, University Hannover, Germany; P. Fielitz, S. Ohmann, G. Borchardt, TU Clausthal, Germany; T. Gesing, Universität Bremen, Germany

4:40 PM

(ICACC-S3-047-2010) Observation on Structural Modification of Co-doped Barium Cerate-Zirconate during Exposure to Reducing Environment
J. Basu*, A. Suresh, B. Wilhite, C. Carter, P. Singh, University of Connecticut, USA

5:00 PM

(ICACC-S3-048-2010) Solid oxide fuel cell H2S impurity tolerance tests by using synthesized biogas
C. Xu*, M. Gong, F. E. Blancas, X. Liu, I. B. Celik, J. W. Zondlo, West Virginia University, USA

S4: Armor Ceramics

NDE Applications

Room: Coquina D

Session Chair: Rich Haber, Rutgers University

1:20 PM

(ICACC-S4-039-2010) Inspecting Composite Ceramic Armor Using Advanced Signal Processing Together With Phased Array Ultrasound
S. Steckenrider*, W. A. Ellingson, Illinois College, USA; E. R. Koehl, Argonne National Laboratory, USA; T. J. Meitzler, US Army, USA

1:40 PM

(ICACC-S4-040-2010) Ultrasound C-Scan Imaging of Encapsulated Armor Modules
R. E. Brennan*, R. H. Carter, U.S. Army Research Laboratory, USA

2:00 PM

(ICACC-S4-041-2010) Resonant Ultrasound Testing of Hot Pressed Silicon Carbide
D. Ashkin, BAE-Advanced Ceramics, USA; R. Brennan, J. Campbell*, Army Research Laboratory, USA; S. Klann, Tank Automotive Research, Development and Engineering Center (TARDEC), USA; R. Palicka, BAE-Advanced Ceramics, USA; R. Sisneros, Quasar/Magnaflux, USA

2:20 PM

(ICACC-S4-042-2010) Microstructure Property-Relationship for Ceramic Armor Materials
D. M. Slusark*, R. Haber, Rutgers University, USA

2:40 PM

(ICACC-S4-043-2010) Advanced Nondestructive Ultrasound Characterization of Transparent Armor Ceramics
A. Portune*, R. Haber, Rutgers University, USA

S5: Next Generation Bioceramics

Nanostructured Bioceramics

Room: Coquina G

Session Chairs: Delbert Day, Missouri University of Science and Technology; Julie Gough, University of Manchester

1:20 PM

(ICACC-S5-041-2010) Effect of varying Si content of bioactive glasses on osteoblast and macrophage responses (Invited)
J. Gough*, University of Manchester, United Kingdom

1:40 PM

(ICACC-S5-042-2010) Biodegradable Rare Earth Lithium Aluminoborate Glasses for Brachytherapy Use (Invited)
J. E. White, Praxair Inc., USA; D. E. Day*, R. F. Brown, G. J. Ehrhardt, Missouri University of Science and Technology, USA

2:00 PM

(ICACC-S5-043-2010) Preparation and Characterization of Carbon Nanotube-Reinforced Hydroxyapatite Nanocomposites (Invited)
A. White*, University of Cambridge, United Kingdom; R. Brooks, N. Rushton, Addenbrooke's Hospital, University of Cambridge, United Kingdom; A. Windle, University of Cambridge, United Kingdom; I. Kinloch, University of Manchester, United Kingdom; S. Best, University of Cambridge, United Kingdom

2:20 PM

(ICACC-S5-044-2010) Silica based multimodal/multifunctional nanoparticles for bioimaging applications (Invited)
S. Santra*, University of Central Florida, USA

2:40 PM

(ICACC-S5-045-2010) Evaluation of Modified Potassium Fluorrichterite Compositions as Bone Substitute Materials In Vitro and In Vivo (Invited)
S. Bhakta*, University of Sheffield, United Kingdom; D. K. Pattanayak, Chubu University, Japan; P. Faria, University of Sao Paulo, Brazil; C. Miller, M. Mirsaneh, R. van Noort, I. Brook, University of Sheffield, United Kingdom; L. A. Salata, University of Sao Paulo, Brazil; H. Takadama, T. Kokubo, Chubu University, Japan; P. V. Hatton, I. M. Reaney, University of Sheffield, United Kingdom

3:00 PM

Break

3:20 PM

(ICACC-S5-046-2010) Bioactive and antibacterial titania-wollastonite compounds (Invited)
D. A. Cortés-Hernández*, W. L. Ortega-Lara, Cinvestav-Unidad Saltillo, Mexico; A. Hernández-Ramírez, Universidad Autonoma de Nuevo Leon, Mexico

3:40 PM

(ICACC-S5-047-2010) In Vivo Ageing of Dental Zirconia: First Results after Six Months
T. Kosmac*, Jozef Stefan Institute, Slovenia; P. Jevnikar, Medical Faculty, University of Ljubljana, Slovenia

4:00 PM

(ICACC-S5-048-2010) Silane functionalization of hydroxyapatite nanoparticles
C. Stoetzel*, Institute of Materials Science and Technology (IMT), Germany; F. Mueller, Institute of Materials Science and Technology (IMT), Germany

4:20 PM

(ICACC-S5-049-2010) Nano-textured Monetite (CaHPO4): Synthesis and Cell Culture (Invited)
A. Tas*, Yeditepe University, Turkey

4:40 PM

(ICACC-S5-050-2010) Synthesis and Characterization of Layered Double Hydroxide Nanobioceramics and Optimization of Synthesis Conditions for Blood Coagulation Applications
Z. Tahmasebi-Birgani*, M. Solati-Hashjin, Amirkabir University of Technology, Iran; H. Peirovi, Nano Medicine and Tissue Engineering Research Center,Shahid beheshti medical university, Iran; S. Shafiei, A. Farzadi, A. Darvish, Amirkabir University of Technology, Iran

5:00 PM

(ICACC-S5-051-2010) Ca/Al Layered Double Hydroxides: An Advanced Nanoceramic for Biomaterials Applications
S. Azimi*, N. Tahmasebi, A. Darvish, M. Solati, S. Shafiee, Amirkabir Uni. of Tech., Iran

S6: International Symposium on Ceramics for Electric Energy Generation, Storage, and Distribution

Materials for Renewable Energy Applications

Room: Coquina H

Session Chairs: Tohru Sekino, IMRAM, Tohoku University; Rong-Jun Xie, National Institute for Materials Science (NIMS)

1:20 PM

(ICACC-S6-023-2010) Synthesis and Modification of TiO_2 Nanotubes for Sensitized Solar Cell (Invited)
T. Sekino*, J. Kim, N. F. Fahim, S. Tsukuda, IMRAM, Tohoku Univ., Japan; T. Kusunose, ISIR, Osaka University, Japan; S. Tanaka, IMRAM, Tohoku Univ., Japan

2:00 PM

(ICACC-S6-024-2010) Ceramic coatings for heat storage applications (Invited)
F. A. Scheffler*, OvGU Magdeburg, Germany; M. H. Scheffler, BTU Cottbus, Germany

2:40 PM

(ICACC-S6-025-2010) Proton Conductivity in BCY20-Pd Ionic Hybrid Material
A. Subramaniyan*, J. Tong, N. M. Sammes, R. O'Hayre, Colorado School of Mines, USA

3:00 PM

Break

3:20 PM

(ICACC-S6-026-2010) Covalent nitride luminescent materials for white LEDs and displays (Invited)
R. Xie*, H. Naoto, T. Takeda, National Institute for Materials Science (NIMS), Japan

4:00 PM

(ICACC-S6-027-2010) Durable, Ultraluminous Structure for Incandescent, High-Power White-LED (Invited)
T. Ishikawa*, Ube Industries, Ltd., Japan

4:40 PM

(ICACC-S6-028-2010) Processing and Properties of Compositionally Graded (Ba,Sr)TiO3 Ceramics
S. Chao*, F. Dogan, Univ of Missouri-Rolla, USA

5:00 PM

(ICACC-S6-029-2010) Europium-doped MgSiN2 and LaSi3N5 - electronic structure and luminescent properties
Z. Lences*, L. Benco, P. Sajgalík, Slovak Academy of Sciences, Slovakia; Y. Zhou, K. Hirao, National Institute of Advanced Industrial Science and Technology, Japan; M. Zitnan, D. Velic, International Laser Center, Bratislava, Slovakia

S7: 4th International Symposium on Nanostructured Materials and Nanotechnology: Development and Applications

Industrial Development and Application of Nanomaterials

Room: Coquina C

Session Chair: B. Mehta, Indian Institute of Technology Delhi

1:20 PM

(ICACC-S7-037-2010) Sol gel synthesis of nanoscopic metal fluorides: properties and applications (Invited)
E. Kemnitz*, Humboldt-University Berlin, Germany

2:00 PM

(ICACC-S7-038-2010) Homo and Heterometallic Iron Alkoxides as Novel Precursors for Material Applications (Invited)
T. Fischer, H. Weigand, S. Mathur*, University of Cologne, Germany

2:20 PM

(ICACC-S7-039-2010) Functional NanoComposite Coatings and Preforms Made By Plasma Spray Processes
M. Gell*, E. Jordan, C. Muoto, J. Wang, D. Chen, J. Roth, University of Connecticut, USA

2:40 PM

(ICACC-S7-040-2010) Fabrication of Nanostructured Ceramic Components for Engineering Applications (Invited)
B. Vaidhyanathan, J. Binner*, K. Annapoorani, A. Paul, V. Venkatachalam, Loughborough University, United Kingdom

3:00 PM

Break

Polymer Nanocomposites Technology and Nanoporous Materials

Room: Coquina C

3:20 PM

(ICACC-S7-041-2010) Structural Effects Of The Nature Of Solvents On The Breathing Of MOFs (Invited)
F. Millange*, C. Serre, N. Guillou, G. Ferey, Université de Versailles-St-Quentin-en-Yvelines, France; R. I. Walton, The University of Warwick, United Kingdom

3:40 PM

(ICACC-S7-042-2010) Nanocomposites Based on Polypropylene/Poly(butylene succinate) Blend and Organoclay
T. Gcwabaza*, S. Sinha Ray, CSIR-MSM, South Africa; W. Focke, Institute of Applied Materials, University of Pretoria, South Africa

4:00 PM

(ICACC-S7-043-2010) Fabrication of nanostructured conducting polymer materials and their application to chemical sensing and biosensing
A. Morrin, K. Crowley, M. R. Smyth, Dublin City University, Ireland; G. G. Wallace, University of Wollongong, Australia; A. J. Killard*, Dublin City University, Ireland

4:20 PM

(ICACC-S7-044-2010) Porphyrin Nanoassemblies Organized by Surfactants
S. A. Sandanayaka*, T. Hasobe, Japan Advance institute of Science and Technology, Japan

4:40 PM

(ICACC-S7-045-2010) Fabrication and characterization of multifunctional ZnO-polymer nanocomposites
H. Cheng*, Q. Chen, Q. Wang, University of Pittsburgh, USA

5:00 PM

(ICACC-S7-074-2010) The formation and deagglomeration of Al2O3/ZrO2 nanocrystalline powders by supercritical CO2
H. Gocmez*, M. Tuncer, I. Uzulmez, Dumlupinar University, Turkey

S8: 4th International Symposium on Advanced Processing and Manufacturing Technologies (APMT) for Structural and Multifunctional Materials and Systems

Smart Processing I

Room: Coquina B

Session Chairs: Vojislav Mitic, University of Nis; Tadachika Nakayama, Nagaoka University of Technology

1:20 PM

(ICACC-S8-039-2010) Synthesis of high surface area Pt loaded oxide based novel catalysts and their complete oxidation of volatile organic compounds (VOCs) (Invited)
N. Imanaka*, Osaka University, Japan

2:00 PM

(ICACC-S8-040-2010) Development of Novel Nanocomposite Systems Using Aerosol Deposition Method (Invited)
J. Park*, J. Akedo, National Institute of Advanced Industrial Science and Technology (AIST), Japan

2:20 PM

(ICACC-S8-041-2010) Electronic Behavior of Polymer-Derived Ceramics
Y. Chen, C. Xu, L. An*, University of Central Florida, USA

2:40 PM

(ICACC-S8-042-2010) Characterization of BaTiO3 Electrical Properties by Intergranular Contacts Model (Invited)
V. Mitic*, V. B. Pavlovic, L. Kocic, V. Paunovic, P. Petkovic, L. Zivkovic, University of Nis, Serbia

3:00 PM

Break

3:20 PM

(ICACC-S8-043-2010) Quality Analysis of Direct Inkjet Printed 3D Ceramic Structures
J. Ebert*, B. Cappi, R. Telle, RWTH Aachen University, Germany

3:40 PM

(ICACC-S8-044-2010) Fabrication and Characterization of the finestrudtured Sintered Ceramics with Nanoimprint Process
T. Nakayama*, H. Kim, Y. Tokoi, K. Imaki, J. Yoshimura, B. Hong, T. Suzuki, H. Suematsu, K. Niihara, Nagaoka University of Technology, Japan

4:00 PM

(ICACC-S8-045-2010) In-situ Functionalization of Ink-jet Printed Mesoporous Silica Microdot Arrays
B. Fousseret*, F. Rossignol, M. Lejeune, SPCTS-ENSCI-CNRS UMR6638, France; X. Cattoen, M. Wong Chi Man, ICG-AM2N UMR 5253, France; J. Durand, ICG-CMOS UMR 5253, France; M. Mougenot, R. Noguera, CERADROP, France; F. Ribot, C. Boissiere, C. Sanchez, LCMC UMR 7475, France

4:20 PM

(ICACC-S8-046-2010) Tin Oxide-Based Ceramics for Sputtering Targets
E. Medvedovski*, C. J. Szepesi, O. Yankov, Umicore Indium Products, USA

4:40 PM

(ICACC-S8-079-2010) Low Temperature Formation of Ultra High Temperature Metal Carbides
A. D. Adamczak, A. A. Spriggs, D. M. Fitch, M. Radovic*, J. C. Grunlan, Texas A&M University, USA

S9: Porous Ceramics: Novel Developments and Applications

Applications of Porous Ceramics II

Room: Coquina F

Session Chair: Daniel Grohol, The Dow Chemical Company

1:20 PM

(ICACC-S9-032-2010) Weibull Analysis of 4-Point Flexure Strengths in Honeycomb Ceramic Structures (Cordierite and Silicon Carbide) (Invited)
R. Stafford, Cummins, Inc., USA; S. T. Gonczy*, Gateway Materials Technology, USA

2:00 PM

(ICACC-S9-033-2010) Microstructure and select mechanical properties of aluminum titanate diesel particulate filter (DPF) substrates
T. R. Watkins*, A. Shyam, E. Lara-Curzio, ORNL, USA; R. Stafford, Cummins Incorporated, USA

2:20 PM

(ICACC-S9-034-2010) A sintering study to produce porous ceramic monoliths with bimodal porosity and high strength
F. Akhtar*, L. Bergström, Institute of Inorganic Chemistry, Sweden

2:40 PM

(ICACC-S9-035-2010) Thermal shock properties of porous alumina for support carrier of hydrogen membrane materials
S. Honda*, Y. Ogihara, S. Hashimoto, Y. Iwamoto, Nagoya Institute of Technology, Japan

Applications of Porous Ceramics III

Room: Coquina F

Session Chair: Thomas Watkins, ORNL

3:20 PM

(ICACC-S9-036-2010) Microporous Membranes for CO2 Separation
T. Van Gestel*, F. Hauler, W. Meulenberg, M. Bram, H. Buchkremer, Forschungszentrum Jülich, Germany

3:40 PM

(ICACC-S9-037-2010) Advances in the Textural Characterization of Meso/Macroporous Ceramic Materials by Mercury Porosimetry
M. Thommes*, Quantachrome Corporation, USA

4:00 PM

(ICACC-S9-038-2010) High-temperature hydrogen permselective Co-doped amorphous silica-based membranes
Y. Iwamoto*, K. Hataya, Nagoya Institute of Technology, Japan; K. Sato, Japan Fine Ceramics Center, Japan; T. Takahashi, T. Asai, S. Honda, Nagoya Institute of Technology, Japan

4:20 PM

(ICACC-S9-039-2010) Porous Polymer Derived Ceramic Surface Layers from Demixing Processes
M. Woiton*, Bavarian Center for Applied Energy Research, Germany; J. Gutierrez, Brandenburg Technical University (BTU) Cottbus, Germany; M. Heyder, Bavarian Center for Applied Energy Research, Germany; M. Scheffler, Brandenburg Technical University (BTU) Cottbus, Germany; E. Stern, Bavarian Center for Applied Energy Research, Germany

4:40 PM

(ICACC-S9-040-2010) Ultra-thin porous metal oxide films prepared by molecular layer deposition(MLD)
X. Liang*, M. Yu, A. W. Weimer, University of Colorado, USA

5:00 PM

(ICACC-S9-041-2010) Porous polymers and ceramics via thermoreversible photopolymerizable vehicle
V. Tomeckova*, J. W. Halloran, University of Michigan, USA

5:20 PM

(ICACC-S9-042-2010) Fabrication of superhydrophilic membrane filters using spherical glass particles obtained by ultrasonic spray pyrolysis
C. Özgür*, O. San, Dumlupinar Univ, Turkey

Poster Session B

Room: Exhibit Hall

5:00 PM

(ICACC-S1-P071-2010) Pressureless Sintering of a Mullite-Ceria-Doped Zirconia-Silicon Carbide Composite
B. A. Bender*, M. Pan, M. Vick, Naval Research Lab, USA

(ICACC-S1-P072-2010) Electrical Properties of Silicon Carbide Whisker-loaded Alumina Composites with Different Axisymmetric Microstructures
B. D. Bertram*, Georgia Institute of Technology, USA; B. Rogers, L. Short, T. Quantrille, Advanced Composite Materials LLC, USA; R. A. Gerhardt, Georgia Institute of Technology, USA

(ICACC-S1-P073-2010) The Effects of Heating Rate on Magnesia Doped Alumina prepared by SPS
B. Apak*, G. Goller, F. Sahin, O. Yucel, Istanbul Technical University, Turkey

(ICACC-S1-P074-2010) Examining the Anisotropic Thermal Expansion Behavior of $CaWO_4$ Using High Temperature X-ray Diffraction
C. M. Tribout*, P. Sarin, R. P. Haggerty, Z. Apostolov, W. M. Kriven, University of Illinois at Urbana-Champaign, USA

(ICACC-S1-P075-2010) Gases Effect on the Reaction Bounded Silicon Carbide Process
C. A. Costa*, R. P Silva, C. V. Rocha, M. F. Costa, Universidade Federal do Rio de Janeiro, Brazil

(ICACC-S1-P076-2010) The Influence of Nanosize Carbon Concentration on Mechanical Properties of RBSiC
C. E. Ribeiro da Silva*, C. A. Costa, UFRJ, Brazil; R. Trejo, S. Shim, E. Lara-Curzio, Oak Ridge National Laboratory, USA

(ICACC-S1-P077-2010) Mechanical properties and aerothermal behaviour of an HfB2-based composite containing 15%TaSi2
D. Sciti*, L. Silvestroni, ISTEC-CNR, Italy; A. Di Maso, S. Raffaele, University of Naples, Italy

(ICACC-S1-P078-2010) In-Depth Data Analysis of Tensile Curves for Key Material Parameters: Ceramic Matrix Composites
E. Mikalsen*, UTC / Pratt & Whitney, USA; G. Morscher, Ohio Aerospace Institute, USA; G. Ojard, UTC / Pratt & Whitney, USA; R. John, Air Force Research Laboratory, AFRL/RXLMN, USA

(ICACC-S1-P079-2010) Mode I Interlaminar Fracture Toughness Evaluation of a Ceramic Matrix Composite
G. Ojard*, Pratt & Whitney, USA; R. John, Air Force Research Laboratory, AFRL/RXLM, USA; T. Barnett, Southern Research Institute, USA; M. Dahlen, Air Force Research Laboratory, AFRL/RXLM, USA; U. Santhosh, J. Ahmad, Research Applications Inc., USA

(ICACC-S1-P080-2010) Thermo-shielding paint with saving the energy
O. Jeong, H. Lee*, H. Lim, J. Yoo, Korea Institute of Ceramic Engineering & Technology, Korea, South

(ICACC-S1-P081-2010) Fabrication and Characterization of Pr-Doped YAG Transparent Ceramics
J. Zhu*, J. Li, Sichuan University, China

(ICACC-S1-P082-2010) Hybrid Nanofractography of single crystal $BaTiO_3$ ceramics by Scanning Probe Microscope
J. Tatami*, S. Nakada, S. Tasaki, T. Wakihara, K. Komeya, T. Meguro, Yokohama National University, Japan

(ICACC-S1-P083-2010) Chromium alloyed MoSi2-composite
M. Sundberg*, E. Ström, Q. Lu, A. Magnusson, Kanthal AB, Sweden

(ICACC-S1-P084-2010) Microwave-assisted combustion synthesis and compaction for high-temperature ceramics joining
R. Rosa, P. Veronesi, C. Leonelli, A. Corradi, University of Modena, Italy; H. Shaohua, M. Salvo, V. Casalegno, M. Ferraris*, Politecnico di Torino, Italy

(ICACC-S1-P085-2010) Si/SiC and Diamond Composites: Microstructure-Mechanical Properties Correlation
S. Salamone*, R. Neill, M Cubed Technologies Inc., USA

(ICACC-S1-P086-2010) Indentation Stress Analysis on SiC Fiber Reinforced SiC Ceramics with or without Fiber Coating
T. Kim*, E. Lee, Kookmin Universiity, Korea, South; S. Woo, Korea Institute of Energy Research, Korea, South; K. Lee, Kookmin Universiity, Korea, South

(ICACC-S1-P087-2010) Development of creep-resistant tungsten carbide copper cemented carbide
Y. Shinoda*, Y. Yanagisawa, T. Akatsu, F. Wakai, Tokyo Institute of Technology, Japan

(ICACC-S1-P088-2010) Mechanical Behavior of Mold/Resin/Substrate Laminates for Nanoimprint Lithography
J. Park*, E. Lee, T. Kim, K. Lee, Kookmin University, Korea, South

(ICACC-S2-P089-2010) Microstructure Development of Thermal Barrier Coatings by Process Control
J. Park*, Y. Heo, D. Lee, Kookmin University, Korea, South; U. Paik, Hanyang University, Korea, South; K. Lee, Kookmin University, Korea, South

(ICACC-S2-P090-2010) Use of Glass-Ceramic Coatings Containing Water-Reactive Components as a Bonding Layer between Concrete and Metal
C. A. Weiss*, P. G. Malone, S. W. Morefield, USACE Engineer Research & Development Center, USA; M. L. Koenigstein, Pro Perma Engineered Coatings, USA

(ICACC-S2-P091-2010) Thermal Gradient Mechanical Fatigue Behavior of Environmental Barrier Coating Systems on SiC/SiC Ceramic Matrix Composites
D. Zhu*, D. Fox, L. Ghosn, R. Miller, NASA Glenn Research Center, USA

(ICACC-S2-P092-2010) Electrophoretic Deposition of Oxide Powder by Using Non-flammable Organic Solvent
H. Negishi*, National Institute of Advanced Industrial Science and Technology (AIST), Japan; A. Miyamoto, Tokyo University of Science, Japan; A. Endo, K. Sakaki, H. Yanagishita, National Institute of Advanced Industrial Science and Technology (AIST), Japan; K. Watanabe, Tokyo University of Science, Japan

(ICACC-S2-P093-2010) Wear Resistance of Al2O3-ZrO2(3% Y2O3) Eutectic Oxides
J. Y. Pastor*, A. Martin, Universidad Politecnica de Madrid, Spain; R. I. Meino, F. J. Ester, CSIC-Universidad de Zaragoza, Spain; J. LLorca, Imdea-Materiales, Spain

(ICACC-S2-P094-2010) The *Faradayic* EPD Process for use in depositing Thermal Barrier Coatings
J. W. Kell*, H. A. McCrabb, Faraday Technology, USA

(ICACC-S2-P095-2010) Effects of UV-radiation on the cleanability of titanium dioxide-coated glazed ceramic tiles
M. Emami*, Saveh University, Iran

(ICACC-S2-P096-2010) Plasma nitrided austenitic stainless steel for biomedical applications
O. Gokcekaya*, S. Yilmaz, C. Ergun, B. Kaya, Istanbul Technical University, Turkey

(ICACC-S2-P097-2010) Environmental Barrier Overlay for Thermal Barrier Coatings by Electrophoretic Deposition
P. Mohan*, T. Patterson, Y. Sohn, University of Central Florida, USA

(ICACC-S3-P098-2010) Modification of Ni/YSZ anode microstructure for superior RedOx tolerance of SOFC
A. R. Contino*, University of Trento, Italy; S. Modena, SOFCPOWER S.r.l., Italy; V. M. Sglavo, University of Trento, Italy

(ICACC-S3-P099-2010) Mechanical characterization of anodes for Solid Oxide Fuel Cells
A. R. Contino*, University of Trento, Italy; M. Cologna, SOFCPOWER S.r.l., Italy; V. Catania, V. M. Sglavo, University of Trento, Italy

(ICACC-S3-P100-2010) Phase Diagram of Proton-Conducting $Ba(Zr_{0.8-x}Ce_xY_{0.2})O_{2.9}$ Ceramics
C. Tu*, Fu Jen Catholic University, Taiwan; C. Huang, Fu Jen catholic University, Taiwan; R. Chien, Montana State University, USA; S. Lee, Fu Jen catholic University, Taiwan; V. H. Schmidt, Montana State University, USA

(ICACC-S3-P101-2010) Yttria stabilized zirconia thin film electrolyte produced by RF sputtering for solid oxide fuel cells
F. Smeacetto*, M. Salvo, L. C. Ajitdoss, S. Perero, Politecnico di Torino, Italy; T. Moskalewicz, AGH University of Science and Technology, Poland; M. Ferraris, Politecnico di Torino, Italy

(ICACC-S3-P102-2010) Development of SOE-cells
K. A. Nielsen*, Risoe National Laboratory, Denmark; Z. He, Technical University of Denmark, Risoe National laboratory, Denmark

(ICACC-S3-P103-2010) Preperation of thin electrolyte for solid oxide fuel cell using aqueous gel tape casting process
M. K. Khandaker*, North Carolina A & T state university, USA

(ICACC-S3-P104-2010) Aqueous processing for self standing YSZ films for SOFC Studies
R. Srinivasan*, BARC, India

(ICACC-S3-P105-2010) Development of cathode supported honeycomb SOFCs for intermediate temperature operation
S. Shimizu*, FINE CERAMIC RESEARCH ASSOCIATION, Japan; T. Yamaguchi, Y. Fujishiro, M. Awano, National Institute of Advanced Industrial Science and technology, Japan

(ICACC-S3-P106-2010) Electrophysical properties of solid oxide materials based on BaGdCo2O5
T. Zhuravleva*, D. Medvedev, A. Murashkina, V. Sergeeva, IHTE UB of RAS, Russia

(ICACC-S7-P107-2010) Nanocomposite and Combined Coatings on Ti-Si-N/WC-Co-Cr/Steel and Ti-Si-N/(Cr3C2)75-(NiCr)25 Base: Their Structure and Properties
A. D. Pogrebnjak*, Sumy Institute for Surface Modification, Ukraine; V. M. Beresnev, Science Center for Physics and Technology, Ukraine; V. V. Uglov, Sumy State University, Ukraine; N. M. Makhmudov, A. P. Shypylenko, Sumy Institute for Surface Modification, Ukraine; F. F. Komarov, Belarus State University, Belarus; N. K. Erdybaeva, G. V. Kirik, S. N. Dub, Sumy Institute for Surface Modification, Ukraine; P. V. Zhukovskyi, Lublin University of Technology, Poland; S. B. Kislitsyn, Y. Z. Tuleushev, Sumy State University, Ukraine

(ICACC-S7-P108-2010) Phase Composition, Thermal Stability, Physical and Mechanical Properties of Superhard Nanocomposite Coatings on Zr-Ti-Si-N Base
A. D. Pogrebnjak*, Sumy Institute for Surface Modification, Ukraine; O. V. Sobol, National Technical University, Ukraine; V. M. Beresnev, P. V. Turbin, Science Center for Physics and Technology, Ukraine; G. V. Kirik, Sumy Institute for Surface Modification, Ukraine; N. A. Makhmudov, Samarkand State University, Uzbekistan; A. P. Shypylenko, Sumy State University, Ukraine

(ICACC-S7-P109-2010) Synthesis and photoluminescence properties of polymer derived SiOCN films
A. Karakuscu*, G. Giovanni, A. Quaranta, G. Soraru', University of Trento, Italy

(ICACC-S7-P110-2010) Synthesis of $SrTiO_3$ hybrid-nanostructure with wire morphology and their photocatalyst application
D. Lee*, I. Cho, Seoul National university, Korea, South; D. Kim, Ajou University, Korea, South; K. Hong, Seoul National university, Korea, South

(ICACC-S7-P111-2010) Comparative study of the sintering methods of multi-component solid oxide composition Ce0.8(Sm0.75Sr0.2Ba0.05)0.2O2-δ – the promising solid electrolyte for IT-SOFC
E. Pikalova*, A. Proshina, Institute of High temperature electrochemistry, Russia; A. Nikonov, Institute of Electrophysics, Russia

(ICACC-S7-P112-2010) Elaboration and growth study of epitaxial SnO2 thin films deposited on (0001) Al2O3 substrates by sol-gel process
E. Thune*, W. Hamd, A. Boulle, R. Guinebretière, SPCTS-ENSCI, France

(ICACC-S7-P113-2010) The Influence of Sand Variety on Erosion Wear Properties of Nanostructured WC-17Co coatings Deposited by HVOF Spraying
H. Chen*, Y. Liu, G. Gou, Southwest Jiaotong University, China

(ICACC-S7-P114-2010) Mechanical Properties of HVOF Spraying WC-17Co coatings
H. Chen*, Y. Ye, G. Gou, Southwest Jiaotong Univesity, China

(ICACC-S7-P115-2010) Characteristics of nano-sized metal-glass composite powders as the electrode materials
H. Koo*, J. Yi, J. Kim, Y. Ko, Y. Kang, Konkuk University, Korea, South

(ICACC-S7-P116-2010) Anatase and rutile nanoparticles synthesized from peroxotitanic acid
J. Subrt*, J. Bohacek, P. Pulisova, L. Szatmary, Institute of Inorganic Chemistry AS CR, Czech Republic

(ICACC-S7-P117-2010) Ge nanowires and SiC nanotubes prepared by low pressure CVD
J. Subrt*, Institute of Inorganic Chemistry AS CR, Czech Republic; V. Drinek, R. Fajgar, Institute of Chemical Process Fundamentals AS CR, Czech Republic; M. Klementova, Institute of Inorganic Chemistry AS CR, Czech Republic

(ICACC-S7-P118-2010) Surface modification of SiO2 with silane coupling agent as additive for rubber composite
G. Lee, D. Yun, Korea University, Korea, South; J. Yoo*, Korea Institute of Ceramic Engineering & Technology, Korea, South

(ICACC-S7-P119-2010) Synthesis and properties of proton conductive membranes based on inorganic/organic hybrid structure
J. Umeda*, M. Moriya, W. Sakamoto, T. Yogo, Nagoya University, Japan

(ICACC-S7-P121-2010) Characterization of sol-gel synthesized $BaTiO_3$ nanoparticle/polymer hybrid
K. Mimura*, M. Moriya, W. Sakamoto, T. Yogo, Nagoya University, Japan

(ICACC-S7-P122-2010) Multifunctional superparamagnetic nanoparticle/organic hybrid for simultaneous diagnosis and treatment
K. Hayashi*, M. Sawada, M. Moriya, W. Sakamoto, T. Yogo, Nagoya University, Japan

(ICACC-S7-P123-2010) The properties of nanocomposite Al-Ti—Si-N coating synthesized by magnetron sputtering process with single composite target
K. Moon*, W. Lee, Korea Institute of Industrial Technology, Korea, South; Y. Kim, Hanbat National University, Korea, South; K. Lee, Hanyang University, Korea, South

(ICACC-S7-P124-2010) Deposition of nano-composite MoN-Cu-X coatings by reactive magnetron sputtering with single alloying target
K. Moon*, D. Jung, J. Sun, S. Shin, Korea Institute of Industrial Technology, Korea, South

(ICACC-S7-P125-2010) Functionalized SBA-15 Organosilicas as Sorbents of Heavy Metal Ions from Wastewaters
M. Barczak*, Maria Curie-Sklodowska University, Poland

(ICACC-S7-P126-2010) Characteristics of titanium catalyzed silicon nanowires grown by APCVD
M. A. Umar Usman*, B. Smith, University of Utah, USA

(ICACC-S7-P127-2010) Microstructure control of TiO2-Pt-nanocomposites
P. Nicole, S. Habouti, A. Lahmar, M. Es-Souni*, UAP Kiel, IMST, Germany

(ICACC-S7-P128-2010) Effect of ethanol treatments on nanozirconia powder characteristics and their sintering behaviour
S. B. Patil*, P. Bhargava, IIT Bombay, India

(ICACC-S7-P129-2010) One-Step Synthesis of Tin Oxide 1D Heterostructures by Chemical Vapor Deposition of [Sn(OtBu)2]2
R. Mueller, R. Fiz, H. Shen, S. Mathur*, University of Cologne, Germany

(ICACC-S7-P130-2010) Synthesis of Microwave-Assisted Europium-Doped Yttria (Eu:Y2O3) Nanostructures
Y. Sehlleier, L. Xiao, H. Shen, S. Mathur*, University of Cologne, Germany

(ICACC-S7-P131-2010) Heteroleptic and Heterometallic Lanthanide Precursors: Synthesis, Property and Applications
Y. Sehlleier, S. Mathur*, University of Cologne, Germany

(ICACC-S7-P132-2010) Formation and Surface Evolution of Tin Oxide Nanowire Based Heterostructures
J. Pan, R. Fiz, R. Mueller, H. Shen, S. Mathur*, University of Cologne, Germany

(ICACC-S7-P133-2010) Microwave-Assisted Ionothermal Synthesis of Monodisperse SnO2 Nanocrystals and Their Electrochemical Properties
L. Xiao, R. Mueller, J. Schlaefer, G. Fornalczyk, Y. Sehlleier, H. Shen, S. Mathur*, University of Cologne, Germany

(ICACC-S7-P134-2010) Elaboration of Functional Metal-Oxide Thin Films by Applying Molecular Precursors in Plasma Enhanced Chemical Vapor Deposition
T. Ruegamer*, R. Gerwig, S. Mathur, University of Cologne, Germany

(ICACC-S7-P135-2010) Fabrication of Core-Shell Type SiC/SiO_2 Nanowires through Low-Cost Production Technique
W. Khongwong*, K. Yoshida, Tokyo Institute of Technology, Japan; T. Yano, Tokyo Institute of Tecnology, Japan

(ICACC-S7-P136-2010) Corrosion Protection of AZ31 Magnesium Alloy by SiOxCy(-H) Film Deposited by Atmospheric Pressure Dielectric Barrier Discharge
G. Kim, Y. Kim*, Hanbat National University, Korea, South; K. Moon, Korea Institute of Industrial Technology, Korea, South

(ICACC-S7-P137-2010) Sensitive in vitro Assay System to Perform Nanotoxicity Studies at the Single Cell Level
Y. Kohl*, Fraunhofer Institute for Biomedical Engineering IBMT, Germany; G. J. Oostingh, A. Duschl, University of Salzburg, Austria; H. Thielecke, Fraunhofer Institute for Biomedical Engineering IBMT, Germany

(ICACC-S7-P138-2010) Evaluation of Nanoparticles as Contrast Agent for Photoacoustic Imaging in Living Cells
Y. Kohl*, Fraunhofer Institute for Biomedical Engineering IBMT, Germany; W. Bost, A. Henkel, Johannes Gutenberg University Mainz, Germany; R. Lemor, Fraunhofer Institute for Biomedical Engineering, Germany; H. Thielecke, Fraunhofer Institute for Biomedical Engineering IBMT, Germany

(ICACC-S7-P144-2010) Biologically-inspired and mediated synthesis of titanium dioxide nanostructures for photocatalytic applications
N. Kinsinger, G. Gibson, F. Villalobos, A. Wong, J. Johnson, L. Chen, D. Kisailus*, University of California, Riverside, USA

(ICACC-S11-P139-2010) Response time improvement of micro humidity sensors based on nano-structured carbon nitride films
S. Lee*, Kyungnam University, Korea, South

(ICACC-FS4-P143-2010) Fabrication and investigation of CaSiO3/Ti3SiC2 Composites
W. Jiang*, State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

(ICACC-FS3-P140-2010) Atomic-scale studies of native point defect and nonstoichiometry in silicon oxynitride
B. Liu*, J. Wang, Y. Zhou, Institute of Metal Research, Chinese Academy of Sciences, China

(ICACC-FS3-P141-2010) Kinetic Monte Carlo Simulation of Cation Diffusion in Yttria-Stabilized Zirconia
B. S. Good*, NASA Glenn Research Center, USA

(ICACC-FS4-P142-2010) Titanium and Aluminium Based Compounds As A Precursors For SHS Synthesis of Ti_2AlN
L. Chlubny*, J. Lis, M. M. Bucko, AGH-University of Science and Technology, Poland

Thursday, January 28, 2010

S1: Mechanical Behavior and Performance of Ceramics & Composites

Ultra High-Temperature Ceramics - Processing

Room: Coquina A

Session Chairs: Yanchun Zhou, Institute of Metal Research, Chinese Academy of Sciences; Guo-Jun Zhang, Shanghai Institute of Ceramics

8:00 AM

(ICACC-S1-053-2010) ZrB2- and HfB2-SiC Ultra High Temperature Ceramics with Improved Material Properties through Microstructure Tailoring (Invited)
G. Zhang*, Shanghai Institute of Ceramics, China

8:40 AM

(ICACC-S1-054-2010) Processing and Densification mechanisms during RHP of ZrB_2 -based Composites
L. Rangaraj*, C. Nachiappan, C. Divakar, V. Jayaram, National Aerospace Laboratories, India

9:00 AM

(ICACC-S1-055-2010) Effect of Heating Rate on the Densification of ZrB2
M. Thompson*, W. Fahrenholtz, G. Hilmas, Missouri University of Science and Technology, USA

9:20 AM

(ICACC-S1-056-2010) Is the chemical bonding in transitional metal diborides different from traditional structural ceramics?
G. Subhash*, D. Ghosh, University of Florida, USA

9:40 AM

Break

10:00 AM

(ICACC-S1-057-2010) Design of Hybrid Continuous SiC Fiber ZrB_2 Matrix Composite/Ultrahigh Temperature Ceramic Laminate System
J. Kurihara*, Y. Liu, The University of Tokyo, Japan; S. Guo, National Institute for Materials Science, Japan; Y. Kagawa, The University of Tokyo, Japan

10:20 AM

(ICACC-S1-058-2010) New carbides in Zr-Al(Si)-C and Hf-Al(Si)-C system for ultrahigh temperature applications (Invited)
Y. Zhou*, L. He, Institute of Metal Research, Chinese Academy of Sciences, China

11:00 AM

(ICACC-S1-059-2010) High Hardness MeB_2/SiC/B_4C Ternary Composites
E. W. Neuman*, H. J. Brown-Shaklee, G. E. Hilmas, W. G. Fahrenholtz, Missouri University of Science and Technology, USA

11:20 AM

(ICACC-S1-060-2010) Synthesis of Ti_3SiC_2-TiC Composites and their Mechanical Properties
Z. Sun*, W. Tian, Y. Du, H. Hashimoto, AIST, Japan

11:40 AM

(ICACC-S1-061-2010) Densification and Microstructure of ZrC-W Cermets
M. M. Giles*, S. C. Zhang, W. G. Fahrenholtz, G. E. Hilmas, Missouri University of Science and Technology, USA

Reliability and Life Prediction Methodologies

Room: Coquina D

Session Chairs: Osama Jadaan, University of Wisconsin-Platteville; Jacques Lamon, CNRS

8:00 AM

(ICACC-S1-074-2010) Probabilistic modelling of lifetime in static fatigue, at high temperatures for CMCs (Invited)
J. L. Lamon*, O. De Melo-Loseille, CNRS, France

8:40 AM

(ICACC-S1-075-2010) High Mechanical Reliability Alumina/Silicon Carbide Laminated Composites
F. De Genua, V. M. Sglavo*, University of Trento, Italy

9:00 AM

(ICACC-S1-076-2010) Weibull modulus estimated from coarser defects distribution in dry-pressed alumina ceramics
S. Tanaka*, S. Nakamura, K. Uematsu, Nagaoka University of Technology, Japan

9:20 AM

(ICACC-S1-077-2010) 3D multiscale modelling of the mechanical behaviour of woven composites
G. Couegnat, E. Martin, J. L. Lamon*, CNRS, France

9:40 AM

Break

10:00 AM

(ICACC-S1-078-2010) Fatigue reliability predictions for grain bridging ceramics
S. Gallops*, J. J. Kruzic, Oregon State University, USA; T. Fett, University of Karlsruhe, Germany

10:20 AM

(ICACC-S1-079-2010) Probabilistic Analysis of a Rolling Contact Fatigue Test
M. Härtelt*, H. Riesch-Oppermann, O. Kraft, Forschungszentrum Karlsruhe GmbH, Germany

10:40 AM

(ICACC-S1-080-2010) Effective surface recession laws for the physico-chemical ablation of C/C composite materials
G. L. Vignoles*, J. Lachaud, Y. Aspa, University Bordeaux 1, France; M. Quintard, INPT - Inst. Nat. Polytechnique Toulouse, France

11:00 AM

(ICACC-S1-081-2010) Development and Validation of lubricated multi-disc clutch systems with advanced ceramics
A. Albers, J. Bernhardt*, S. Ott, Universität Karlsruhe (TH), Germany

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

Multifunctional Coatings, Advanced Processing and Characterization

Room: Ponce DeLeon

Session Chairs: Jiangang Sun, Argonne National Laboratory; Rodney Trice, Purdue University

8:00 AM

(ICACC-S2-030-2010) SAW Filter with (Al,B)N on Diamond (Invited)
J. Song, J. Huang*, National Cheng Kung University, Taiwan; J. Sung, KINIK Company, Taiwan

8:40 AM

(ICACC-S2-031-2010) Growing Integration Layer [GIL] Method: Novel Concept and Realization of Coating of Functional Ceramic Layers on Metallic Materials in Solution without Firing Processes (Invited)
M. Yoshimura*, N. Sugiyama, N. Matsushita, Tokyo Institute of Technology, Japan; X. Wang, T. Wada, A. Inoue, F. Qin, Tohoku University, Japan; M. Tsukamoto, K. Nakata, Osaka University, Japan

9:20 AM

(ICACC-S2-032-2010) Solution based synthesis and properties of composite films, coatings and gradients
G. Westin*, ÅSA. Ekstrand, A. Pohl, K. Jansson, Uppsala University, Sweden

9:40 AM

Break

10:00 AM

(ICACC-S2-033-2010) Effects of particle state and non-particle state parameters on stress and microstructure evolutions of plasma-sprayed thermal barrier coatings
K. Shinoda*, S. Sampath, Stony Brook University, USA

10:20 AM

(ICACC-S2-034-2010) Elastic and Damping Properties of Plasma-sprayed Thermal Barrier Coatings
Y. Tan*, Stony Brook University, USA; A. Shyam, Oak Ridge National Laboratory, USA; G. Dwivedi, Stony Brook University, USA; E. Lara-Curzio, Oak Ridge National Laboratory, USA; D. O. Welch, S. Sampath, Stony Brook University, USA

10:40 AM

(ICACC-S2-035-2010) A Comparative Microstructural Study of As-Fabricated, Heat Treated and Irradiated ZrC Coated Surrogate TRISO Particles
G. Vasudevamurthy*, Y. Katoh, M. A. Williams, University of Tennessee-Knoxville/Oak Ridge National Lab, USA; J. Aihara, S. Ueta, Japan Atomic Energy Agency, Japan; L. L. Snead, University of Tennessee-Knoxville/Oak Ridge National Lab, USA; K. Sawa, Japan Atomic Energy Agency, Japan

11:00 AM

(ICACC-S2-036-2010) Effects of Doping Elements on Oxygen Permeability of Alumina Ceramics at Ultra-High Temperatures
T. Matsudaira*, M. Wada, S. Kitaoka, Japan Fine Ceramics Center, Japan

11:20 AM

(ICACC-S2-037-2010) Microstructure, porosity and defect characterization in 3D of advanced ceramics coatings using a novel CT system with submicron resolution
J. I. Eldridge, NASA Glenn, USA; S. H. Lau*, L. Hunter, J. Gleb, Xradia Inc., USA

11:40 AM

(ICACC-S2-038-2010) *Faradayic* Electrophoretic Deposition of Thermal Barrier Coatings
J. W. Kell*, H. A. McCrabb, Faraday Technology, USA

S3: 7th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Electrode Materials and Microstructure I

Room: Coquina E

Session Chairs: Elizabeth Opila, NASA Glenn Research Center; Frank Chen, University of South Carolina

8:00 AM

(ICACC-S3-049-2010) Ni-Fe/LSGM cermet anode for direct CH_4 type SOFC (Invited)
T. Ishihara*, H. Zhong, Kyushu University, Japan

8:40 AM

(ICACC-S3-050-2010) Design of new mixed-conducting SOFC cathodes
B. Dabrowski*, L. Suescun, K. Swierczek, S. Remsen, Northern Illinois University, USA

9:00 AM

(ICACC-S3-051-2010) Deformation and fracture of SOFC upon RedOx cycles
A. R. Contino*, University of Trento, Italy; M. Cologna, S. Modena, SOFCPOWER S.r.l., Italy; V. M. Sglavo, University of Trento, Italy

9:20 AM

(ICACC-S3-052-2010) Modeling of Oxygen Reduction Mechanism for 3PB and 2PB Pathways at Solid Oxide Fuel Cell Cathode from Multi-step Charge Transfer
M. Gong*, West Virginia University, USA; R. S. Gemmen, National Energy Technology Laboratory, USA; X. Liu, West Virginia University, USA

9:40 AM

Break

10:00 AM

(ICACC-S3-053-2010) Composite Solid Oxide Fuel Cell Cathode Systems: Interface Instability and Electrochemical Implications (Invited)
C. Zhang, A. T. Duong, D. R. Mumm*, University of California, Irvine, USA

10:40 AM

(ICACC-S3-054-2010) Novel Fabrication Process of Micro-Single Chamber Solid Oxide Fuel Cells
M. Yang, Z. Xu*, S. Desai, J. Sankar, North Carolina A&T State University, USA

11:00 AM

(ICACC-S3-055-2010) Synthesis of Ultra-fine Bismuth Ruthenate ($Bi_2Ru_2O_7$) using Glycine-Nitrate Combustion and Characterization of its Catalytic Activity for IT-SOFC
B. Lee*, E. Armstrong, E. Wachsman, University of Florida, USA

11:20 AM

(ICACC-S3-056-2010) Comparison of 2D and 3D Microstructural Analysis
N. Vito*, D. Gostovic, E. Wachsman, K. Jones, University of Florida, USA

S7: 4th International Symposium on Nanostructured Materials and Nanotechnology: Development and Applications

Bio-active Nanomaterials and Nanostructured Materials for Bio-medical Applications

Room: Coquina C

Session Chair: Gunnar Westin, Uppsala University

8:00 AM

(ICACC-S7-046-2010) Solution Synthesis of Morphologically Uniform Nanoparticles of Complex Oxides and their Functionalization and Targeting for Application in Bio-Imaging and Drug Delivery
V. G. Kessler, G. A. Seisenbaeva, R. Pazik*, Swedish University of Agricultural Sciences, Sweden; Y. Gun'ko, R. Tekoriute, Trinity College Dublin, Ireland; W. Strek, R. Wiglusz, Institute of Low Temperatures and Structure Research, PAS, Poland

8:20 AM

(ICACC-S7-047-2010) Carbon nanotube uptake and transport inside living cells
C. Lamprecht*, B. Plochberger, Johannes Kepler University Linz, Austria; E. Heister, University of Surrey, United Kingdom; B. Mayer, I. Neundlinger, G. Schütz, P. Hinterdorfer, Johannes Kepler University Linz, Austria; F. Kienberger, Agilent Laboratories, Austria; A. Ebner, Johannes Kepler University Linz, Austria

8:40 AM

(ICACC-S7-048-2010) Uptake and Cytotoxicity of Fluorescence Dye Labeled TiO2 Nanoparticles
C. Waldmann*, A. Urban, S. Mathur, University of Cologne, Germany

9:00 AM

(ICACC-S7-049-2010) Cellular Interaction and Biocompatibility of Eu3+-doped Gadolinium Hydroxide and Oxide Nanostructures
Y. Kohl*, Fraunhofer Institute for Biomedical Engineering IBMT, Germany; E. Hemmer, K. Soga, Tokyo University of Science, Japan; S. Mathur, University of Cologne, Germany; H. Thielecke, Fraunhofer Institute for Biomedical Engineering IBMT, Germany

9:20 AM

(ICACC-S7-050-2010) Tunable superparamagnetic Fe3O4-SiO2 core-shell nanoparticles: synthesis, characterization, and in vitro compatibility with immune-competent cells
C. Vogt*, Royal Institute of Technology, Sweden; A. Kunzmann, N. Feliu, J. Shi, Institute of Environmental Medicine, Karolinska Institutet, Sweden; B. Andersson, S. Gabrielsson, Karolinska Institutet and University Hospital, Sweden; T. Thurnherr, P. Wick, Swiss Federal Laboratories for Materials Testing and Research, Switzerland; S. Laurent, J. Bridot, R. Mueller, University of Mons-Hainaut, Belgium; M. S. Toprak, Royal Institute of Technology, Sweden; H. F. Krug, Swiss Federal Laboratories for Materials Testing and Research, Switzerland; A. Scheynius, Karolinska Institutet and University Hospital, Sweden; B. Fadeel, Institute of Environmental Medicine, Karolinska Institutet, Sweden; M. Muhammed, Royal Institute of Technology, Sweden

9:40 AM

Break

Nanomaterials for Photocatalysis and Solar Energy I

Room: Coquina C

Session Chair: Masahiro Yoshimura, Tokyo Institute of Technology

10:00 AM

(ICACC-S7-051-2010) Overall Water Splitting on Nanoparticulate Photocatalysts under Visible Light (Invited)
K. Domen*, The University of Tokyo, Japan

10:40 AM

(ICACC-S7-052-2010) Controlling Electron Transfer Reactions at Semiconductor Quantum Dots/Metal Oxide Interface (Invited)
Y. Tachibana*, Osaka University, Japan

11:00 AM

(ICACC-S7-053-2010) Controlled Selective Growth of ZnO Nanostructures in Solution and Their Applications for Nanodevices (Invited)
Y. Hahn*, Chonbuk National University, Korea, South

11:20 AM

(ICACC-S7-054-2010) Hybrid Nanostructured Organic/Inorganic Photovoltaic Cells
S. Antohe*, University of Bucharest, Romania; I. Enculescu, National Institute for Material Physics, Romania; L. Ion, University of Bucharest, Romania

11:40 AM

(ICACC-S7-055-2010) Enhanced Photovoltaic Effect Using Nanostructured Multi-layered Photoelectrode
M. Ramrakhiani*, J. Dongre, Rani Duragavati University, India

S8: 4th International Symposium on Advanced Processing and Manufacturing Technologies (APMT) for Structural and Multifunctional Materials and Systems

Smart Processing II

Room: Coquina B

Session Chairs: Eugene Medvedovski, Umicore Indium Products; Byung-Koog Jang, National Institute for Materials Science

8:00 AM

(ICACC-S8-047-2010) Processing of Silica Aerogels by Ambient Drying (Invited)
Y. Oh*, K. Kim, KIST, Korea, South; B. Jang, NIMS, Japan

8:40 AM

(ICACC-S8-048-2010) Hydrolysis of aluminium nitride - how to prevent it or exploit it
K. Krnel*, T. Kosmac, Jozef Stefan Institute, Slovenia

9:00 AM

(ICACC-S8-049-2010) Porous alumina ceramics prepared by hydrolysis assisted solidification
A. Dakskobler*, A. Kocjan, T. Kosmac, Jozef Stefan Institute, Slovenia

9:20 AM

(ICACC-S8-050-2010) Fabrication and characterization of porous SiC
M. Fukushima*, Y. Zhou, Y. Yoshizawa, National Institute of Advanced Industrial Science and Technology (AIST), Japan

9:40 AM

Break

10:00 AM

(ICACC-S8-051-2010) Synthesis of (La,Nd):Y2O3 and (La,Yb):Y2O3 laser ceramics and their optical properties
Y. Huang*, D. Jiang, Shanghai Institute of Ceramics, China

10:20 AM

(ICACC-S8-052-2010) Fabrication of transparent granules in the system Al2O3-Y2O3-ZrO2 by CO2 laser
C. Oelgardt*, Clausthal University of Technology, Germany; J. Günster, CIC Ceramic Institute Clausthal GmbH, Germany; J. G. Heinrich, Clausthal University of Technology, Germany

10:40 AM

(ICACC-S8-053-2010) Influence of dispersant on rheology of zirconia-paraffin feedstocks and mechanical properties of micro parts fabricated via LPIM
F. A. Çetinel*, Forschungszentrum Karlsruhe GmbH, Germany; J. Rögner, University of Karlsruhe (TH), Germany; M. Müller, W. Bauer, J. Hausselt, Forschungszentrum Karlsruhe GmbH, Germany

11:00 AM

(ICACC-S8-054-2010) Low Temperature Formation of Ultra High Temperature Transition Metal Carbides Using Salt-Polymer Precursors
J. Grunlan, M. Radovic*, A. Ilg, D. Fitch, A. Spriggs, Texas A&M University, USA

11:20 AM

(ICACC-S8-055-2010) Micro-Sized Ceramic Structures from Organosilicon Polymers
S. Martinez-Crespiera*, R. Riedel, E. Ionescu, H. Schlaak, M. Schlosser, K. Flittner, Technische Universität Darmstadt, Germany

11:40 AM

(ICACC-S8-056-2010) Preparation of Spherical LiMn2O4 Powder with High Surface Area Using Salt Assisted Ultrasonic Spray Pyrolysis Technique
C. Özgür*, O. San, Y. Erdogan, Dumlupinar Univ, Turkey

S11: Advanced Sensor Technology, Developments and Applications

Advanced Sensor Technology I

Room: Coquina F

Session Chairs: Linan An, University of Central Florida; Xun Gong, University of Central Florida

8:00 AM

(ICACC-S11-001-2010) Development of Harsh Environment Wireless Sensor Systems for Rotating Industrial Gas Turbine Components (Invited)
D. J. Mitchell*, A. Kulkarni, C. Schillig, Siemens Energy, USA; A. Lostetter, M. Schupbach, J. Fraley, Arkansas Power Electronic, USA; R. Waits, Rove Technical Services, USA

8:40 AM

(ICACC-S11-002-2010) Wireless chemical sensor for combustion species at high temperatures using 4H-SiC (Invited)
A. Kar*, G. Lim, University of Central Florida, USA

9:20 AM

(ICACC-S11-003-2010) Resistive oxygen sensor using ceria for lean-burn engine
N. Izu*, S. Nishizaki, W. Shin, T. Itoh, M. Nishibori, I. Matsubara, National Institute of Advanced Industrial Science and Technology (AIST), Japan

9:40 AM

Break

10:00 AM

(ICACC-S11-004-2010) Long-term stability of bimetallic Pt on alumina catalyst on micro-gas sensor device (Invited)
M. Nishibori*, W. Shin, N. Izu, T. Itoh, I. Matsubara, Institute of Advanced Industrial Science and Technology (AIST), Japan

10:20 AM

(ICACC-S11-005-2010) Detection of breath hydrogen by micro-thermoelectric hydrogen sensors
I. Matsubara*, M. Nishibori, W. Shin, N. Izu, T. Itoh, National Institute of Advanced Industrial Science & Technology, Japan

10:40 AM

(ICACC-S11-006-2010) Impedancemetric NO_x Gas Sensors Based on Porous YSZ for Diesel Exhaust: O_2 and Water Cross-Sensitivity
L. Y. Woo*, R. S. Glass, Lawrence Livermore National Laboratory, USA; R. F. Novak, J. H. Visser, Ford Motor Company, USA

11:00 AM

(ICACC-S11-007-2010) Detection and classification of gaseous compounds by solid electrolyte cyclic voltammetry sensors
G. Jasinski*, Gdansk University of Technology, Poland

11:20 AM

(ICACC-S11-008-2010) Novel gas sensing with multivalent ion conducting solids (Invited)
N. Imanaka*, Osaka University, Japan

FS3: Computational Design, Modeling, Simulation and Characterization of Ceramics and Composites

Modeling of Defects and Related Properties

Room: Coquina H

Session Chairs: Paul Rulis, University of Missouri - Kansas City; Zhijun Lin, Los Alamos National Lab

8:00 AM

(ICACC-FS3-001-2010) Theoretical Modeling of Point Defects in Calcium Phosphates from First Principles (Invited)
K. Matsunaga*, Kyoto University, Japan

8:40 AM

(ICACC-FS3-002-2010) Theoretical investigation of point defect and oxygen diffusion in yttrium silicates
B. Liu*, J. Wang, Y. Zhou, Institute of Metal Research, Chinese Academy of Sciences, China

9:00 AM

(ICACC-FS3-003-2010) First-principles modeling of defects in MAX phases
J. Wang*, W. Jingyang, Z. Yanchun, L. Ting, Institute of Metal Research, China

9:20 AM

(ICACC-FS3-004-2010) Crystal structure and mechanical properties of novel hard and superhard compounds: A first-principles investigation (Invited)
Z. Lin*, C. Jiang, Y. Zhao, Los Alamos National Lab, USA

9:40 AM

Break

Prediction of Crystal Structure, Electronic Structure and Properties

Room: Coquina H

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

10:00 AM

(ICACC-FS3-005-2010) Electronic and spectroscopic properties of elemental boron
L. Wang*, S. Aryal, P. Rulis, W. Ching, University of Missouri- Kansas City, USA

10:20 AM

(ICACC-FS3-006-2010) Origin of giant optical anisotropy in herapathite (Invited)
W. Ching*, L. Liang, P. Rulis, University of Missouri-Kansas City, USA

11:00 AM

(ICACC-FS3-007-2010) Theoretical Interpretation of Zn-K Edge XANES in Zn^{2+}-doped Hydroxyapatite Using First-Principles Calculations
H. Murata*, K. Matsunaga, I. Tanaka, T. Mizoguchi, Kyoto University, Japan; A. Nakahira, Osaka Prefecture University, Japan

11:20 AM

(ICACC-FS3-008-2010) *Ab initio* Calculation of Electronic Structure and Mechanical Properties of α- and β- Tricalcium Phosphate
L. Liang*, P. Rulis, W. Ching, UMKC, USA

11:40 AM

(ICACC-FS3-009-2010) Electronic structure and band-gaps of Eu-doped LaSi3N5 ternary nitrides (Invited)
L. Benco*, Vienna University, Austria; Z. Lences, P. Sajgalik, Institute of Inorganic Chemistry, Slovak Academy of Sciences, Slovakia

FS4: Nanolaminated Ternary Carbides and Nitrides (MAX Phases)

Physical and Mechanical Properties of MAX Phases

Room: Coquina G

Session Chairs: Miladin Radovic, Texas A&M University; Sylvain Dubois, Laboratoire de Physique des Matériaux

8:00 AM

(ICACC-FS4-001-2010) Atomic-scale characterizations of layered ternary ceramics (Invited)
Z. Lin*, Los Alamos National Lab, USA; Y. Zhou, L. He, M. Li, J. Wang, Institute of Metal Research, Chinese Academy of Sciences, China; Y. Zhao, Los Alamos National Lab, USA

8:40 AM

(ICACC-FS4-002-2010) Nonlinear Acousto-Elastic Hysteresis in Kinking Nonlinear Elastic Solids
P. Finkel*, NUWC, USA; M. Barsoum, Drexel University, USA

9:00 AM

(ICACC-FS4-003-2010) Deformation mechanisms of Ti3AlC2 and Ti3Al0.8Sn0.2C2
G. Bei, V. Gauthier-Brunet, A. Joulain, L. Thilly, C. Tromas, S. Dubois*, Laboratoire de Physique des Matériaux, France

9:20 AM

(ICACC-FS4-004-2010) Crack healing of MAX-phase materials
G. Song*, Delft University of Technology, Netherlands; Y. Pei, University of Groningen, Netherlands; S. Li, S. Van der Zwaag, Delft University of Technology, Netherlands; J. Th M De Hosson, University of Groningen, Netherlands; W. Sloof, Delft University of Technology, Netherlands

9:40 AM

Break

10:00 AM

(ICACC-FS4-005-2010) Study of High-Temperature Thermal Stability of MAX Phases in Vacuum
I. Low*, W. Pang, Curtin University of Technology, Australia; Z. Sun, National Institute of Advanced Industrial Science and Technology, Japan

10:20 AM

(ICACC-FS4-006-2010) Investigations on the oxidation behaviour of MAX-phase based Ti_2AlC coatings on γ-TiAl
M. Froehlich*, DLR-German Aerospace Center, Germany

10:40 AM

(ICACC-FS4-007-2010) Effect of the water vapor on the oxidation of Ti2AlC in 1000-1300 °C temperature range
N. H. Obando*, M. Radovic, Texas A&M University, USA

11:00 AM

(ICACC-FS4-008-2010) Probing the anisotropy in the electrical and dielectric properties of MAX phases
P. Eklund*, Linkoping University, Sweden; G. Hug, LEM-ONERA, France

11:20 AM

(ICACC-FS4-009-2010) Optical Properties of MAX phases: Ti2AlC, Ti3AlC2, Ti3SiC2 and Ti3GeC2
Y. Mo*, W. Ching, University of Missouri-Kansas City, USA

11:40 AM

(ICACC-FS4-010-2010) Fabrication and Mechanical Properties of bulk Cr2AlC synthesized from CrCx/Al Powder Mixture
S. Park*, G. Cho, Korea Inst. of Science and Technology, Korea, South

S1: Mechanical Behavior and Performance of Ceramics & Composites

Ultra High-Temperature Ceramics - Characterization

Room: Coquina A

Session Chairs: Greg Hilmas, Missouri University of Science & Technology; Laura Silvestroni, ISTEC - CNR

1:20 PM

(ICACC-S1-062-2010) Processing and properties of toughened ultrahigh temperature ceramics (Invited)
D. Sciti*, L. Silvestroni, A. Bellosi, S. Guicciardi, CNR, Italy; M. Nygren, Stockolm University, Sweden

2:00 PM

(ICACC-S1-063-2010) TEM analysis on TaSi2–containing ultra-high temperature ceramics
L. Silvestroni*, D. Sciti, A. Bellosi, ISTEC - CNR, Italy; H. Kleebe, ISTEC-CNR, Italy

2:20 PM

(ICACC-S1-064-2010) FIB-SIMS and TEM analysis of ZrB_2 based composites with Rare Earth Additions
D. J. Daniel*, C. Davoisne, E. Eakins, Imperial College London, United Kingdom; P. Brown, Defence Science and Technology Laboratory, United Kingdom; W. E. Lee, Imperial College London, United Kingdom

2:40 PM

(ICACC-S1-065-2010) Stress measurement in annealed ZrB2-SiC composites
J. Watts*, G. Hilmas, W. Fahrenholtz, Missouri University of Science and Technology, USA

3:00 PM

Break

3:20 PM

(ICACC-S1-066-2010) Mechanical properties of Heat Treated ZrB_2-SiC Composites
E. W. Neuman*, G. E. Hilmas, W. G. Fahrenholtz, Missouri University of Science and Technology, USA

3:40 PM

(ICACC-S1-067-2010) Fracture Toughness of SiC particle-dispersed ZrB_2 Matrix Composites: Effect of SiC Particle Size and Volume Fraction
J. Kurihara*, M. Ikegami, Y. Liu, Y. Kagawa, The University of Tokyo, Japan

4:00 PM

(ICACC-S1-068-2010) Effect of SiC Particle Dispersion on Thermal Conductivity of SiC Particle-Dispersed ZrB2 Matrix Composites
M. Ikegami*, S. Guo, K. Matsumura, The University of Tokyo, Japan; J. Yang, University of California, Los Angeles , USA; Y. Kagawa, The University of Tokyo, Japan

4:20 PM

(ICACC-S1-069-2010) Nano to macro hardness of ZrB2 based materials
J. Wang*, F. Giuliani, L. J. Vandeperre, Imperial College London, United Kingdom

4:40 PM

(ICACC-S1-070-2010) Thermal radiative properties of SiC particle dispersed ZrB2 matrix composites
M. Ikegami*, K. Matsumura, Y. Kagawa, the University of Tokyo, Japan

5:00 PM

(ICACC-S1-071-2010) HfO2 - Ta2O5 Binary System: Investigation of Stable Phases
R. Haggerty*, Z. Apostolov, P. Sarin, W. M. Kriven, University of Illinois Urbana-Champaign, USA

5:20 PM

(ICACC-S1-072-2010) Superplastic Behaviour of Al2O3-Y3Al5O12-YSZ Eutectic Oxides
J. Y. Pastor*, A. Martín, Universidad Politecnica de Madrid, Spain; P. B. Oliete, CSIC-Universidad de Zaragoza, Spain; J. I. Peña, Imdea-Materiales, Spain; A. Larrea, V. M. Orera, CSIC-Universidad de Zaragoza, Spain; J. LLorca, Imdea-Materiales, Spain

5:40 PM

(ICACC-S1-073-2010) Mechanical Properties Al2O3/Er3Al5O12 Eutectic Rods Grown by the Laser Floating Zone Method
J. Y. Pastor*, A. Martin, Universidad Politecnica de Madrid, Spain; P. B. Oliete, M. C. Mesa, Imdea-Materiales, Spain; A. Larrea, V. M. Orera, CSIC-Universidad de Zaragoza, Spain; J. LLorca, Imdea-Materiales, Spain

Joining

Room: Coquina D

Session Chair: Monica Ferraris, Politecnico di Torino

1:20 PM

(ICACC-S1-082-2010) Joining of SiC and SiC/SiC for nuclear applications
M. Ferraris*, A. Ventrella, M. Salvo, H. Shaohua, V. Casalegno, S. Rizzo, Politecnico di Torino, Italy; Y. Katoh, Oak Ridge National Laboratory, USA; H. Jung, T. Hinoki, Institute of Advanced Energy, Japan; A. Kohyama, Muroran Institute of Technology, Japan

1:40 PM

(ICACC-S1-083-2010) Joint strength evaluation of SiC/SiC composites
Y. Nonaka*, Y. Tanahashi, Y. Mizokami, H. Murata, T. Nakamura, A. Takahashi, IHI Corporation, Japan

2:00 PM

(ICACC-S1-084-2010) Assembly Technique for SiC/SiC Composite Compact Intermediate Heat Exchanger Utilizing NITE Process
T. Hinoki*, Y. Park, S. Konishi, Kyoto University, Japan

2:20 PM

(ICACC-S1-085-2010) Shear strength tests of joined ceramics and C/C composites
M. Ferraris*, A. Ventrella, M. Salvo, M. Avalle, Politecnico di Torino, Italy; E. Martin, Bordeaux University, France

2:40 PM

(ICACC-S1-086-2010) Brazing of SA-Tyrannohex materials using metallic interlayers
T. Matsunaga*, H. Lin, Oak Ridge National Laboratory, USA; T. Ishikawa, S. Kajii, Ube Industries, Ltd., Japan; R. Asthana, University of Wisconsin-Stout, USA; M. Singh, Ohio Aerospace Institute, USA

3:00 PM

(ICACC-S1-087-2010) Effect of various SnAgTi-alloys and laser induced texturing on the shear strength of laser brazed SiC-steel-joints
I. J. Suedmeyer*, M. Rohde, Forschungszentrum Karlsruhe GmbH, Germany

3:20 PM

(ICACC-S1-088-2010) Characterization of Bonded Joints of Titalinum Alloys With C/C-SiC AND C/C Composites
V. K. Srivastava, S. Singh*, Institute of Technology, India

3:40 PM

(ICACC-S1-089-2010) Mechanical properties and failure criterion of silicon-based joints
L. Nguyen*, O. T. Gillia, CEA/Grenoble, France; D. Leguillon, CNRS, France; E. Rivière, CNES, France

4:00 PM

Break

Tribological Properties

Room: Coquina D

Session Chair: Oyelayo Ajayi, Argonne National Lab

4:10 PM

(ICACC-S1-090-2010) Comparison of wear and scuffing behavior of structural ceramics in lubricated sliding contact
M. Lorenzo Martin, O. O. Ajayi*, R. A. Erck, G. R. Fenske, Argonne National Laboratory, USA

4:30 PM

(ICACC-S1-091-2010) Friction and wear performance of structural ceramic materials in lubricated sliding contact with steel
M. Lorenzo Martin*, O. Ajayi, D. Singh, J. Routbort, Argonne National Laboratory, USA

4:50 PM

(ICACC-S1-092-2010) Influence of Additives on Tribological Properties of Al_2O_3/ZrO_2 Nanocomposites Fabricated by PECS
S. Kim*, S. Lee, Sun Moon University, Korea, South

5:10 PM

(ICACC-S1-093-2010) Advanced ceramic-steel pairings under permanent slip for dry running clutch systems
A. Albers*, S. Ott, M. M. Meid, M. M. Meid, IPEK - Institute of Product Development, Germany

5:30 PM

(ICACC-S1-094-2010) Particle Erosion Wear Mechanism of New Conceptive SiC/SiC Composites
M. Suh*, Kyoto University, Japan; S. Oh, A. Kohyama, Kyungpook National University, Korea, South; T. Hinoki, Kyoto University, Japan; C. Suh, Kyungpook National University, Korea, South

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

Coatings to Resist Wear, Erosion and Tribological Loadings

Room: Ponce DeLeon

Session Chairs: Irene Spitsberg, Kennametal, Inc.; Dileep Singh, Argonne National Laboratory

1:20 PM

(ICACC-S2-039-2010) LAFAD-assisted Plasma Surface Engineering Processes for Wear and Corrosion Protection: A Review (Invited)
V. Gorokhovsky*, Arcomac Surface Engineering, LLC, USA

2:00 PM

(ICACC-S2-040-2010) Advanced CVD Coating HARDIDE™ resists wear, erosion and corrosion (Invited)
Y. Zhuk*, Hardide Plc, United Kingdom

2:40 PM

(ICACC-S2-041-2010) Nano-scale Surface Engineering-An Update of 1970s CVD Technology
J. Stiglich*, Advanced Materials Associates, Inc., USA; B. Williams, Ultramet, USA

3:00 PM

Break

3:20 PM

(ICACC-S2-042-2010) Introduction to High Velocity Suspension Flame Spraying (HVSFS) – a novel processing method for high performance structural and functional coatings (Invited)
R. Gadow*, A. Killinger, A. Manzat, IFKB University of Stuttgart, Germany

4:00 PM

(ICACC-S2-043-2010) Tungsten Carbide in Oil and Gas Drilling Applications (Invited)
J. Xu*, H. John, J. W. Eason, D. E. Scott, Baker Hughes INTEQ GmbH, Germany

4:40 PM

(ICACC-S2-044-2010) High Temperature Oxidation and Wear Behavior of ZrSiON Thin Films
M. Byrne, B. Nugent, R. J. Lad*, University of Maine, USA

5:00 PM

(ICACC-S2-045-2010) Plasma spray coatings for high performance applications
D. M. Fell*, MHEP, Inc., USA; D. A. Koch, D. Field, Washington State University, USA

S3: 7th International Symposium on Solid Oxide Fuel Cells (SOFC): Materials, Science and Technology

Electrode Materials and Microstructure II

Room: Coquina E

Session Chairs: Daniel Mumm, University of California, Irvine; Yeong-Shyung Chou, Pacific Northwest National Laboratory

1:20 PM

(ICACC-S3-057-2010) Assessment of Electrochemical Properties of Ba0.5Sr0.5Co0.2Fe0.8O3-x
A. Verma*, P. Singh, University of Connecticut, USA

1:40 PM

(ICACC-S3-058-2010) Microstructure – Performance Correlations for Composite SOFC Electrodes: Effect of Particle Size Distributions
A. T. Duong*, D. R. Mumm, University of California, Irvine, USA

2:00 PM

(ICACC-S3-059-2010) High Performance and Highly Stable LSCF-based Solid Oxide Fuel Cells
X. Zhou*, J. Templeton, J. Stevenson, Pacific Northwest National Lab, USA; X. Zhou, University of South Carolina, USA

2:20 PM

(ICACC-S3-060-2010) Fabrication of an intermediate-temperature anode-supported planar SOFC via tape casting and lamination
C. An*, N. M. Sammes, Colorado School of mines, USA

2:40 PM

(ICACC-S3-061-2010) Interdiffusion in NiO-YSZ Composites
J. Basu*, S. Bhowmick, University of Connecticut, USA; D. King, Pacific Northwest National Laboratory, USA; C. Carter, P. Singh, University of Connecticut, USA

3:00 PM

Break

3:20 PM

(ICACC-S3-062-2010) Perovskite Materials for Use as Sulfur Tolerant Anodes in SOFCs
P. Gardner*, Air Force Research Laboratory, USA; X. Dong, University of South Carolina, USA; T. L. Rietz, Air Force Research Laboratory, USA; F. Chen, University of South Carolina, USA

3:40 PM

(ICACC-S3-063-2010) Electrical conductivity of composite electrolytes based on BaO-CeO2-GdO1.5 system in different atmospheres
P. Gopalan*, A. Venkatasubramanian, T. R. Prasanna, I.I.T. Bombay, India

4:00 PM

(ICACC-S3-064-2010) Self-Rising Approach to Synthesize Hierarchically Porous Metal Oxides
Q. Liu*, F. Chen, University of South Carolina, USA

S7: 4th International Symposium on Nanostructured Materials and Nanotechnology: Development and Applications

Nanomaterials for Photocatalysis and Solar Energy II

Room: Coquina C

Session Chair: Yasuhiro Tachibana, Osaka University

1:20 PM

(ICACC-S7-056-2010) Nano-structured Photocatalysts for Solar Water Splitting (Invited)
A. Kudo*, Tokyo University of Science, Japan

2:00 PM

(ICACC-S7-057-2010) Coexistence of Molecular Adsorption Property with Photocatalytic Function in Chemically Synthesized Titanium Oxide Nanotubes (Invited)
T. Sekino*, D. Park, S. Tsukuda, IMRAM, Tohoku Univ., Japan; T. Kusunose, ISIR, Osaka Univ., Japan; S. Tanaka, IMRAM, Tohoku Univ., Japan

2:40 PM

(ICACC-S7-058-2010) PLLA-ZnO Hierarchical Nanostructure as Multifunctional Active Material for Photocatalytic Cleansing of Water
A. Sugunan*, V. K. Guduru, A. Uheida, G. K. Rajarao, M. S. Toprak, M. Muhammed, Royal Institute of Technology (KTH), Sweden

3:00 PM

Break

Recent Advances in New Composites and Architectures I

Room: Coquina C

Session Chair: Yoshitake Masuda, National Institute of Advanced Industrial Science and Technology (AIST)

3:20 PM

(ICACC-S7-059-2010) Processing of Nanoparticles using colloidal methods (Invited)
H. Hofmann*, J. Salaklang, K. Dittmar, Ecole Polytechnique Federale de Lausanne, Switzerland

4:00 PM

(ICACC-S7-060-2010) Hydrothermal synthesis of TiO2 nanotubes
L. M. Sikhwivhilu*, S. Sinha Ray, CCouncil for Scientific and Industrial Research (CSIR), South Africa

4:20 PM

(ICACC-S7-061-2010) Luminescence and chemical stability enhancement of yellow phosphors via uniform TiO2 coating
H. Lee*, S. Lee, J. Yoo, Korea Institute of Ceramic Engineering & technology, Korea, South

4:40 PM

(ICACC-S7-062-2010) Flame Synthesis of Tungsten Oxide Nanostructures: Morphology and Local Growth Conditions
S. D. Tse*, C. D'Esposito, F. Xu, X. Liu, J. F. Al-Sharab, B. Kear, Rutgers University, USA

5:00 PM

(ICACC-S7-063-2010) Characterization of Nanocrystalline Surface Layer in Low Carbon Steel Induced by Surface rapid Multi-rolling Treatment
C. Sun*, K. Sun, J. Zhang, P. Chuan, X. Wang, N. Wang, Shandong University, China

5:20 PM

(ICACC-S7-064-2010) The use of CaCO3 and Ca3(PO4)2 as supports for Fe-Co catalysts for carbon nanotube synthesis: a comparative study
S. D. Mhlanga*, S. S. Ray, Council for Scientific and Industrial Research, South Africa

5:40 PM

(ICACC-S7-065-2010) Porous Hydroxyapatite Tablets Produced with Organic Additives
M. Oner*, E. Yetiz, U. Uysal, O. Dogan, Yildiz Technical University, Turkey

S8: 4th International Symposium on Advanced Processing and Manufacturing Technologies (APMT) for Structural and Multifunctional Materials and Systems

Microwave-Processing and SPS

Room: Coquina B

Session Chairs: Omer Van der Biest, Leuven University; Zhijian Shen, Stockholm University

1:20 PM

(ICACC-S8-057-2010) Why does SPS achieve more than hot-pressing? (Invited)
Z. Shen*, Stockholm University, Sweden

2:00 PM

(ICACC-S8-058-2010) Shaping Opportunities and Limitations in SPS technology
O. Van der Biest*, K. Vanmeensel, J. Vleugels, A. Laptev, Leuven University, Belgium

2:20 PM

(ICACC-S8-059-2010) Impact of Specimen Shape on Temperature and Density Gradients in Spark-Plasma Sintering
E. Olevsky*, C. Garcia, E. Khaleghi, W. Bradbury, W. Li, R. German, San Diego State University, USA

2:40 PM

(ICACC-S8-060-2010) Spark Plasma Sintering of Novel Materials - taking the next step towards industrial production
H. U. Kessel*, J. Hennicke, R. Kirchner, FCT Systeme GmbH, Germany

3:00 PM

Break

3:20 PM

(ICACC-S8-061-2010) Pressureless Microwave Sintering of SiC for Armor Applications
M. Fall*, H. Shulman, S. Allan, Ceralink Inc, USA; R. Haber, J. Pantina, F. Toksoy, Rutgers University, USA

3:40 PM

(ICACC-S8-062-2010) Microwave Assist Technology for Enhanced Nitridation
M. Fall*, S. Allan, Ceralink Inc, USA; C. Tournour, Blasch Precision Ceramics, USA; H. Shulman, Ceralink Inc, USA

4:00 PM

(ICACC-S8-063-2010) Development of energy conservation process for the ceramics industry using by the self-collapse mold and microwave sintering
M. Yasuoka*, National Institute of Advanced Industrial Science and Technology (AIST), Japan; T. Shirai, Nagoya Institute of Technology, Japan; Y. Tanaka, K. Watari, National Institute of Advanced Industrial Science and Technology (AIST), Japan

4:20 PM

(ICACC-S8-064-2010) Structural changes of ceramic/plastic composites by microwave irradiation
Y. Tanaka*, M. Yasuoka, Y. Hotta, National Institute of Advanced Industrial Science and Technology, Japan

4:40 PM

(ICACC-S8-065-2010) Fibers-reinforced Ceramic Matrix Composites Elaborated by a new Hybrid Process based on Spark Plasma Sintering
J. Magnant*, R. Pailler, Y. Le_Petitcorps, L. Maille, J. Marthe, Laboratory for Thermostructural Composites (LCTS), France; E. Philippe, Snecma Propulsion Solide, France

5:00 PM

(ICACC-S8-066-2010) Spark Plasma Sintering High-Throughput Processing
R. Aalund*, Thermal Technology, LLC, USA

5:20 PM

(ICACC-S8-067-2010) Microwave Sintering of B_4C Ceramics with Porous BN as Thermal Insulator and Porous B_4C-BN-C as Adsorbing Susceptor
Z. Zhang*, Shanghai Institute of Ceramics, CAS, China

5:40 PM

(ICACC-S8-068-2010) Spark plasma sintering (SPS) of transparent polycristalline Magnesium Aluminate Spinel (MgAl2O4) and Yttrium-Aluminum Garnet (YAG)
N. Frage*, M. Dariel, K. Sergei, S. Natali, Ben-Gurion University, Israel

S11: Advanced Sensor Technology, Developments and Applications

Advanced Sensor Technology II

Room: Coquina F

Session Chair: Qing-Ming Wang, University of Pittsburgh

1:20 PM

(ICACC-S11-009-2010) Development of Ceramic Sensors for On-line Actinide Monitoring
J. Jue*, S. X. Li, T. O. O'Holleran, S. M. Frank, B. F. Cowan, Idaho National Laboratory, USA

1:40 PM

(ICACC-S11-010-2010) High Temperature Piezoelectric Materials for Sensing Applications (Invited)
Q. Wang*, H. Cheng, F. Li, University of Pittsburgh, USA

2:20 PM

(ICACC-S11-011-2010) High Temperature Smart Sensor Systems for Intelligent Engine Applications (Invited)
G. Hunter*, NASA Glenn Research Center, USA

3:00 PM

Break

3:20 PM

(ICACC-S11-012-2010) High temperature acoustic wave gas sensor using langasite crystal resonator (Invited)
H. Cheng*, L. Qin, Q. Wang, University of Pittsburgh, USA

4:00 PM

(ICACC-S11-013-2010) High Frequency Characterization of Ceramic Materials for High-Temperature Sensor Applications (Invited)
X. Gong*, L. An, University of Central Florida, USA; Y. Wang, Northwestern Polytechnical University, China

4:40 PM

(ICACC-S11-014-2010) High temperature pressure sensors based on polymer derived ceramics (Invited)
Y. Wang*, Northwestern Polytechnical University, China; L. An, University of Central Florida, USA

5:00 PM

(ICACC-S11-015-2010) Fabrication and Structural Optimization of Novel Mixed Potential Sensors for Vehicle On-board Emissions Control
M. Nelson*, P. Sekhar, E. L. Brosha, R. Mukundan, F. Garzon, Los Alamos National Laboratory, USA

5:20 PM

(ICACC-S11-016-2010) Electrical Characterization of a Mixed-Potential Sensor based on Indium Tin Oxide and Lanthanum Strontium Chromite Electrodes and Yttria-Stabilized Zirconia Electrolyte
P. K. Sekhar, E. L. Brosha, R. Mukundan, M. Nelson*, F. H. Garzon, Los Alamos National Laboratory, USA

5:40 PM

(ICACC-S11-017-2010) Syntheses and Performance of Thermographic Phosphors
E. H. Jordan, M. Renfor*, M. Gell, M. Majewski, C. Kelley, University of Connecticut, USA

FS3: Computational Design, Modeling, Simulation and Characterization of Ceramics and Composites

Molecular Dynamics Simulation and Prediction of Properties

Room: Coquina H

Session Chairs: Katsuyuki Matsunaga, Kyoto University; Lubomir Benco, Vienna University

1:20 PM

(ICACC-FS3-010-2010) Molecular dynamics study of the structure and thermo-mechanical anomalies of high-temperature silica polymorphs (Invited)
L. Huang*, F. Yuan, Rensselaer Polytechnic Institute, USA

1:40 PM

(ICACC-FS3-011-2010) Large Scale Modeling of Structure and Properties of Mullite
S. Aryal*, P. Rulis, W. Ching, University of Missouri Kansas City, USA

2:00 PM

(ICACC-FS3-012-2010) Thermodynamic Modeling and Experiments in Ceramic Systems (Invited)
H. J. Seifert*, O. Fabrichnaya, Z. Pan, D. M. Cupid, Technical University of Freiberg, Germany

2:40 PM

(ICACC-FS3-013-2010) Ab initio molecular dynamics simulation of reaction mechanism of atomic oxygen etching of organosilicate materials
J. Du*, M. Choudhari, University of North Texas, USA

3:00 PM

Break

Characterization of Interfaces/Grain Boundaries and Design of New Ceramics

Room: Coquina H

Session Chairs: Hans Seifert, Technical University of Freiberg; Jincheng Du, University of North Texas

3:20 PM

(ICACC-FS3-014-2010) Electronic Structure Characterization of a Σ=5 Grain Boundary in $SrTiO_3$ Using *Ab Initio* Spectral Imaging (Invited)
P. Rulis*, W. Ching, University of Missouri - Kansas City, USA

4:00 PM

(ICACC-FS3-015-2010) Role of an Interface on the Thermal and Mechanical Characteristics of Heterogeneous Nanocomposites by Correlating Molecular-Quantum Study Focusing on Nanoscale Diffusion and Defect Formation
V. Samvedi*, V. Tomar, Purdue University, USA

4:20 PM

(ICACC-FS3-016-2010) Impurity-Based Nanoscale Quasi-Liquid Interfacial Films (Invited)
J. Luo*, Clemson University, USA

5:00 PM

(ICACC-FS3-017-2010) Nano-scale phase-separation in Si-(B)-C-N amorphous matrix derived from polymer-precursor: a spatially-resolved EELS analysis (Invited)
H. Gu*, Shanghai Institute of Ceramics, CAS, China

5:20 PM

(ICACC-FS3-018-2010) Design new layered ternary carbides by control of bonding heterougeneity (Invited)
J. Wang*, Y. Zhou, Institute of Metal Research, China

5:40 PM

(ICACC-FS3-019-2010) Cellular ceramics – morphology analysis and simulation
T. Fey*, B. Ceron-Nicolat, P. Greil, University of Erlangen, Germany

FS4: Nanolaminated Ternary Carbides and Nitrides (MAX Phases)

Processing of MAX Phases and Their Composites

Room: Coquina G

Session Chairs: ZhengMing Sun, AIST; Yanchun Zhou, Institute of Metal Research, Chinese Academy of Sciences

1:20 PM

(ICACC-FS4-011-2010) Slip casting and pressureless sintering of Ti3AlC2 (Invited)
Y. Zhou*, Z. Sun, Institute of Metal Research, Chinese Academy of Sciences, China

2:00 PM

(ICACC-FS4-012-2010) In-situ Synthesized Ti3SiC2 strengthen Nanocomposites
L. Wang*, State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Chinese Academy of Sciences, China

2:20 PM

(ICACC-FS4-013-2010) Low temperature synthesis, mechanical properties and oxidation behavior of Cr2AlC ceramic
S. Li*, G. Song, S. Zwaag, W. Sloof, Delft University of Technology, Netherlands

2:40 PM

(ICACC-FS4-014-2010) Synthesis and mechanical properties of highly pure Cr2AlC nanolaminated carbide
P. Chartier*, A. Baudet, T. Cabioc'h, V. Gauthier-Brunet, C. Tromas, M. Jaouen, S. Dubois, Laboratoire PHYMAT, France

3:00 PM

Break

3:20 PM

(ICACC-FS4-015-2010) Electrophoretic Deposition of $Ti_3Si(Al)C_2$ from Aqueous Suspension
Y. Liang*, X. Liu, Northeastern University, China; Y. Zhou, Institute of Metal Research, Chinese Academy of Sciences, China

3:40 PM

(ICACC-FS4-016-2010) Heat treated Ti_2AlC Coatings Sprayed with High Velocity Oxy-Fuel
J. Frodelius*, E. Johansson, J. Cordoba Gallego, M. Odén, L. Hultman, Div. of Thin Film Physics, IFM, Sweden

4:00 PM

(ICACC-FS4-017-2010) Synthesis and characterization of Cr2AlC-Max Phase coatings manufactured with an industrial sized coater
A. Flores Renteria*, O. Schroeter, C. Leyens, Technical University of Brandenburg at Cottbus, Germany; M. to Baben, RWTH Aachen, Germany

4:20 PM

(ICACC-FS4-018-2010) Joining Ti-Al-C ceramics and fabricating Ti-Al-C/Al_2O_3 laminated composites by preferential oxidation at low oxygen partial pressure
A. Li*, Y. Zhou, Institute of Metal Research, Chinese Academy of Sciences, China

4:40 PM

(ICACC-FS4-019-2010) Reactivity of Ag-Cu-Ti melts with Ti3SiC2
O. Dezellus*, G. Constantin, J. Viala, Université Lyon 1, France

5:00 PM

(ICACC-FS4-020-2010) On the Reactivity of Ti_2AlC with Al_2O_3 Fibers
C. B. Spencer, Drexel University, USA; J. Córdoba, Linköping University, Sweden; N. Obando, Texas A&M, USA; A. Sakulich, Drexel University, USA; M. Radovic*, Texas A&M, USA; M. Odén, Linköping University, Sweden; L. Hultman, Linköping University, Sweden; M. W. Barsoum, Drexel University, USA

5:20 PM

(ICACC-FS4-021-2010) Reactivities of Ti_2AlC and Ti_3SiC_2 with SiC Fibers and Powders up to Temperatures of 1550°C
C. B. Spencer, Drexel University, USA; J. Córdoba, Linköping University, Sweden; A. Sakulich, Drexel University, USA; N. Obando, M. Radovic*, Texas A&M, USA; M. Odén, Linköping University, Sweden; L. Hultman, Linköping University, Sweden; M. W. Barsoum, Drexel University, USA

Friday, January 29, 2010

S1: Mechanical Behavior and Performance of Ceramics & Composites

Non-destructive Evaluation

Room: Coquina A

Session Chair: Jiangang Sun, Argonne National Laboratory

8:00 AM

(ICACC-S1-095-2010) Thermographic Characterization of Near Surface Flaws in Reinforce Carbon-Carbon Panels (Invited)
W. P. Winfree*, P. A. Howell, NASA Langley Research Center, USA

8:40 AM

(ICACC-S1-096-2010) Thermal Tomographic Imaging for Nondestructive Evaluation of Ceramic Composite Materials
J. Sun*, Argonne National Laboratory, USA

9:00 AM

(ICACC-S1-097-2010) Determination of Crack Growth during In-Situ Loading of C/SiC Specimens Using Computed Tomography
J. Hausherr*, T. Liensdorf, University of Bayreuth, Germany; C. Herrmann, Fraunhofer ISC, Germany; W. Krenkel, University of Bayreuth, Germany

9:20 AM

(ICACC-S1-098-2010) High resolution NDE of porous ceramics, metal foam and composites in 3D at micro to nanoscale resolution with a novel CT system
S. H. Lau*, Xradia Inc., USA; N. Chawla, Arizona State University, USA; L. Hunter, T. Fong, J. Gelb, Xradia Inc., USA

9:40 AM

(ICACC-S1-099-2010) Isothermal Chemical Vapor Infiltration modelling by Random Walks in CMT 3D images at two scales
G. L. Vignoles*, I. Szelengowicz, W. Ros, University Bordeaux 1, France; C. Mulat, C. Germain, University Bordeaux, France

10:00 AM

(ICACC-S1-100-2010) A More Comprehensive NDE: PCRT for Ceramic Components
L. Jauriqui, L. Hunter*, Vibrant Corp., USA

S7: 4th International Symposium on Nanostructured Materials and Nanotechnology: Development and Applications

Recent Advances in New Composites and Architectures II

Room: Coquina C

Session Chair: Tohru Sekino, IMRAM, Tohoku University

8:00 AM

(ICACC-S7-066-2010) Feature and Future of Hydrothermal Reactions for Synthesis of Nano-Materials with Desired Shapes and Sizes (Invited)
M. Yoshimura*, Tokyo Institute of Technology, Japan

8:20 AM

(ICACC-S7-067-2010) Metal-organic synthesis of complex oxide photo-catalysts (Invited)
G. Westin*, M. Leideborg, Uppsala University, Sweden; K. Jansson, Stockholm University, Sweden

8:40 AM

(ICACC-S7-068-2010) Crosslinked Pluronic F127 Ferrogels for Magnetically Controlled Drug Release
J. Qin*, A. Fornara, M. S. Toprak, M. Muhammed, Royal Institute of Technology (KTH), Sweden

9:00 AM

(ICACC-S7-069-2010) Surface modification of TiO2 and application to advertisement films for enhancing UV-shielding and hydrophilicity
J. Yoo*, Korea Institute of Ceramic Engineering & Technology, Korea, South; D. Yun, Korea University, Korea, South; S. Lee, Korea Institute of Ceramic Engineering & Technology, Korea, South

9:20 AM

(ICACC-S7-070-2010) Novel One-pot Synthesis of CoS-MWCNT heterostructure
S. Kesavan Pillai*, S. Sinha Ray, N. Moloto, Council for Scientific and Industrial Research (CSIR), South Africa

9:40 AM

Break

10:00 AM

(ICACC-S7-077-2010) Nanoscale Properties of Implantable Biomaterials (Invited)
F. Rosei*, INRS, Univ of Quebec, Canada

10:20 AM

(ICACC-S7-072-2010) Preparation of ZrB2-SiC nano powder
S. Lee*, Y. Yoo, H. Kim, KIMS, Korea, South

10:40 AM

(ICACC-S7-073-2010) Increasing the Photocatalytic Activity of TiO_2 Films on Glass via Elemental Doping
T. Longenbach*, M. Kurtoglu, Y. Gogotsi, Drexel University, USA

11:00 AM

(ICACC-S7-078-2010) Synthesis of Single Nanometer Zinc Oxide Nanoparticles for Optical Applications
K. Lu*, J. Zhao, Virginia Polytechnic Institute and State University, USA

11:20 AM

(ICACC-S7-075-2010) Synthesis and Characterization of Nanostructured Magnesium-substituted Hydroxyapatite
F. Bakhshi, M. Solati-Hashjin, A. Aminian*, A. Farzadi, Amirkabir University of Technology, Iran; M. Gudarzie, Power and Water University of Technology, Iran

11:40 AM

(ICACC-S7-076-2010) Research on Performances and Failure Mechanism of Al2O3-13wt%TiO2 Coating Plasma-sprayed with Nanopowders
X. Xu, Y. He, Xihua University, China; H. Chen*, Southwest Jiaotong Univesity, China

S8: 4th International Symposium on Advanced Processing and Manufacturing Technologies (APMT) for Structural and Multifunctional Materials and Systems

Joining and Net Shape Forming

Room: Coquina B

Session Chairs: Soshu Kirihara, Osaka University; Michael Halbig, US Army Research Laboratory

8:00 AM

(ICACC-S8-069-2010) Novel Concepts in Metal Ceramic Joining (Invited)
M. G. Roth*, J. Janczak-Rusch, C. Leinenbach, M. Galli, K. Sosnovska, EMPA, Switzerland

8:40 AM

(ICACC-S8-070-2010) Active Metal Brazing and Characterization of Brazed Joints Between Silicon Carbide and Metallic System
B. P. Coddington*, R. Asthana, University of Wisconsin-Stout, USA; M. C. Halbig, M. Singh, NASA Glenn Research Center, USA

9:00 AM

(ICACC-S8-078-2010) Rapid Manufacturing of Ceramic Parts by Selective Laser Melting
J. Wilkes*, Y. Hagedorn, S. Ocylok, W. Meiners, K. Wissenbach, Fraunhofer Institute for Laser Technology, Germany

9:20 AM

(ICACC-S8-072-2010) Joining of Silicon Nitride with Glass or Powder under Mechanical Pressure
N. Kondo*, H. Hyuga, T. Nagaoka, H. Kita, AIST, Japan

9:40 AM

Break

10:00 AM

(ICACC-S8-073-2010) Gelcasting of high performance carbide ceramics with larger size/complex shape (Invited)
D. Jiang*, Shanghai Institute of Ceramics, China

10:40 AM

(ICACC-S8-074-2010) Production Focused Laser Assisted Machining of Silicon Nitride
F. Sciammarella, J. Santner, Northern Illinois University, USA; J. Staes, R. Roberts, Reliance Tool and Manufacturing, USA; F. Pfefferkorn, University of Wisconsin, USA; S. T. Gonczy*, Gateway Materials Technology, USA; S. Kyselica, Northern Illinois University, USA; R. Deleon, Reliance Tool and Manufacturing, USA

11:00 AM

(ICACC-S8-075-2010) Manufacturing of the CMC Nose Cap for the EXPERT Project
C. Zuber*, T. Reimer, K. Stubicar, B. Heidenreich, H. Hald, DLR, Germany

11:20 AM

(ICACC-S8-076-2010) Fabrication of alumina dental crown model with biomimetic structure by using stereolithography
M. Suwa*, S. Kirihara, T. Sohmura, Joining and Welding Reseach Institute, Japan

11:40 AM

(ICACC-S8-077-2010) Fabrication of Thermodynamic Crystals by Structural Joining
S. Kirihara*, Y. Uehara, Y. Takinami, Osaka University, Japan

FS3: Computational Design, Modeling, Simulation and Characterization of Ceramics and Composites

Simulation/Characterization of Mechanical Behavior

Room: Coquina H

Session Chairs: Jian Luo, Clemson University; Hui Gu, Shanghai Institute of Ceramics, CAS

8:00 AM

(ICACC-FS3-020-2010) Relating Ab Initio Simulations of Complex Atomic Models to Elastic and Failure Behavior at Continuum Scales (Invited)
A. Misra*, The University of Kansas, USA

8:40 AM

(ICACC-FS3-021-2010) Micromechanical FE-Simulation of Crack Propagation in Structural Reinforced High-Performance Ceramics
J. B. Wippler*, T. Böhlke, KIT (Karlsruhe Institute of Technology), Germany

9:00 AM

(ICACC-FS3-022-2010) Surface Nano-notch Effect on Structure and Mechanical Property
Y. Liu*, Y. Kagawa, Research Center for Advanced Science and Technology, University of Tokyo, Japan

9:20 AM

(ICACC-FS3-023-2010) Study of Diffusional Creep for densification of a Polycrystalline powder material
F. Mechighel*, B. Pateyron, M. El Ganaoui, M. Kadja, SPCTS-UMR 6638 CNRS, France

9:40 AM

Break

Simulation/Characterization of Deformation Mechanisms and Other Properties

Room: Coquina H

Session Chairs: Anil Misra, The University of Kansas; Jingyang Wang, Institute of Metal Research

10:00 AM

(ICACC-FS3-024-2010) Grain Rotation Model during Grain-Boundary Sliding
B. Kim*, K. Hiraga, K. Morita, H. Yoshida, National Institute for Materials Science, Japan

10:20 AM

(ICACC-FS3-025-2010) Alumina microstructure evolution dictated by eutectic liquid at grain growth front
P. Qian*, H. Gu, Shanghai Institute of Ceramics, China

10:40 AM

(ICACC-FS3-026-2010) Dynamic Neutron Diffraction Study of Thermal Stability and Self-Recovery in Aluminium Titanate
I. Low*, Z. Oo, Curtin University of Technology, Australia

FS4: Nanolaminated Ternary Carbides and Nitrides (MAX Phases)

Microstructural Characterization of MAX Phases

Room: Coquina G

Session Chairs: Miladin Radovic, Texas A&M University; Peter Finkel, NUWC

8:00 AM

(ICACC-FS4-022-2010) The MAX Phases: A Retrospective and a Look Forward (Invited)
M. Barsoum*, Drexel University, USA

8:40 AM

(ICACC-FS4-023-2010) Characterisation of Amorphous Silica in Air-Oxidized Ti3SiC2 at 500 – 1000 °C using SIMS, NMR, and TEM
I. Low*, W. Pang, Curtin University of Technology, Australia; J. V. Hanna, University of Warwick, United Kingdom

9:00 AM

(ICACC-FS4-024-2010) Dislocation microstructure of Ti_4AlN_3 MAX phase deformed under gas confining pressure at room temperature
A. Joulain*, University of Poitiers, France; T. Ludovic, J. Rabier, CNRS- University of Poitiers, France

9:20 AM

(ICACC-FS4-025-2010) Transition Metal Boride Nano Laminates with MAX-Phase like Behaviour
B. Cappi*, A. Momozawa, R. Telle, RWTH Aachen University, Germany

9:40 AM

Break

Modeling of Thermodynamic Stability, Microstructure and Physical Properties of MAX Phases

Room: Coquina G

Session Chairs: Per Eklund, Linkoping University; Gilles Hug, ONERA-CNRS

10:00 AM

(ICACC-FS4-026-2010) First-principles calculations of thermal properties of MAX phases
A. Togo*, LEM, UMR 104, CNRS/ONERA, France; L. Chaput, IS2M-CNRS-UHA, France; G. Hug, LEM, UMR 104, CNRS/ONERA, France

10:20 AM

(ICACC-FS4-027-2010) Theoretical investigations on the elastic and thermodynamic properties of $Ti_2AlC_{0.5}N_{0.5}$ solid solution
Z. Sun*, AIST, Japan; Y. Du, Nanjing University of Science and Technology, China; H. Hashimoto, AIST, Japan; M. W. Barsoum, Drexel University, USA

10:40 AM

(ICACC-FS4-028-2010) Electronic Structure, Elastic and Thermodynamic Properties of Ti2PbC from First-Principles
Y. L. Du*, Nanjing University of Science and Technology, China; Z. M. Sun, National Institute of Advanced Industrial Science and Technology (AIST), Japan; C. Cui, Nanjing University of Science and Technology, China; H. Hashimoto, National Institute of Advanced Industrial Science and Technology (AIST), Japan

11:00 AM

(ICACC-FS4-029-2010) Development of new layered ternary nitrides, Hf3AlN and Zr3AlN, from experimental and theoretical investigations
J. Wang*, W. Jingyang, Z. Yanchun, L. Fangzhi, Institute of Metal Research, China

11:20 AM

(ICACC-FS4-030-2010) Anisotropy of Ti2AlN dielectric response investigated by ab initio calculations and Electron Energy-Loss Spectroscopy
V. Mauchamp*, University of Poitiers, France; G. Hug, ONERA, France; M. Bugnet, T. Cabioch, M. Jaouen, University of Poitiers, France

11:40 AM

(ICACC-FS4-031-2010) Current-carrying Tribological Properties of Bulk Ti3AlC2
Z. Huang*, H. Zhai, J. Zhu, M. Li, Beijing Jiaotong University, China

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